EASTERN EDITION

FARM AND FIRESIDE

EVERY OTHER WEEK — THE NATIONAL FARM PAPER

ESTABLISHED 1877 — SATURDAY, JANUARY 4, 1913

READING OF SPECIAL INTEREST IN THIS ISSUE

Index to Advertisers

WITH THE EDITOR

"Home, Sweet Home"

I have just received two communications which deal with the most vital material question in the world—the matter of homes for the people.

"Home, Sweet Home" is an immortal song. Why? Because it is a fine piece of music? No—the tune is a very ordinary one; and would never have reached the hearts of the people had it not been for the words which are sung to it. And the words—are they anything great in the way of poetry? No—it is rather an ordinary jingle from a literary standpoint. But they deal with something that lies close to the heart of every man, woman and child.

How shall the people be provided with homes? It would seem that this ought not to be a hard question. There is plenty of land—and with land a man can build a shelter which will grow to a home by the exercise of a very few hours' work. "Foxes have holes, and the birds of the air have nests," but the sons of men have not where to lay their heads, save by buying space on the earth which "He hath given to the children of men."

Have the Scriptures been amended so as to read "The earth He hath given to SOME of the children of men"? And if so, who has amended Holy Writ, and by what authority, and how,—and will the amendment hold in the Supreme Court of Morals?

Two Men and Two Ideas

All these questions crowd into my mind as I glance over these two communications. One is from Nebraska, and is sent me by D. Clem Deaver of Omaha. The other is from New York City, and is signed by Louis H. Pink. The Nebraska man has had introduced in Congress a bill entitled, "A bill to provide small farm homes for worthy citizens of the United States," which worthy object it seeks to accomplish by a commission of three to be known as the National Board of Home Builders, whose duty it shall be to receive the applications of "worthy citizens" who want to get small farms, to receive moneys provided by Congress or donated by others, and with such moneys locate the applicants on farms in such parts of the country as may be preferred.

The letter from New York City calls attention to an editorial in a local paper published in Brooklyn demanding that the people's money in postal savings banks, instead of being loaned to the other banks at two and a half per cent., and reloaned by them to the people at six, be loaned directly to people for the purpose of establishing homes.

If Mr. Deaver's plan should be adopted, a demand would be created for money. And it would almost seem as if Mr. Pink's scheme would offer a hint as to the supply. If a National Board of Home Builders is created, the vaults of the postal savings banks would seem to be a good place to look for funds. The "worthy citizens" aided through Mr. Deaver's plan ought to be able to pay the Government two and a half per cent. net for the deposits of the postal savings banks.

Money at Lower Rates

Mr. Pink, let me introduce you to Mr. Deaver—Mr. Deaver, Mr. Pink. Gentlemen, one of you is Demand, the other Supply—and we know what a fine thing it is when Demand and Supply meet!

These instances are two of many of the sort. The nation is thinking as never before of better finance—especially better finance for the farmer. An ambassador to one of the nations of Europe has called attention to the ease with which the small farmers of Europe borrow money at from three and a half to four per cent., while we have to pay from six to ten. President Taft has in a public statement, and now in a message to Congress, called attention to our farmers' needs in the matter of cheap money. The Southern Commercial Congress will send a commission, consisting of representatives from States north and south, to study the peasants' banks of Europe.

It will be a fine thing for this movement that the State of Wisconsin has already had men on the ground making a study of rural credit, where it is a success in Europe.

First Let's Learn How

It is all very well for farmers to be told to coöperate in banking, but, as a matter of fact, we don't know how. It is all very well, too, to tell of the success the small farmers of Europe have made—but that doesn't help us any. We don't know how any more than we did before. You may tell us how an Eskimo turns over in his canoe without spilling out, but we don't know how to do that, either. Managing coöperative banking may not be inherently difficult, and managing a kayak in a storm may be easy, but we think there is a knack to it which we should like to have mastered by someone on the spot and taught to us before we dash madly into either stunt.

There is only one way out, I think, and that is for the State—not the Nation—to work out the plan and start it under such state inspection that it will succeed. The money in these coöperative banks must not be any tail to a bigger bank's kite. It must be demagnetized from the pull that draws the money in other banks to Wall Street. It must be truly coöperative, and there must be such perfect fairness and squareness about the whole thing that it will command the trust of the man who makes his small income from hard knocks, backache, sore fingers, chilblains, cold, wet, drought, snow, and rain.

It is possible, I believe, to establish a system of the sort which will command the confidence of the rural population, and which will do more for the small farmer than Mr. Deaver's scheme.

Herbert Quick

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FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 381 Fourth Avenue, New York City; Tribune Building, Chicago, Illinois

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter

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Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

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Vol. XXXVI. No. 7 — Springfield, Ohio, January 4, 1913 — PUBLISHED BI-WEEKLY

For several years horses and cattle have died of hydrophobia in great numbers in a narrow strip of country in Brazil. There have been very few mad dogs, but four thousand cattle and one thousand horses are estimated to have been lost by the plague. It was noted that bats, in broad daylight, attacked and bit the live stock in extraordinary numbers, and it is believed that the disease was spread by mad bats.

The soil receives from five to six pounds of nitrogen per acre in the rainfall each year.

Who's the Best Judge?

JUDGE HERRMANN of a New York City court had before him a few days ago several pedlers who had been arrested for refusing to "move on" when the policemen thought they had stayed their time out on one block.

"Go West, pedlers!" was the slogan of the wise Judge in dealing with the push-cart men. "Become farmers, and get away from the overcrowded city! Ninety per cent. of the immigrants landing in this port have no trade or education. That is why there are so many pedlers in this city."

Oh, wise and upright Judge—not!

The immigrants know how to peddle, but they don't know how to farm. Most of them wouldn't last half a day at the work which the farm laborer has to do. They have no money for railway-fare, and the farms are far away. They have no friends on the farms, and would meet few who could understand their language; but in the city are thousands of their fellows. They have no tools with which to farm, but their aid societies will furnish them with push-carts. They can get houses in the city with perfect ease, but on the farms of the United States are no provisions ordinarily for laboring men with families. They can make a living with the push-cart, and when they fail they have their aid societies which will see that they do not starve. They can make no more than a living on the farms. To be sure, they cannot get land in the city or own a home, but neither can they in the country, as a rule. And the prospects of getting on, tested by the experience of those who stay in the city and the few who venture upon the farms, seem rather better in the former case.

The immigrants are better judges than the Judge as to which side of their bread is buttered. When the Judge can show the immigrants some provision for giving them lands, and instruction in farming, and mutual aid, he will be in position to advise them. Until then he had better confine his advice to legal matters.

The World's Grist

HOLDERS of wheat in the United States have been more interested in the weather in Argentina lately than in the snow on their own sidewalks. So small has the world grown. Our fathers had no such breadth of outlook, nor burden of care. They just raised wheat and took it to mill.

"Wheat is ripening well in the Argentine fields"—this is the sort of news that has made the difference between more money in the bank and a renewed note in the case of John W. Smith of Kansas or George W. Jones of Ohio. Don Fernando y Barras of Buenos Ayres buys a new motor-car and takes his family to Paris as Don Robinson of Texas reckons the narrowing margin between cost of production and price.

It is hard to be a consistent Christian with full knowledge of market factors. None of us ought to wish our Argentine friends to suffer from frost or locust or rust or hail, but any of those things reported by wire would have put profits into the ledgers of farmers all over the northern hemisphere. "Wheat is ripening well in the Argentine fields." Well, let us congratulate the farmers down there. They also have had seed-time and are deserving of their December harvest.

Fine Silage from This

HERE are ten ears of corn on three stalks. They were grown by O. M. Conner, of Greene County, Ohio, who informs us that the stalks shown are nearly typical of the entire field of about four acres.

Six ears to the stalk were not uncommon, and only in a few cases was the yield less than two to the stalk. Three and four ears was the general run.

The most exceptional yield from one kernel was eight ears grown from one stalk and two suckers.

Mr. Conner is an Ohio farmer who has recently become interested in better seed-corn. He obtained the present seed of the corn described when on a visit in South Carolina.

Conner's Prolific is the name his neighbors have given his remarkable development, which occasioned much

Ten ears, three stalks. The ears average eight and one-half inches in length

favorable comment at the Springfield (Ohio) corn show just ended. It matures about twelve days earlier than average dent corn. His yield this year was one hundred and fifty measured bushels of shelled corn to the acre on a field which last year made fifty bushels of Reid's Yellow Dent.

The soil, which is a good black loam, was prepared in the same manner both years, and the corn checked in hills three feet six inches both ways.

The Agronomy Department of the Ohio State University is interested in the development of this seemingly remarkable corn.

The ears are of a good size, though not large. As a silage-corn especially, it seems to have possibilities.

New Gospel of Poultry-Breeding

POULTRY breeders who thought they knew something about the business will feel themselves "all up in the air" when they finish digesting the article by Dr. Raymond Pearl in FARM AND FIRESIDE for December 21st, entitled "Breeding for Egg-Production." It sounds a new note in breeding, and will revolutionize the breeding practice of the poultry world, in all probability, so conclusive have been the results obtained.

Every article we receive now on trap-nesting, selection of breeding fowls and the building-up of the laying average of the flock seems to us to need re-writing in the light of the discoveries of the Maine Station.

Let us state the doctrine again. The high-producing hen may or may not have a high-producing daughter. She may not transmit her high power of egg-production to any of her offspring. But if she does transmit it she will hand it down through her sons to her granddaughters.

State it in another way. Every hen has some egg-laying power. Most hens have what may be called "normal capacity" for eggs. Some hens have a higher power which makes them extraordinary layers. This let us call "excess capacity." The "normal capacity" is like a hand-bag which every hen carries with her on her travels. The "excess capacity" which some hens have is a trunk which goes by separate ways, and is carried down to posterity by her son. The only way to be sure of breeding good layers is to make certain that you have a cock at the head of your flock who inherits egg-laying "excess capacity" from both parents, through a long line of individual pedigrees. In other words, poultry must be bred through individual pedigrees, just as race-horses are bred. There is no such thing now in existence as a properly bred breed of chickens, save the Pit Games—and they have been bred for fighting, not laying.

These seem to be the established facts—and now that we know them, egg-laying capacity will be as easily bred as fighting ability. It seems to promise great things for egg-production. The poultrymen who get into the new line of breeding first will reap the profits due to pioneers.

Grading Up the Live Stock

IT SEEMS hard to many farmers, but it is merely a matter of using pure-bred males for a few crosses. You start with females—cattle, sheep, hogs, fowls—with no improved blood in them—"pure scrubs"—if you happen to be so unlucky as to possess them Using a pure-bred male, the scrub blood is reduced to fifty per cent. in one generation. In two generations, it falls to twenty-five per cent. In three, to twelve and a half; in four, to six and a fourth, and the sixth cross will give you animals which will have about one and one-half per cent. of scrub—will be, in fact, 98.44 per cent. pure. There will be only a trace of scrub. For all practical purposes the herd or flock will be pure-breds.

Of course, this means that you must have followed one pure-bred sire with another of the same breed. Vacillating from breed to breed will only give you a collection of mixed pickles very little better than the original scrubs.

Grade up! It won't take so very long—and it pays.

The well-tilled corn-field is not disturbed by political agitations.

Irrigation and Apples

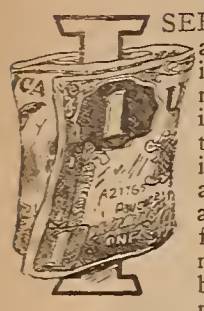
SCIENCE is beginning to throw some light on the question of the difference, if there is any, in the quality of apples grown by irrigation and otherwise. One investigator, C. E. Bradley, found the irrigated apples to contain more water, more sugar and a smaller proportion of solids than the non-irrigated ones. The irrigated apples were larger.

These variations under differing conditions are likely to produce differences in flavor and other qualities relating to marketability. There seems to be no doubt that in firmness and smoothness of skin, and in color, the apples grown under the clear skies and under the dry conditions of the Northwest are superior to those of the East. It seems fair to say, however, that in flavor the eastern apple is likely to make up for its less gorgeous appearance and its less pretentious size.

Farmers, Educate Your Bankers

Show Them the Difference Between Speculative and Legitimate Handling of Live Stock

By Capt. W. S. A. Smith



I SEE that the bankers are now taking up at their meetings the subject of educating the farmer so that the land may be made to produce more liberally. This is good work, and I shall be glad to see them continue in their efforts. Looking at this, however, as a farmer, there are two sides. It's all very well taking a pencil and figuring out that if every farmer raised two bushels per acre more we would have so many million bushels more corn, but these changes must necessarily come very slowly even when we all understand and are able to use the methods devised for raising the two extra bushels.

At present the farmers seem to figure that forty bushels per acre, at forty cents, is just a little better than fifty-bushel corn at thirty cents. It does seem as though the country banker who deals direct with the farmer also needs a little education.

Live Stock and Legumes for High-Priced Land

As I have previously written, the basis of success for the man in the corn-belt States on high-priced land is live stock and leguminous crops. If the country banker could be made to realize this and could realize also that there is a clear and distinct line between speculative and legitimate handling of live stock, he certainly would make it a part of his business to learn where that distinct line is, and would give every encouragement and assistance to the progressive farmer who needs money for a legitimate investment.

For under present conditions the man who handles live stock must have first the confidence of his banker and the assurance that his note is not to be called simply because it is due, irrespective of market conditions. The farmer of to-day who deals with the small country banker ought to know that the banker sells his note and that the purchaser of that note, probably no cattle banker, expects his money when it is due, and in a large majority of cases a banker, weak financially, will insist on payment, often causing an unnecessary loss. I do not blame the banker for this. It is simply one of the conditions which will decrease as the country gets older and bankers realize that the good farmer is a life customer and ought to be taken care of just as is now done in the older countries.

Consult Your Banker Before You Buy

The speculative live-stock feeder who puts in a load or two of cattle to feed simply because Tom Jones has just made good money is the man whom the banker should avoid unless the security is known absolutely to be good.

I have nothing to say of this class of feeders, or any criticism to make on the banker who demands his cash when due, except that a great many losses in cattle could be avoided if the banker and farmer had a very frank discussion before the cattle were bought.

Captain Smith is not only a most successful cattle-feeder, but is also director of a bank handling annually millions of dollars of cattle paper. He is a regular correspondent to the Market-Outlook columns of Farm and Fireside and his advice is sound and sane. The Editor.

I never fill my yards with cattle or sheep until I have carefully figured out the amount of feed on hand and how much I must buy. After getting this, the next thing to do is to figure out how many cattle I can feed and then see that the daily ration is weighed over the scale. I am now ready to go before my banker and lay a business proposition before him.

I lay a business proposition before him

He does not want figures to show what a large profit I'm going to make. What he wants to know is that his security is good, and when I can show him that, and he has a clear understanding of the business put before him, there need never be much trouble over money matters. As a general rule, cattle bought in the fall and sold after sixty or ninety days' feed, that is, through January, February and March, seldom make much money. On the other hand, cattle sold in May, June or July seldom or ever lose money.

Balanced Rations are Essential to Success

The reason is very plain. They are marketed after the crowd have cashed in and farmers are busy in the fields. But cattle handled this way need long-time paper. The cattle may be in the farmer's hands ten months, and some time in that ten months things may look blue, and the farmer must know that he has feed, sand and credit. One of the greatest helps to farmers and live-stock men in recent years is the work of the agricultural colleges along the line of balanced rations.

Why men who flatter themselves that they are good cattle-feeders or good dairymen do not make a little study of this, the most essential thing to success in their business, is beyond comprehension.

Last winter the Iowa State Experiment Station at Ames showed in a feeding test (I personally know from experience they are correct) that in a five or six months' feed steers fed on ensilage and cottonseed-meal needed only twenty-five cents per hundredweight advance over purchase price to pay full market value for feed consumed.

I wonder if you fully grasp the full significance of this. Do you realize from this that if two neighbors each put up a load of cattle to feed, and one load is fed on corn and timothy, fodder, millet or wild hay, that before this load would make any profit over cost of feed the other load would make a dollar per hundredweight profit if fed the balanced ration of ensilage and cottonseed-meal.

First Educate Yourself and Then Your Banker

Now it is possible that you may not all have ensilage, but you can all have balanced rations, and all it will cost you to find out what they are is a little letter written to your experiment station, stating what feed you have on hand and asking how to balance it up. The answer to this letter, if carried out, is just the difference between success and failure.

Just think this over, and when you have educated yourself enough to realize that you are feeding your cattle on a five months' feed from $6 to $8 per head less than your neighbor, then try and educate your banker that way, also. It helps in a pinch.

Napoleon Hernandez

A Story of Impressions, Influences and Present-Day Responsibilities

By G. Henry

GROWN folks cannot too often be reminded that their boys and girls will be the grown folks of to-morrow; or boys and girls that those who are now taking care of them will be dependent upon them in a few years.

Make it plainer. To-day the big folks look after the little folks. To-morrow the little folks will have become the big folks, the big folks of to-day will have become feeble old folks, to be cared for by the present-day little folks.

And so to-day the big folks have a tremendous responsibility: the guiding of the play instinct of the little folks. For as the children play so they will in measure behave when they grow up.

Our Children's Lives are Influenced by Our Own

The "sports" of the big folks will become the "sports" of the children, and as we amuse ourselves so we vote, so we live, so we work.

"Father is the wisest man," says little Jimmie.

"Mother is the bestest woman," says wee Janie.

Little folks copy big folks; the logic is good.

Newspaper despatches these days tell of war, war, war, and cruelty and brutality. Not so long ago, during times of peace, newspaper despatches from Mexico told of bull-fighting, cock-fighting and an occasional massacre of Mexicans by Yaqui Indians, or an occasional massacre of Yaquis by Mexicans.

But war is not the chief occupation of Mexicans. They work down there, else they couldn't eat.

Neither are bull-fights and cock-fights the only sports.

There is still another sport: THROWING BULLS AND STEERS WITH YOUR TEETH.

Its chief exponent and illustrator (and promoter) is Negro the Human Dog, a very black man who is six feet, four inches tall, weighs two hundred and thirty pounds, and whose real name is said to be Napoleon Hernandez.

The writer saw him perform in Chihuahua, where, by the way, most of the news is coming from. The same exhibition has been given and seen by thousands in the cow-towns of our own Southwest and as far north as Fort Worth or Wichita. Negro the Human Dog is part negro and part Mexican, and some folk say he has a bit of Japanese blood in his veins.

He gets his nickname (and delights in it) from the fact that a good solid bull dog can conquer a wild steer if the dog has the courage to face a charging steer and seize the steer by the nose and twist his neck until the steer loses his balance and falls. A steer—a wild steer—thrown and held is a very humble fellow.

To-day the big folks look after the little folks. To-morrow the little folks will have become the big folks, the big folks of to-day will have become feeble old folks to be cared for by the present-day little folks. Little folks copy big folks.

So Negro the Human Dog mounts a bronco. He chases a steer—the wilder the better, for that adds to the Human Dog's notoriety. He rides until he gains a position alongside the fleeing steer, and reaching over with his powerful left hand grabs hold of one of the steer's horns. Then Negro the Human Dog, who is almost as strong as a steer, clings grimly to the horn until the steer ceases running. Whereupon the big black man throws himself out of his saddle and seizes both horns of the astonished steer.

Almost as renowned as a great matador

Now Negro the Human Dog braces his feet and begins to twist the steer's neck. And finally he seizes the steer's nose in his teeth and throws the steer flat on its side. The Human Dog lies on the sand beside the prone steer, which is too astonished or too frightened to move. Negro the Human Dog has added another chapter to his fame!

He Might Have Been an Inspiration

But has he not also added ferocity to the nature of a really kind-hearted, generous people, but who are so impulsive, so volatile, that such scenes make lasting impression upon them?

For the rich and poor, high and low, educated and ignorant, attend these shows in Mexico. The writer saw Negro the Human Dog's exhibition after he had toured the states of Coahuila, Sonora and Chihuahua. He was a celebrated character—almost as renowned as a great matador!

And it does seem that Negro the Human Dog furnishes food for thought. Would not Negro the Great Baseball Pitcher leave a more wholesome impression? Would not Negro the Great Quarterback make for better boys, even though football is pretty much a rough-neck game?

The Influence He Has Had on an Impulsive People is Far from Wholesome

Would not Negro the Great Athlete with his superb physical development be an inspiration to the rising generation in Mexico instead of leaving indelibly stamped on their lives a perverted idea of—what shall we call it, greatness, renown, physical achievement—yes, in the popular sense of the word and infinitely more.

It is a perverted idea of life itself. It directs the imitative mind to the sensational rather than to the useful.

Napoleon Hernandez has added nothing to the welfare of Mexico. After all, the time we spend on this little sphere of real estate we call Earth is short, but the influence which we may exert may be handed down from one generation to another for centuries. It is worth while thinking about the influences we will leave.

The Portland Farmers' Club

If You Would Have a Thing Done to Suit Yourself, by All Means Do It Yourself

By D. S. Burch

THIS is the story of the accomplishments of the Portland Farmers' Club, as related to me by its secretary, Dr. Owen Smith, of Portland, Maine. It was hard for me to realize and believe that the farmers of bleak, rock-bound Maine, so called, have actually been doing things that the farmers in a dozen of our more highly developed states, agriculturally, have been talking and writing about doing for years, but have taken more honors for encouraging others than for actually doing things themselves. The farmers of Maine believe that if you want a thing done to suit yourself, the best, quickest and most satisfactory way is to do it yourself by all means. And if you by chance have heard what the farmers of Maine, as exemplified by the Portland Farmers' Club, have done and are doing, you've probably gained your information from their town relatives or the hired help, for the Maine farmers themselves are too busy and too modest to tell of their accomplishments.

M. F. Wilbur, dairy expert for the Club

A Self-Made Club

Unlike many farmers' clubs which are put together by farmers' institute workers and handed to the farmers all ready to run if you press the button, the Portland Farmers' Club organized itself. It is entirely self-made, though it holds no patent on its construction. Its present membership numbers one hundred and forty; all are men, and anyone is eligible. Their wives are honorary members.

The cost of belonging to the club is one dollar a year, which is used to defray the expenses of farm experts who are invited to speak at the meetings, which are held monthly from the first Monday in October to the first Monday in April. An annual dinner where plans for the next year are discussed is held at one of the hotels at a convenient time during the winter.

Better Service to Organized Bodies

Secretary Smith believes that the club has enabled all of its members to get better service from railroad and express companies than they would have received as individuals. When ordering or selling stock, fruit or any product of the farm, the fact that a man belongs to a well-organized club aids him greatly in getting satisfaction all around.

Recognition comes also along official lines. One branch of the club includes all members interested and engaged in dairying, and is known as the dairy-test association.

The association employs a dairy expert who is approved by the dairy department of the State Agricultural College at Orono and who is recognized by all of the cattle clubs of the country as an official tester. His principal duty is to conduct the testing of cows for milk and butter-fat production and for the advanced registry, assist members of the association in figuring rations and advising them in regard to selecting seed, spraying trees and giving any other agricultural information he may be called upon to furnish.

He is paid a salary of fifty dollars a month and two dollars a day for expenses. The salary is paid by the association, and the expenses by the farmer with whom he is staying. In some places the work is done in a day, and in others two or three days are required, according to the number of cows being tested and the nature of the work.

Coöperation with Maine Department of Agriculture

The Maine Department of Agriculture furnishes the blanks on which the testing records are kept, and in return receives a duplicate of the records. The dairy-test association has from ten to fifteen members, twelve at the present time. As the testing is done monthly, the membership of this association is limited to the number who can be visited by the tester in that time, unless, of course, two or more testers were employed, when the membership of the association could be proportionately increased.

There are at present represented in the test association seven herds of registered Jerseys, two of registered Holsteins, two of Guernseys and one of Ayrshires. I was greatly surprised to learn how quickly the members acted on the results of the testing work, for there were no animals which could be called inferior in any of the herds. All poor stock had been disposed of in a little over a year's time.

A Visit to a 175-Cow Herd

In company with Mr. M. F. Wilbur, the official tester, I visited and inspected the dairy farm of H. G. Beyer, who owns 175 head of registered Holsteins, said to be the largest herd in Maine. His farm is on the trolley line about half way between Portland and Biddeford.

The first object in the dairy barn to catch my attention was a quartered-oak roll-top desk where Mr. Wilbur and Mr. Gillette, the herdsman, keep the books and records and figure out the rations which make the dairy the financial success that it is. Near by was the testing-room equipped with steam boiler, steam tester, two sinks and hot and cold running water.

All of the cows giving milk were kept in one barn. The heifers and calves were kept in another barn, and the growing size of the herd necessitates the addition of a large calf-barn, now under construction. All barns had cement floors, ventilating systems and were modern in every respect. The manure is removed from the barns by overhead carriers, which dump it directly into the spreader kept under a concrete shelter about one hundred feet from the barns; thus no objectionable odors can contaminate the milk.

The manure-spreader is kept one hundred feet from the barn

The "Proof of the Pudding"

Fine feathers do not make fine birds, neither do fine buildings and the best care and handling always coax a cow to give down her milk in sufficient quantities to pay the hired help and the carpenters' bills and leave anything for the "old man."

But the members of the association saw to it that their cows "made good" or went to the glue factory. And carefully kept books proved that each cow was entitled to the privilege of being milked. "Yes," said Mr. Wilbur, "some of our members had a few unprofitable cows at first, but disposed of them after the first year's test. The average milk production for all the herds is better than 8,000 pounds, and the butter-fat yield is around 280 pounds per cow. Of course, those are averages, and many herds do much better."

When he gave me those figures, I remembered that the average fat production for Nebraska and Kansas is about 125 pounds per cow, less than half as much, and in scarcely any of our more developed "dairy states" do the authorities come out with any definite figures, except totals for dairy products produced and manufactured.

I also remembered that Maine dairymen milk only dairy cows, for an examination of the pastures along over three hundred miles of railroad track did not show a single beef or dual-purpose cow. There were no "muley" cows or shorthorns or "whitefaces."

A Dollar a Cow Covers Cost of Work

"The average test of the Jersey herds," continued Mr. Wilbur, "is close to five per cent. of butter-fat, and one of the Holstein herds of thirty-four cows averaged 3.4 per cent. last year, which is considerably above the average for that breed. But it shows what can be done by intelligent and spontaneous effort. A dollar a cow per year easily covers the entire cost of the testing work."

"Most of our members have one good sire and several have more," said Mr. Wilbur in telling of the breeding work, "and they have some unique ways of advertising when they wish to dispose of stock."

"Bulling the Market"

"Some time ago Mr. Beyer invited the professor of dairying at the state college to visit his farm and bring the live-stock students to score his cattle. He offered a nice bull calf to the student who did the best scoring.

"They came in a body. Only one of them got the bull calf, but now most of those students are in the dairy business, and, knowing Beyer and his stock, they buy lots of his cattle."

All of which goes to show that the State of Maine raises many crops of brains as well as several crops of ice every year. It seemed to me an excellent example of bulling the market without any ill after-effects.

One of the pure-bred sires on the Beyer farm

Feeding Records

Siloes in Maine are even more numerous than her lighthouses, and they have probably saved as much money. The dairymen of the State did not wait to be induced to buy a ready-made, manufactured article, but after satisfying themselves that they wanted siloes they picked up enough rock off a few square rods of land to put up nice masonry siloes.

And now a silo is almost as much of a relic in Maine as it is a curiosity in the newer dairy States.

Each member of the Portland dairy-test association keeps feeding records on the blanks furnished by the State Department of Agriculture. They are about eight by ten inches in size and ruled like this:

Corner of Beyer dairy barn, showing overhead carrier and track

MAINE DEPARTMENT OF AGRICULTURE

Cow's No..... Cow's Name..... Owned By.....
Herd No..... Breed..... Weight..... Born.....
Dropped Calf..... Dam's Name.....

Date	Daily Yield			Feeding Record				
	Lbs. Milk	Test %	Lbs. Fat	Price Fat	Value	Grain and Roughage	Cost	Balance

The blank shows at a glance how the milk record and feeding record compare. The condition of the cows is also watched. When a cow gets a little too fat, she is given a little less grain and more roughage. Or, if she shows too much spareness, a little more corn-meal is included and something else cut out. When the owner is in doubt, he consults Mr. Wilbur.

Convenient Breeding Chart

One of the best simple breeding charts I have seen for dairy cows is that devised and used by Doctor Smith. It can also be used for horses, sheep and other live stock.

He uses printed sheets which are perforated on the left hand side and are fastened together by loose-leaf fasteners. However, any well-made notebook of size at least eight by ten inches will answer the purpose equally well. Each cow has a separate sheet. It is ruled like this:

BREEDING CHART

Bred	Service	Bull Number	Freshened	Sex	Calf's Name

Memoranda.

One Cow and Two Owners

Secretary Smith has an unusually complete set of books, and in the course of conversation he intimated that there is more skill in feeding a cow properly than even many of the most experienced dairymen recognize.

"Take this cow, for example," he said, pointing to her record. "Her former owner said she didn't pay for her keep. She's a pure-bred, but I bought her a year ago for $60 because of her poor milk-flow. I've had her on official test for the last eight months, and she's already made more than her required 365 pounds of fat. She will be eligible to advanced registry at the end of the year with more than 500 pounds of butter-fat to her credit if she keeps up to her past eight month's record, and she's eleven years old at that. I sold her bull calf for $65 and value the cow herself at $125.

"Here is a condensed record of my six cows for last year:

	Returns for $1 Worth of Feed	Profit
Cow 1	$2.34	$67.00
" 2	2.20	69.81
" 3	2.70	78.38
" 4	2.13	32.75
" 5	2.41	110.92
" 6	1.71	33.78

"The total net profit from the six cows was $392.64 for milk and cream produced.

"What has the test association done for me? Well, all I can say is that it's invaluable to me. I get my testing done comparatively cheap, and I must know what my cows are doing. Friendly rivalry among the members of the association has been responsible for much of the improvement, and a poor cow doesn't stay very long in any herd."

The dairy-test association, as previously intimated, is but one branch of the Portland Farmers' Club. There are other associations, each active and well organized and doing its particular function independently but yet subject to supervision by the club as a whole.

Most of the members are themselves specialists in their own fields and expert advice can generally be secured by any member without going outside of the club's membership. But the list of prominent speakers whom Doctor Smith had secured to address the Club on different occasions was sufficient proof that the Club was not self content but was ever reaching out for the best.

The members are for the most part well-to-do and well educated. They are all successful. They have the best and are satisfied with nothing but the best whether it be cows, apples or potatoes. When they formed the Club, they knew what they wanted and by managing the Club themselves, they got what they wanted. They not only had the ideas but they carried them out. That's what a lot more of us ought to do.

Hog Catching and Butchering

Answers to Geo. S. Thompson's article in Farm and Fireside for October 12, 1912

Humane and Sensible Methods for Doing a Necessary and Disagreeable Work

Excitement Prevents Bleeding

By Dr. Henry Flowers

HOGS or beeves, if killed on the farm for home consumption, ought to be killed in a moment of least excitement. If excited or hot from running, a hog or beef will not bleed freely, because much of the blood is in the terminal blood-vessels and cannot be drawn off by cutting the jugular vein.

It does not matter whether an animal is killed with a club or an ax or with a gun, but whichever is used care should be taken to kill instantly. This prevents the excitement and pain which a bungling job causes, and insures thorough bleeding, if the stabbing is properly done.

To strike a deadly blow, draw a mental diagram and observe where the lines cross drawn from each ear to the opposite eye, and strike or shoot at this point, directing the blow or shot perpendicular to the surface at that place. If the animal to be killed is not closely confined or is not gentle enough to be handled, a rifle or pistol should be used, not a shot-gun.

Some points about stabbing should be remembered. Of course, an animal will not bleed sufficiently if the largest artery is not cut. To make sure of this, introduce the knife into the neck with the blade at right angles with the course of the artery which runs deep alongside the windpipe.

A blow on the head, if a deadly one, does not prevent bleeding. It is when the hog is only stunned and excited before being killed that he fails to bleed.

Be Humane

By A. B. Jenkins

THE best hog-catcher I know of is not made by a blacksmith, but by a gunsmith. A small-caliber rifle is just the thing. A bullet properly placed with any of the standard makes of .22-caliber rifles, using the .22 long cartridges, will drop any hog that walks. It does the work humanely and without a squeal and doesn't keep the hog from bleeding. I have always used this means of killing and have never lost a pound of meat.

Fig. 1

It doesn't take a sharpshooter to do the shooting, either. A hog that has been raised right will allow you to approach within six feet of it, and with a "brain-box" two inches in diameter to shoot at, one should rarely miss at that distance. In locating your target, imagine lines to be drawn from each of the hog's eyes to the base of its opposite ear, as shown in Fig. 1. Put the bullet where these two lines would cross one another, and the killing part is done.

Practical Experience Explodes a Theory

By S. O. Rabb

FOR several years past I have killed the hogs I raised, worked them up and sold the product in neighboring villages. One would buy and eat and recommend it to a friend, who would do likewise. Perhaps a friend from another State would eat at his table, and he would order it, and in this way I have secured customers scattered over the country from New York to North Dakota, and from Minnesota to Texas, until the business has outgrown the farm, and I must buy hogs from neighboring farmers.

Heretofore we have done all the work, except slaughtering, in the basement of our farmhouse, but the demand for our sausage has become so urgent that we have built a shop near the house, where the work can be done more conveniently and more economically. We also make lard and put up hams and bacon. Our hams and bacon are put down in mild brine, and when thoroughly cured, which for hams takes about two months, are hung up and smoked with corn-cobs, which give them an excellent flavor. We don't know how to "dip" hams, and don't want to learn; the old way is good enough for us. The herbs used in seasoning our sausage are all raised on the farm, and all work is done in a neat manner.

In killing, we use a small rifle, though a well-directed blow on the front of the head two inches above the eyes will accomplish the same result equally well.

Our cured meats will explode the theory that the stunned hog will not bleed or the meat will not keep.

When a hog is run down, stunned and killed, it is the running and heating, not the stunning, that spoils the meat.

A Blacksmith's Favorite Catcher

By Joseph Bolt

I AM an old-time blacksmith and have made a good many hog-catchers like Fig. 2. It is a common pair of pincers, only the jaws are rounded in place of flat. Make them about eight inches long from rivet to eye in end of handle. One handle has a socket as illustrated. Fasten a half-inch rope in the eye by making a knot in end; then pass the other end through the second eye. This rope should be as long as the pole, which is from twelve to sixteen feet. Put it in the socket loosely. When catching the hog, throw a little corn down or in the trough, open the catcher wide, reach with the pole to one of his hind legs, and pull the rope. Pull the handle or pole out of the socket, and draw the hog toward you.

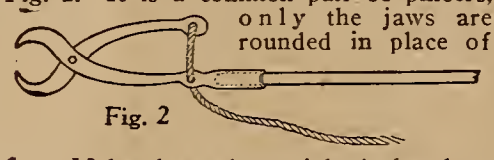


Fig. 2

* * *

Mr. I. Spencer, a hog expert, of Waterville, New York, writes that he has used a hog-catcher similar to this for over sixty years with most satisfactory results.

A Good Noose Catcher

By H. A. Robinson

FIG. 3 illustrates a home-made hog-catching device. It is constructed of a piece of inch pipe (B) about three feet and a half long. The rope is run through, leaving about eight inches at the lower end above the noose (C). Now make a small conical-shaped plug (A) that will fit into the pipe, and when the hog is caught and begins to pull on the rope the plug will bind and hold it.

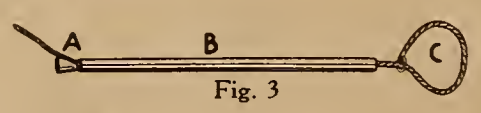


Fig. 3

It will be seen that with this device you can always keep the noose close to the hog's nose ready to slip it on, no matter how much it may be dodged, and when caught it is an easy matter to hold him.

A small pig ring put in the end of a halter rope saves the big knot and is much quicker than making a spliced knot.

Another Good Hog-Catcher

By J. F. Cody

IN HOG-KILLING time we need something that will do away with running the hog down. Fig. 4 is a simple device that can be made by a blacksmith and which proves very satisfactory. It is made by doubling a piece of three-sixteenths-by-one-inch iron into the form of a jaw, with a somewhat heavier jaw to pass and be pinned between it.

The stationary part is about twelve inches long. A piece of quarter-inch rope passes from the movable jaw through an eye-bolt and then up the wooden handle where it passes through a hole bored in the handle.

To operate, open the jaws sufficiently to admit the hog's hind leg. When the hog is caught, twist the rope around the handle where it passes through, and you have him securely.

* * *

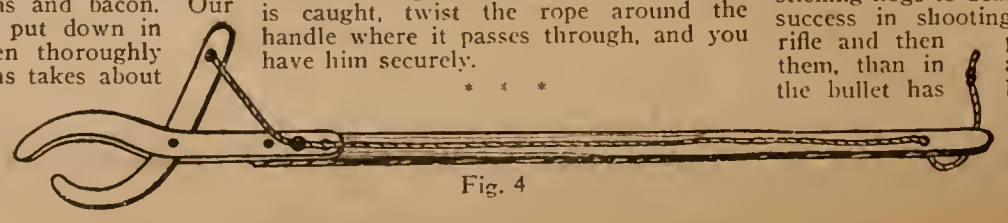


Fig. 4

Mr. J. Luther Cramp, of Corning, California, is also an advocate and user of this form of hog-catcher. He has found that it can also be quickly and conveniently made by using a piece of one-and-one-fourth-inch iron pipe about a foot long as a socket and welding into the other end large pincers similar to those described and illustrated in Fig. 4.

Clean, Sweet, Cool Carcasses

By H. L. Popenoe

FOR a number of years we tried stunning hogs with the ax, but with bad results; also running the hog down and sticking without stunning, but the latter method seemed the worse, as chasing raised the temperature of the hog so that the meat was very likely to sour after dressing and seemed to taste stronger if the hog got overheated. The plan we use now seems very satisfactory.

A small pen about six feet square is built opening into the large pen. After the hogs have been fasted for twenty-four hours to empty the stomach and intestines they are put in this pen one or two at a time, according to the convenience of those butchering, given a little slop to keep them quiet and shot in the forehead with a .22-caliber rifle, then stuck in the usual manner.

Hogs stunned in this manner bleed well, and the carcasses are clean, cool and sweet after dressing, never giving any trouble from souring or spoiling.

Keep the Hogs Quiet

By B. C. Eaton

PERMIT me to answer Mr. George S. Thompson's article, appearing in FARM AND FIRESIDE for October 12th, in regard to killing hogs for meat, as I think his way of killing is brutal. I usually put up one thousand pounds of pork every year. My hogs are fed until they are fat, and I keep them quiet when time comes for slaughtering. After putting them in a pen or small lot, I use a .25-caliber rifle to shoot them in the center of their forehead, about one inch above the eyes, as illustrated in Fig. 5, if their heads are perpendicular; if not, one must use judgment and be sure to hit the brain.

Fig. 5

The hog is killed instantly. I use a small knife-blade about six inches long for bleeding purposes. As soon as the hog is shot, I turn him on his back and stand at his nose. I insert the knife just at the point of the breast-bone, being careful not to touch his shoulders or his backbone, remove my knife, and the hog will bleed freely. I killed three last winter and never moved from the time I shot the first until all were shot. There was not a sound from any of them.

Give No Food Before Butchering

By Mrs. F. W. Hackbarth

THIS is my way of hog-killing. First have a pen, put feed in so the hogs will be accustomed to going in for feed. The evening before butchering, feed in this pen, close the gate, do not feed again.

With a few grains of feed the hog can easily be caught and stabbed. By not feeding twelve hours before butchering the intestines are quite empty, the hog is not so heavy and is much neater and more agreeable to dress.

Use Rifle Before the Knife

By F. W. Pabst

IN FARM AND FIRESIDE for October 12th, the writer of the discussion on "How to Catch the Hog" intimates that he still follows the old and fiendish practice of sticking hogs to death. I have found more success in shooting hogs with a small rifle and then promptly sticking them, than in any other way. When the bullet has been well placed it does not mutilate the carcass and also saves time, labor, and excitement.

Poultry-Raising

Starting a Flock of Ducks

DUCKS are easily raised, and can be kept with profit on a farm. It is the general opinion that ducks cannot be raised unless they have access to a pond or river. A body of water is not essential, though it furnishes excellent feeding-grounds and consequently lowers the cost of keeping the ducks. Ducks are hardy and stand most any climate. Some varieties are good winter layers, and their eggs always command a few more cents per dozen than hens' eggs. The large share of ducks are raised for market, and prices obtained for them are consistently good.

A commercial duck farm showing colony houses. A medium-sized flock of ducks can be kept with profit on any well-managed farm

Ducks' eggs may be hatched under hens or in incubators. Four weeks are required. The young ducks should be fed about five times a day for the first few weeks on a mash food. The mash I feed consists of wheat-bran and hominy, with beef-scrap and fine grit or sand, all mixed together with water or skim-milk. Later cracked corn, wheat or any reliable chick-feed is added to their diet. If they do not have free range, they should be given plenty of green food of some sort.

Feeding for Market

When the ducks are weaned, it is best to transfer to colony houses large enough to accommodate flocks of not more than twenty. The houses should be open in front and covered with half-inch wire netting to keep out all night intruders. The houses should be near, or bordering, a brook or pond, if there is such upon the farm. Otherwise have the houses scattered over free range far enough apart so the flocks will not mingle. They should be fed practically the same as when younger, and the houses should be kept clean.

The ducks and drakes intended for market should be confined for a week in dark pens and fed all the corn-meal mash or wet cracked corn they will eat. Give them very little water. If the ducks are dressed before sending to the market, remember to save the feathers, for they are valuable.

A house ten by ten feet on the ground, seven feet front by three feet in the rear, wind and storm proof on all sides but one which faces to the south will accommodate about twenty ducks and three drakes and serve for winter quarters.

A litter of straw or meadow-hay should be supplied for bedding. A few dry-goods boxes placed against the wall on the inside of the coop, with spaces sawed in each box large enough for the ducks to go through, and straw put in for a nest are much appreciated by them, as most of them prefer laying in such a nest to dropping their eggs in the bedding.

Laying ducks should be fed three times a day during the winter. Bran, cracked corn and shorts, mixed to a crumbly mass, make a good morning feed for them. Whole oats and wheat which have been soaked in warm water make a good noon meal. At night the same should be fed as in the morning, except that the mash should contain more corn. A supper of whole corn occasionally is a change that does them good. The ducks must have oyster-shell grit and charcoal before them all the time, including plenty of fresh drinking-water.

To Avoid Egg Loss

When feeding a mash, mix in a little coarse sand, as grit is their main appetizer. Laying ducks must also be provided with meat of some kind if they are expected to lay well in winter and summer. During the summer months, if they have free range, they will pick up enough bugs and worms for their meat diet, but in winter substitutes must be given. Beef-scraps, bone-meal and green cut bone are among the best meat foods for them. These should all be mixed in the mash.

During the laying season, if the expected number of eggs is not found early in the morning, the ducks should be kept in their houses until about nine o'clock, after which time there will not be many left to lose. There are several varieties of very good laying ducks, and every farmer should give the profit-payers a trial. A. E. VANDERVORT.

Put Chickens in Colonies

COLONIZING poultry is not a new idea, but a very old one. However, it is a reliable principle because it is based upon the inexorable laws of nature. It was intended that fowls of all kinds should roam at will and live in flocks. These flocks should not be too large or too small to secure the best results and eliminate labor from the caretaker.

Colony houses, with or without a floor, with three sides and roof wind and storm proof, with one side facing the south, covered with netting and a door at the side, built large enough to accommodate at least twenty-five fowls, should be provided for the laying stock during the summer months. The location should be beneath a tree of considerable size, beside a bunch of bushes or in the edge of the woods, the idea being to secure for the flock protection from the sun. These houses should face the south and be located some distance apart to prevent the flocks from mingling.

The object in thus colonizing the laying stock is to give them a chance to partly feed themselves and secure in proper quantities green and animal food so essential to continued egg production. Better health and vigor are thus maintained and more eggs are thus produced than by any other system or method ever yet devised; for freedom is one of the laws of nature, and free range is an important factor to success in poultry culture.

Breeding stock thus colonized are productive of the very highest results in fertility and hatchability in the eggs and future growth and development in the chicks.

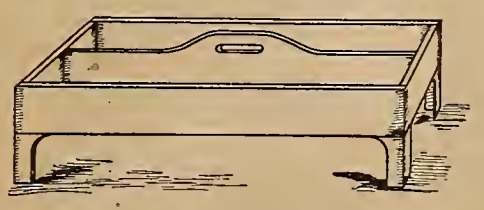
No better way has ever yet been discovered in which to raise chickens than by the colonizing plan. In flocks of twenty-five, with unlimited range and houses large enough to accommodate them until near maturity, they will grow like weeds. This plan is based on nature and copied after the way in which the partridge rears her young. Open-front houses approach the evergreen tree for roosting-quarters. The growing chick needs lots of exercise and freedom. In small colonies he gets the things so essential to his best growth and development.

A. G. SYMONDS.

Oat-Sprouts for Winter

A NEW HAMPSHIRE poultryman has solved the green-food problem in an ingenious and original manner. From an old box about three feet long and of the proportions illustrated he constructed double trays provided with a handle and mounted on short legs. The trays were then filled with rich soil thickly planted to oats and the box placed in a warm, light place near the kitchen range.

An abundant growth of oat-sprouts soon appeared which were relished by his hens



to such an extent that he makes a regular practice of growing oat-sprouts as a regular winter feed and the principal part of their ration of green food.

The sprouts are fed when about four inches long, and the sowing is regulated so that one tray can be harvested and replanted when the other is about half grown. The number of trays which can be grown is limited only by the amount of available space that is light and warm enough to cause a good growth of green oats.

D. S. BURCH.

Perilous Poultry Pitfalls

THERE are many dangerous pitfalls in poultry-keeping, and it is as necessary to point out the causes of disaster as it is the reasons for success.

There are many causes for failure, and some of those causes are enumerated below in order that people keeping poultry may guard against them as much as possible.

Keeping too many fowls in a pen with an insufficient amount of floor space is a pitfall to be avoided.

Poor ventilation, which is conducive to disease, is an apparent cause for failure.

Closed houses that admit of a limited supply of fresh air and open-front houses with no protection from drafts, winds and storms are things to be avoided.

Too much or not a sufficient supply of food is often disastrous in results.

Raising chickens in confinement under too artificial conditions leads to ultimate trouble in the laying and breeding pens.

Improper food or food fed irregularly is a long step toward that horrid word, failure.

Don't Forget the Green Food

Unhealthy yards or runs and lack of green and animal food in sufficient quantities are a common cause of failure.

Inbreeding too closely until the constitution of the flock is impaired is a dangerous pitfall.

Improper matings, such as breeding from too young or too old stock or from birds diseased is a reason for a catastrophe.

Lack of exercise due to a failure to supply proper scratching-material is a common way to get the flock out of condition.

Too early or too late hatches are not profitable.

Lice, which sap the life-blood and undermine the flock, furnish a pitfall into which far too many stumble.

Dampness in the poultry-house, yards or runs is often a source of trouble.

Poultry-houses so long as to create drafts are not to be recommended.

Too many or not enough windows are bad, the former causing too great a change in temperature from day to night, the latter not allowing sufficient sunlight for warmth and comfort.

Too exposed, too low or too warm a location for a poultry-plant is a frequent cause of disaster.

Most Poultry Diseases are Contagious

Too much leniency shown toward sick fowls and a failure to remove them from the rest of the flock in a hope of their ultimate recovery often leads to the inoculation of the entire flock and the ruin of the enterprise.

Carelessness on the part of the keeper in feeding and caring for the flock is not conducive to the best results.

Lack of a constant supply of clean, pure, fresh water before the fowls means defeat in the end.

Lack of charcoal, grit, and coarse foods in sufficient quantities spells failure.

Failure to understand what things are poisonous and detrimental to fowls is a pitfall some readily fall into by their ignorance.

Lack of common sense in applying the principles and teachings of the accumulated poultry knowledge of the past is a pitfall that presents itself.

Guard well against these pitfalls that have been briefly outlined, lest perchance through some cause or other you may stumble and fall into the pitfall of failure and defeat. Study well the problems as they present themselves in order that you may arrive at a correct solution. Interpret correctly and wisely the teachings of the past that present difficulties may be readily overcome. If all this is done, pitfalls will no longer exist and success will triumph though failure has seemed imminent. A. G. SYMONDS.

Wide Roosts are Preferable

STRIPS of wood three inches wide, about an inch thick and slightly rounded on the edges make the best roosts for poultry. A hen is not a flying bird, and a round

roost is unnatural, especially if of small diameter and smooth.

The roosts on which fowls appear most comfortable are constructed as sketched and are placed directly on a level platform covered with coal-ashes or road-dust to a thickness of half an inch.

The roosts can be easily taken out to be cleaned and aired. D. S. BURCH.

When you can put all the eggs into one basket, it is not complimentary to the hennery.

The Rhode Island Experiment Station has established a hospital for chickens. It is primarily, as the name suggests, a place for the treatment of poultry diseases. It is thoroughly equipped with modern appliances.

LIBERAL INCOME FOR HUSTLERS

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Department of Agents

Farm and Fireside, Springfield, Ohio

Live Stock and Dairy

Feeding Points Required

WHEN assistance is wanted in arranging well-adapted rations for farm animals, always remember that we should know the breed and age of the stock to be fed, the purpose for which it is kept, the kinds of feed the feeder has on hand, its market value in his own locality and the different commercial feeds and their cost at his most convenient sources of supply.

EDITOR.

The Coughing Cow

By D. S. Burch

BOUGHT a cow at auction sale,
A likely critter, too.
She cost me just a little more
Than she was worth for glue.
But when I got her in the yard
And took her halter off,
That bargain cow humped up her back
And started in to cough.

She coughed so hard it shook the barn
And broke a window pane,
And all the other cattle came
A-tearing down the lane
To see what was the matter.
And say those cows were smart,
For soon each one was coughing, and
They learned the trick by heart.

And after that my family
All got the habit, too.
The children coughed and coughed until
I thought they'd break in two.
Well, that was some five years ago.
I thought 'twas funny then,
But when the cows fell over
I began to think again.

My wife grew pale and sickly
And coughed herself to death,
And I'm a weak consumptive
With germs all through my breath.
Now this is not a sermon,
But it's wrong the law allows
Us fools to go to auction sales
And bring home coughing cows.

Some Will Get Machines

THE dairyman is more dependent upon labor than are those engaged in some of the other lines of agricultural production. He needs help through all the year, whereas in other lines it will suffice to get it for but a part of the year.

The dairymen of the future who are likely to be the most successful are those whose holdings are small and who can, therefore, control their own help, by which is meant that they can supply it. It can come from within the home. The family will be able to grow the food, to milk the cows, to manufacture the product when necessary and to dispose of the product. Persons thus situated are almost certain of success in their particular lines of dairying.

The training which such work, especially milking, gives to both boys and girls is very helpful to them. It teaches them the necessity of being punctual in this work and the necessity for continuity in the same. It brings them into close touch with animal life, and thus begets in them a liking for working upon the farm.

Of course, there is a difference of opinion as to whether or not girls should milk, as there is about many of the things that they ought to do. Some mothers seem to think that their daughters should not do any work. Those who marry them come to think differently on this question. The mothers of the passing generations almost without exception knew how to milk. Was it a mistake in their education? Happy are the families who to-day are in a position to do all of their own work. A. E. VANDERVORT.

Lice in Stables

HOW to rid barns and stock of lice, is asked by a West Virginia reader. He states that these lice are large, nearly half the size of a grain of wheat, and that they infest the horses and cattle to such an extent that it is impossible to put flesh on them until they are turned out to grass and shed their winter coats.

Your failure to get rid of the lice has probably resulted from not taking precautions to kill the broods of lice as they hatch. After the stock and the barns have been treated to kill the lice, the eggs will hatch in from four to six days, and soon make the next crop as numerous as before. To prevent this, a second and third treatment are necessary to kill newly-hatched lice.

For the large lice which you describe the following treatment is effective: Make a kerosene emulsion, using two gallons of kerosene and one-half pound of soft soap, or in this proportion. Dissolve the soap in water by boiling, and add the kerosene slowly while still at the boiling-point. Then boil the mixture ten minutes. This is a stout solution which can be prepared for use by adding eight volumes of water to the solution. The animals should be thoroughly wet with this solution, so as to leave no portion that is not treated. In cold weather care must be taken not to allow the animals to get chilled after treating.

This same solution should be used on every portion of the stable where the animals are. All litter and manure should be cleaned out in advance.

Two or three treatments with this solution, if thoroughly made, will prove effective. At least that has been my experience.

Another remedy is known as the tobacco decoction, which is made by steeping tobacco or tobacco-stems at the rate of two ounces to each quart of water for one hour. Apply the same as the kerosene emulsion.

A great help in keeping the stables or quarters where the animals are kept free from lice is to whitewash, adding a three-per-cent. solution of carbolic acid water.

With any of these remedies there is much gained by very careful application. Otherwise some of the lice escape, and soon reproduce. B. F. W. T.

Are Horns Hollow?

A NORTH CAROLINA reader tells us of a fine cow that has been fed too much, and now refuses to eat. He says that her horns are cold, and asks if there is any such disease as "hollow horn" and if it will do any good to bore the horns.

The horns of all adult cattle are hollow. There is no such disease as "hollow horn." The boring of the horns is useless, needless and without beneficial effect.

The cow apparently had an attack of indigestion, and should have had a full dose of physic, such as a pound of Epsom salts, half a cupful of salt, a cupful of blackstrap molasses and half an ounce of ground ginger-root, shaken up in three pints of warm water, to be given as one dose slowly and carefully from a long-necked bottle. Keep the cow warm. DR. A. S. ALEXANDER.

Heavier Farm Horses

WESTERN Wisconsin is slowly changing the light-weight horse of 1,200 to 1,300 pounds for one of much heavier weight. Not only that, but it is the aim to keep mares, as the twofold purpose makes them a profitable stock, especially when bred to a pure-bred stallion. The expense of maintenance between geldings or mares is about the same; the cost of raising a pure-bred

Larger horses permit use of heavier farm tools

colt is no more than that expended for a grade or scrub, while it is the pure-bred colt that brings the money.

Good Prices for Draft-Mares

Formerly when the horse on the farm became too old to be kept with profit for the heavy farm work and it was offered for sale for lighter work the price would run down to a low point. Now the depreciation is but little, if any, when the mare offered is a drafter.

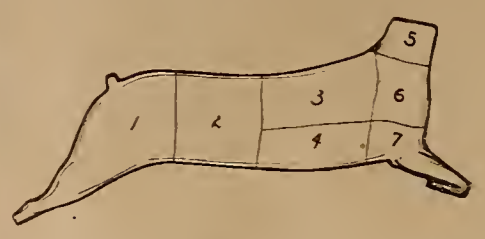
Handling all stock in bunches is now a common practice, and only such stock as can be kept together is wanted. Pure-bred draft-horses are so well dispositioned and so peaceful that it is seldom one is injured by a kick or strike from another horse. Years ago we often lost a horse because its leg was broken by others in the same bunch.

The licensed stallion in Wisconsin, today, must be able to claim a pure-bred sire or dam, or be classed in the papers as a "mongrel or scrub." This is right. Too many stallion-owners care very little for the general improvement of the farm power-plant.

The draft-horse is found not only on the farm, but it is the most common property of the village teamster. They do not own so many mares as the farmer, but still the mare is often chosen as the cheapest horse in the end. These large horses have also brought about a change in the farm work. Larger tools are used, and more is accomplished in the same time. H. LOWATER.

The Lamb in the Kitchen

ON ANOTHER page I have told about market conditions, but now I want to chat a little with those who so faithfully govern our farm kitchens—the "angels in the house." So for the moment we will try to forget the turkeys, plum puddings and mince pies, and seriously consider the virtues, from a gastronomic point of



view, of the animal which looks like the sketch, when deprived of life and fleece.

Until he met the fate of most of his kind, he was a nice, frisky little lamb, weighing perhaps eighty pounds. Being fat and fairly well finished, he will weigh about forty-three pounds as here presented. When cut up in the usual manner, the weight and the price of each part asked by an average Chicago dealer at the present time would be about as follows:

	Pounds	Price	Total
No. 1—Legs	13	25c	$3.25
No. 2—Loin	11	20c	2.20
No. 3—Ribs	8	20c	1.60
No. 4—Breasts, No. 5—Neck, No. 6—Shoulders, No. 7—Shank	11	8c	88
Total	43		$7.93

The last four parts go together under the common name of "chuck." The prices at the ultra-fashionable meat-markets are fully twenty per cent. higher than the above.

The fleece ought to weigh six pounds and be worth twenty cents per pound, or $1.20. Sold on the hoof in Chicago at the top price, $7, he would have realized $5.60, less commission, freight and other charges. If killed for home consumption, and the fleece sold, or cured to make the nicest sort of a bedroom rug, you would have made quite a saving on the butcher's bill.

What I want especially to call to mind is that mutton and lamb are not only the most economical and wholesome of meats, but also the most delicate and toothsome, *when properly cooked.*

If the family get tired of roasting the more expensive joints and broiling the rib chops, for it is wicked to fry them, a leg well boiled and served with a sauce of melted butter liberally garnished with capers, with mashed turnips and roast potatoes is a dish "fit for a king." It is good cold, too, and makes the best of hash. Then out of what is called the "chuck" the shoulder makes almost as fine a roast as the leg; and there is not a part of it from which the nicest stews cannot be made.

In conclusion I now hope that all the readers of Farm and Fireside, having indulged to their heart's content in all that makes Christmas and New Year's a happy holiday time, will drive off threatening dyspepsia by resorting to a simple diet of mutton and lamb, and so set an example to the rest of the world. J. P. Ross.

The Cow

THE cow is deemed by many the most sensible of her sex, and not without reason. For the cow does not flock to the cities to learn shorthand and sell dry-goods, but prefers to stay in the country and make butter. Neither does she wear skirts so narrow as to restrict the freedom of her limbs. Nor does she speak before she thinks, and if she cannot say anything good about her neighbors, she says nothing.

And finally, her outlook on life is such as virtually to exempt her from worry. She will get, for instance, to measure nine or ten feet about the waist and not mind a bit.

It is only fair to say, however, that if all her sex had feet like the cow's, corns would not be so common, and by that token tempers would be better. But hypothetical speculation of that sort leads us nowhere. As a certain great man has pointed out, things are what they are, and the consequences of them will be what they will be.

Ramsey Benson.

Feed the Sows

"I HAVE a litter of pigs about two weeks old which get weak in the hind quarters, gradually get poor and then die," writes a Wyoming reader.

The pigs you write us about are suffering from rickets, due to malnutrition, and it is to be suspected that the feed of the sows is incomplete or inadequate. If you will feed the sows plenty of alfalfa, or alfalfa-hay and roots, in addition to light slop, they should have plenty of milk for their pigs, and the youngsters should grow strong and hearty. Sows that are stuffed on corn and given too little exercise often have rickety pigs. It would be better not to feed corn to the sows nearing farrowing, but to keep them outdoors on grass or alfalfa, and to see that their bowels at all times are kept active.

Worms also are a common cause of rickets in pigs older than the ones you mention. If you feed milk to the sows, add one ounce of lime-water per quart, and the pigs should do better. A. S. Alexander.

Stay-on Cow-Blanket

TO MAKE a cow-blanket that will stay on, first take the rope that comes around a bale of binder twine, untwist it and take one strand long enough to tie around the body

just behind the fore legs. Tie another around the body in front of udder, then make a crupper.

Tie another around each fore leg and fasten at top, then a rope around neck. Now sew two gunny sacks together, and slip them under these ropes. Take a darning-needle and twine, and fasten on sides and top. When the sacks are worn out, cut the fastenings, and slip two more under. A good blanket will last no longer than the cheap one described. C. E. Whitton.

Fattening Hogs on Pumpkins

I USED an old molasses evaporator as a boiler. The pumpkins were first cut up in chunks with an ax, then covered with water and cooked until soft. I next stirred in a half-bushel of wheat-bran and meal and emptied the mixture into an old barrel to cool. I always kept one boilerful ahead.

I fattened ten hogs at about $2.50 per head on this feed. They weighed one hundred and twenty-five pounds when I began feeding, and in six weeks they weighed over two hundred pounds apiece. The last week I fed them sixty ears of corn a day, and I think they made the best bacon and most lard, considering their size, of any we have ever butchered. D. B. Phillips.

Crops and Soils

My Experience with Commercial Fertilizers

Part 11.

Part I. appeared in the December 21st issue of FARM AND FIRESIDE.

I PURCHASE acid phosphates (the sixteen per cent. grade if I can get it), muriate of potash and nitrate of soda. mixing them to suit my own ideas of the needs of my soil or crops, and, also, at a saving of at least $8 or $10 per ton, and I have less weight and bulk to handle. Owing to the solubility and quick availability of nitrate of soda, I prefer to only put enough into the mixture to start the crop, and apply the remainder at the first or second working.

By writing the firms who advertise to supply raw goods for home mixing, you can get reasonable prices, and if farmers coöperate to get in car-load lots, they can get them cheaper and save on freight. My freight for fertilizers is eighteen cents per one hundred pounds, but if I could buy in car-lots I could get a rate of twelve cents per one hundred pounds, a saving of $1.20 per ton, which would mean a great deal.

The Mixing Process

Ordinarily, I use no filler, as it only adds weight without any worth. If the fertilizer is richer than the formula I aimed at, I use less per acre. However, if it is to be used in a drill, it may be necessary, in order to get the right mechanical consistency, to use some very dry loam or sifted coal-ashes (never wood-ashes). At first I used bone tankage, for, despite its foul odor, it was ideal for the purpose and, besides, was rich in ammonia (about nine per cent.) and contained about seven per cent. of total phosphoric acid. However, since the Beef Trust has run up the price from $29 two years ago to $40 per ton now, I can't afford it. The price of dried blood is also out of reason, so I depend wholly on nitrate of soda for my nitrogen. Of course, the cheapest and ideal way to procure nitrogen is by plowing down legumes like clover and cow-peas, but when I must buy it I want it quickly available and apply what the crop can take up and use at once.

In mixing I use a clean floor, a barn floor for instance, and the only tools, a couple of square-point shovels, an ash or sand sieve and some sort of scales for weighing. I spread to a depth of perhaps three or four inches the most bulky material (acid phosphate if I don't use a filler), and on top of this the nitrate of soda, then the potash, first crushing the nitrate of soda fine on the hard floor with the back of the shovel, as it is like coarse, lumpy salt. Next, my fifteen-year-old son and I take the shovels and, beginning at one side of the flat pile, shovel it into a conical heap behind us. Each shovelful takes some of all the ingredients. We tip the shovel and let it pour off in a stream, thus mixing the fertilizers. We then begin and shovel the whole pile back in the same way. We then sieve it to remove lumps, etc., and then sack it. A sample analyzed by the chemist of the experiment station showed that it was so well mixed that it came as near the analysis aimed at as the average ready-mixed fertilizer. It is best to only mix as needed, for if left standing long after mixing the mineral fertilizers without filler are inclined to draw moisture and get lumpy.

The question will be raised whether the saving thus made will justify taking the trouble, which is really less trouble than one would think.

A High-Grade Fertilizer at Low Cost

Besides the satisfaction of having a fertilizer of the analyses you want, and the certainty of it being high grade as to availability, instead of worthless filler and low-grade garbage goods, I also figure on quite a material saving of cash.

In analyses I use the term ammonia instead of nitrogen, because the makers of the mixed goods use the ammonia equivalent—it sounds larger. To reduce ammonia to its equivalent in nitrogen, multiply by 0.8235.

I have been getting my material at about the following prices f. o. b., Baltimore, Maryland (freight adds $3.60 per ton):

Acid phosphate, containing 16% phos. acid	$13.00 per ton
Muriate of potash, containing 48% actual potash	41.00 per ton
Nitrate of soda, containing 18% ammonia	50.00 per ton

A fertilizer much used here, costing $25 per ton, contains two per cent. ammonia, eight per cent. phosphoric acid and one per cent. potash. As one per cent. of a ton is twenty pounds, that means forty pounds of ammonia. 160 pounds of phosphoric acid

and twenty pounds of potash, which could be purchased at a very material saving in

222	pounds nitrate of soda, costing.	$5.55
1,000	pounds 16% superphosphate, costing	6.50
40	pounds muriate of potash, costing	.82
1,262	pounds total weight of freight, costing	2.28
	Total cost	$15.15

Here is a saving of $10 and 738 pounds less of bulk to handle.

A truck fertilizer sold near here at $40 per ton analyzes five per cent. ammonia, seven per cent. phosphoric acid and eight per cent. potash, a very good formula.

The 100 pounds of ammonia, 140 pounds of phosphoric acid and 160 pounds of potash contained in this could be purchased in

555	pounds of nitrate of soda, costing	$13.88
875	pounds 16% phosphate, costing.	5.69
320	pounds muriate of potash, costing	6.56
1,750	pounds total weight of freight, costing	3.15
	Total cost	$29.28

We have here a saving compared with the truck fertilizer of nearly $11 and 250 pounds less of bulk to handle.

Anyone knowing the prices of the various mixtures offered for sale in his own neighborhood can get prices on raw material, freight rates, etc., and do a little figuring on his own account. If he doesn't understand the question, the sooner he acqnaints himself with it, the better for his land and purse.

Read some reliable work on fertilizers, and Farmers' Bulletins Nos. 44 and 398. Get all the literature you can and write your state station for information on soils and fertilizers. James D. Bowman.

Thanks

Dear Farm and Fireside—"Who Wants an Index?" I do, most assuredly. Furthermore, I want to congratulate Farm and Fireside that it is in the forefront of agricultural papers in preparing an index for its readers. I know of no other paper which does it, though they may do so and I not be acquainted with the fact.

It is somewhat surprising how few there are who appreciate the painstaking work involved in making an index and how valuable an index is when it is properly made. But the fact is that the great mass of our best agricultural material would be lost were it not for indexing. I speak from experience.

For several years it was my privilege and pleasure to prepare the index on the "Experiment Station Record." You probably know what that means. It represents a vast amount of material constantly being brought together for the more especial benefit of experiment station workers than the practical farmer, but it costs the Government—that is, the people—hundreds of thousands of dollars to bring this material together from year to year. Even then it would be well-nigh useless were it not for the index. The process of indexing, therefore, is the key to the situation and brings into focus any subject in which one is particularly interested.

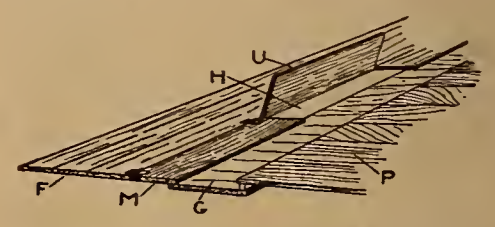
I still continue to make my own card index for private use. I could not get along without it. There are many interesting things we run across in our agricultural papers, but they are soon lost to memory unless indexed. So please send me an index of Farm and Fireside. Sincerely yours,

James B. Morman.

Labor-Saving Manure-Disposal

While no cow-stable will probably ever be self-cleaning, a New Hampshire dairyman has arranged the gutters of his dairy barn so that they may be cleaned with the least possible labor.

There is a basement under the cow-stable large enough for a manure-spreader and team to enter. The spreader is driven under the hinged plank just back of the gutter (G), and after the plank has been raised



the manure is easily pushed over the edge of the gutter and falls directly into the spreader.

In the illustration, U shows one of the hinged planks up, and M shows it down. The manure is pushed through the hole (H). P is the platform on which the cows stand, and F is the floor of the barn.

In basements too small for a manure-spreader, overhead carriers on tracks in the basement would serve the same purpose equally well. D. S. Burch.

A current magazine reports one California farmer who works his farm twenty-four hours of the day. His farm-hands are employed in eight-hour shifts, and his plows and other machinery of that sort are equipped with search-lights for use at night.

Neighborly Reciprocity

I know two farmers who are not big farmers. They have a little hay to cut, a little corn to plant and the same of several other crops. It so happens that one of them owns a mower. The other owns a two-row corn-planter. Since the first has no planter, nor the other a mower, they change about with these machines every year. It is easily done, since they live only one-half mile apart and both have telephones.

This is not a wonderful discovery in any way, but possibly you could work some like scheme with your neighbor. Now, these farmers have an investment of perhaps $40 saved on each side by this plan, besides they do not have to house two machines in place of one, nor do they have to feel that they must beg a machine of the other when they want to cut or plant.

On a big farm with many acres of stuff to handle this will not work so well, but there are little jobs where it will work, and does. Perhaps you will put up ice this winter. Your neighbor has none. Could you supply him sometimes and get something needed in return which costs him little but means a lot to you? Ask him. R. E. Rogers.

Garden and Orchard

Planting the Orchard

[CONTINUED FROM THE DECEMBER 21ST ISSUE]

I REMEMBER my first attempt at orchard-planting. Three men were fully two weeks setting out ten acres of trees.

The method used at that time was a commonly recommended one, using stakes all around the field, and which required a great deal of sighting and measuring. I can testify that it was hearthreaking, slow work. I consider all systems requiring staking or the use of the measuring-tape impractical and a waste of good time.

Shade for the Young Trees

Your orchard is now set out. If you have not needlessly crossed back and forth with your team, the original check rows will still be as plain as hefore, so that you can at once get your corn planted. For you may as well occupy the ground hetween the trees, leaving out just one hill next to each tree in every direction. Harrow with spike-tooth harrow a day or two later, and follow this with four or five cultivations, or as long as the corn will permit. The corn will shade the trees somewhat during the hot months, which is good for them. In cultivating use a short whiffletree to avoid hruising the young trees. Whatever growth the trees make the first summer should not he disturbed. The first pruning should not be done before the following spring. In the late fall and before the ground freezes throw three or four shovelfuls of soil against the hase of the trees, forming a mound eight or ten inches high. It will keep the mice from gnawing your trees and perhaps girdling them.

An Estimation of the Cost

The cost of your orchard for the first year will he about as follows per acre:

Plowing	$4.00
Harrowing 3 times	1.50
Cultivation 5 times	3.00
Marking	.50
135 trees, @ 12 cents	$16.20
Digging holes	.75
Planting	.75
Winter protection	.50
Incidentals	1.00
¼ of $9.00 charged to orchard	2.25
Total cost per acre	$30.45

The following spring the young trees should be looked over and the top reduced to from three to five branches well placed around the trunk so as to make a well-balanced head. If the tree has done well, it will have made two or three feet of growth on the main branches; this should he cut back fully one half.

Now the orchard must he plowed again. Get as close to the trees as possihle. If you plow to the trees, you can cover the entire ground; if you plow away, you will have to finish with a one-horse plow. Close to tree plow three or four inches deep, and deeper hetween rows. Suhsequently the soil can he leveled with the harrow, also scatter the mound of soil around the hase of the trees. It is a good plan to plow to the trees one year and away from them the next.

A Good Tool for Digging Borers

In June look your trees over for horers. You may find very few, and it will take hut a few hours, while if you neglect them now it will take as many days to get rid of them later, not to mention the loss of trees, which will surely result. A simple tool for digging borers can he made in a few moments. Take a piece of wire the size used for hoops on flour-harrels.

Bend it over double so as to form a loop of convenient size to fit the hand as a handle. Bend the other end into a hook shape three-fourths inch long. Hammer the inside of hook flat to make it hard and thin, finish to sharp edge by filing. You will find this latter tool very handy for the purpose, since it will have a cutting edge for removing hark and may be used for probing into the holes made by the horer. You will soon learn to locate him hy outward indications. Usually the sawdust will indicate his presence, also a sunken appearance of the hark which results from the tree not making any growth over the particular spot where a horer has made his home. Execute him wherever you may find him. If you have waited too long, you may find in July a cocoon three-fourths inch long, capsule-shaped and apparently made of sawdust. All these should, of course, he destroyed.

If you have reason to suspect scale, it will be best to spray your trees early in April, before the huds have opened, with lime-sulphur 1-9. It will cost so very little, and it will he insurance against serious attack for that season.

Corn, potatoes or other cultivated crop can he planted as before, only giving the trees a little more room, say fully six feet.

The cost of your orchard for the second year will he about as follows:

For cultivation, ¼ of whole area	$3.00
For borers	.50
For spraying	.75
For pruning	.50
For protecting against mice	.50
	$5.25

The third year will be similar to the second, except that still more room must he given to the trees. Cultivation must continue up to the first of August, after which let the weeds grow, or sow a cover crop of some kind, oats is good, or vetch, or both. The total expense for the third year will he perhaps $10 per acre.

To get at the total cost of the orchard up to the end of the third year, we will add up the various items as follows:

Interest on the land used three years.	$3.00
Taxes	.50
Interest on working capital	2.50
First-year expense	21.45
Second-year expense	5.25
Third-year expense	10.00
	$42.70
To this we add the original cost of the land	40.00
Making the cost of your orchard, per acre	$82.70

These figures I may say are hased on accurate accounts kept and represent what might be considered work done under normal farm conditions.

Just consider a moment what these figures mean. For less than the price of the bare land in many sections, especially here in the East, you can have an orchard equal every way in real value and capable of earning as much money as any orchard in Oregon or anywhere in the Far West, valued at from $500 to $1,000 per acre.

What your three-year orchard, which now may be considered to enter upon its earning stage, can accomplish under good management may well be the suhject of a separate study.

O. E. MUESER.

Tufted Titmouse, "The Sugar-Bird"

THE tufted titmouse, unlike many of his relatives, is a hird of the woodlands and scarcely ever visits the towns, unless it he about the outskirts where the trees are plentiful and thus appear woodlike.

Tomtit is a hardy bird. And as such he endures our cold northern winters. For this reason the farm hoy is sure to see him whenever he goes to the woods in the dead of winter; that is, if he ever notices the hirds. But, as a rule, farmers are poor ohservers of bird life, and so they do not see much of Tom, for he is very likely to he quiet during the cold weather. But as soon as the warm days appear he grows noisy, and at the sugar-making season his loud notes of "Peto" or "Peter" attract the attention of the farmers, and they say, "the 'sugar-bird' has returned," when, in fact, he has heen about all through the long, cold winter.

This titmouse, like his winter companions, the nuthatch, chickadee, downy and hairy woodpeckers, performs a valued service in that he remains throughout the year, and thus consumes large quantities of insects that would otherwise escape.

He may he easily recognized hy his slatish-hlue color, chestnut-washed sides, hlack forehead and crested head. Like his cousin, the hlack-capped titmouse, or chickadee, he hangs from twigs and walks ahout on the rough hark of the tree-trunks, examining all the crevices for his favorite food and uttering his common notes of "day, day, day."

H. W. WEISGERBER.

A Lesson from Yellow Mush

By Berton Braley

OH, ONCE there was a farmer, and he had a bully farm:
He never thought that land of his could come to any harm,
So he planted it and planted it with many crops of wheat.
He never raised a clover-leaf, nor yet a sugar-heet,
Though year by year his profits showed a most decided drop.
He planted wheat and planted wheat and never thought to stop;
He scarcely gave a field a rest, but sowed and sowed some more
That everlasting crop of wheat, exactly as before.
He wondered at the dwindling yield, but still he didn't seem
To find out where the trouble lay, until he dreamed a dream.
He dreamed of eating yellow mush (a very useful food),
He dreamed he ate it day and night, the while the kettle stewed,
'Twas yellow mush for breakfast and for every other meal.
He ate it and he ate it till his head began to reel,
He ate it hot and ate it cold and ate it thin and thick,
And though he wearied of it soon, and though it made him sick,
He still was fed on yellow mush and never had a change.
His bowl was full of yellow mush with more upon the range;
And then he heard within the dream a mighty voice repeat,
"You're sick of eating yellow mush? Your land is sick of wheat!
You tire of naught hut yellow mush? Your land is weary too.
Suppose you change your crops a bit and give it something new?"
The farmer woke and saw the light and learned the lesson clear,
So now he raises many crops and changes every year.

Moral

The moral's very plain and true, I leave you to apply it:
"The land is very like a man—it needs a varied diet!"

Skin-Deep Beauty

By G. Henry

OF ALL people, farmers are most prone to sneer at skin-deep beauty.

Of all people, farmers should respect skin-deep beauty.

(Don't stop here to throw me aside in disgust. I am no mollycoddle praising dimples and smooth skin.)

Of all classes of people, farmers are most dependent on the beauty that is on the surface; that is, only skin deep.

Should I try to tell how many farmer folk I have heard say "Beauty is only skin deep," I would name such a high figure that I would he accused of lying. So I'll not attempt it. But merely say that no one is so inclined to treat slightly the heauty that is on the surface—as if there could he any other kind of physical heauty!—as we so-called horny-handed sons of toil.

And now to rap the false impression which has not enough of foundation to deserve the name of theory.

Ugly Apples go Begging on the Market

Can you sell apples which are ugly in appearance? Don't you find ready sale for rosy, fat apples?

Does a scrawny colt sell as readily as a plump colt? Hasn't the plump colt finer hair, hetter laid on than the scrawny colt?

Doesn't a well-painted farmhouse add to the value of the farm? Doesn't an unpainted house hurt sale prospects?

Doesn't a straight fence, almost beautiful because of its symmetry, lend value to the place? If every fence on a farm is ugly, you have an ugly farm!

Hadn't you rather see a litter of fat, round pigs than a litter of lean little cusses, and don't the fat little porkers give hetter promise than the skinny ones?

"Beauty is only skin deep," hut 'tis a wonderful asset. Why, the heauty of the earth on which we live is on its surface: the trees. the grass, fine rivers, great lakes, pretty flowers, gamboling lambs, frisking colts, playful calves, and manly men and beautifully rounded women.

Never was a falser note struck than the contemptuous "Beauty is only skin deep."

And this certainly is no intended detraction of the heauty of character which lies underneath the exterior, nor of the value in principle and interest which is invisihle.

But the heauty that is only skin deep actually conduces to the more valuahle beauty that is concealed. It truly does, for the girl who has soulful eyes and a kissahle mouth and a chin made as if especially for caressing and a nose turned up just enough to he tantalizing simply must cultivate a lovahle disposition if she would not disappoint all who see her and, heing attractive, seek her.

If so it happens that a man is of striking appearance, he has certain implied qualities to which he must live up to, hasn't he?

There Can't be too Much Beauty

No, you can't confound me with the argument that there are fine souls hidden under rough skins. If I would, I could come back with the harsh statement that ugly people simply have to cultivate lovahle tendencies in order to make up for their physical ugliness. But I won't.

There can't he too much of the skin-deep beauty. It sells pears and peaches, potatoes and pumpkins, corn and calves, horses and hay, wheat and automobiles, butter and eggs, and it makes true-love matches.

All babies are beautiful!

So, too, can the man with a crooked nose he heautiful hy letting beautiful thoughts enter his soul. And never was a woman so ugly that she was not beautiful to the man to whom she had bared her pure heart.

GARDENING

By T. Greiner

Lettuce Under Glass

LETTUCE, in winter, is not a rarity on the table of the ordinary well-paid laboring man, and it is freely offered, at moderate prices, in our grocery-stores. We used to raise the more solid-heading varieties, sorts of the tennis-ball type, under various names. It has become more difficult, however, to raise these nice solid heads free from disease. The loose-heading, curly-leaved Grand Rapids has now crowded the others out of cultivation in the greenhouses over a wide range of country. We can grow this if no other. It is little subject to disease. It is a pretty good lettuce to eat, too, and will stand close planting on greenhouse bench or in hotbeds or frames.

Growing Trees and Roses from Cuttings

A Texas reader asks whether peach, plum, pear and apricot trees, also roses, can be grown from cuttings, for the purpose of selling them. It is hy no means impossible to raise apple, pear, plum and other fruit trees from cuttings, hut this is not generally practical except in certain instances. For example, pears of the Kieffer and Le Conte types are frequently grown from cuttings of young mature wood, say a foot in length, in the South, hut never in the North. The cuttings are planted in the open ground, like long grape-cuttings.

For other pears, the imported French pear stocks are commonly used hy nurserymen. These stocks are planted in nursery rows and shield-budded in July or early August. There is no objection to your growing a few pear-trees from seed and budding them the same or next season at the time mentioned. Peach-trees are easily grown from seed, especially in a southern clime, hut they must he hudded with the variety desired. It is also possihle, although hardly advisahle, to propagate them from root-cuttings.

Most plum varieties, especially of the American type, grow readily from cuttings or hy layering. Many trees are also grown from the sprouts or suckers that are often found springing up in great numbers from the roots of older trees. These, unless the top of the parent tree has been grafted or budded, will reproduce the variety. The German prune, as also others, can he grown from seed quite readily and will reproduce itself. Other plums, if grown from seed. must be taken up in the fall, planted out in nursery rows and budded in August following. Apricot-stocks may he grown from root-cuttings, or peach-stocks may be used in the South, plum-stocks in the North, and the apricot budded on these stocks the same as peaches are hudded.

Now we come to roses. It is not so difficult to propagate them, and if you can find a demand for the plants they will prohably be a more thankful suhject for your efforts than the various fruit-trees mentioned. You can grow new plants of most varieties by layering, and this is perhaps the amateur's surest way. Scoop out a little depression in the rich soil near the old plant, and bend down one of the shoots of new wood, covering it with soil to near the tip. This shoot will take root at the joints and send up new shoots. More commonly, roses are propagated hy means of short cuttings made of nearly mature wood, the cutting having one hud and heing inserted in a propagating-hed under glass, in mild heat, nearly up to the bud. For the various perpetual and climhing roses longer cuttings may he made of ripened wood and handled in a cold greenhouse or frame.

Hotbed for Onion-Plants

A Maryland reader asks: "How big a hotbed do I need for sowing two pounds of onion-seed for transplanting?" I usually and preferably sow the seed in flats, using one eighth of an ounce to a flat eighteen inches long by twelve inches wide, and making the rows across (the short way of) the flat about one and one-half to two inches apart. I calculate on getting ahout five hundred or more good plants per flat. An ordinary hotbed sash, three by six feet, will therefore cover just ahout space enough to sow one and one-half ounces of seed, and raise, perhaps, seven thousand plants. It will require a hotbed of twenty or more sashes to provide the space needed for sowing two pounds of onion-seed and for raising plants enough for an acre.

"Which is the best yellow globe onion for this purpose?" is another question. I never raise the ordinary onion varieties (Yellow Globe Danvers, Southport Yellow Globe. etc.) under glass for transplanting. It is questionahle whether that would pay. They are grown from seed sown in early spring in open ground. The two varieties for starting under glass during the winter are the Prizetaker and the Gibraltar, both of the sweet Spanish type.

Farm Notes

Farm Philosophy

IT IS possible to farm without a philosophy, but the results are not apt to be satisfactory.

Some men are born philosophical and some acquire a philosophy. It is the former who are in luck. An acquired philosophy requires a good deal of cranking to get it to go in damp weather, and even then it is all the time missing explosions.

But the right philosophy is a joy; if not forever, at least as long as farmers are called upon to furnish land, labor, tools and seed, and then to divide their crop with the Hessian fly, the boll-weevil, the Chicago Board of Trade and other predatory interests.

RAMSEY BENSON.

Selling Direct—Honey

Mr. W. H. Laws

MORE than twenty-five years ago Mr. W. H. Laws, of Austin County, Texas, began selling honey direct from his apiaries to the consumer. Mr. Laws was, and is, a raiser of high-grade Italian queens, which, of course, he sold direct to the consumer, so he drifted most naturally into the business of selling his honey direct also.

From a modest beginning Mr. Laws' business has grown until it now requires all the honey from his twelve hundred stands of bees to supply the demand. Some years he is compelled to buy all the first-class product he can find in his vicinity to fill his orders. This steady growth has not come about by accident, neither can it be attributed to any unusual cause. It has been brought about by strict adherence to two old-fashioned virtues—square dealing and courteous treatment.

In selling farm products to a distant customer there is often a temptation to substitute inferior commodities, but no more fatal policy could be pursued. Mr. Laws has always made it an invariable rule to give his customers full measure and high quality.

The Transportation Problem

Mr. Laws finds the greatest demand to be for honey put up in cases containing two sixty-pound cans, which can be shipped by freight at a reasonable cost, and this is the product he advertises most widely.

Such a quantity, however, is more than many families need at one time, and he is prepared to furnish any quantity desired. Small shipments, on the other hand, prove unsatisfactory to both himself and the customer, for the excessive express charges often consume all the saving which the purchaser made by buying direct.

This emphasizes, in a most practical way, the farmers' and consumers' need of a genuine parcels post. With an efficient system in operation, Mr. Laws could fill orders for honey in quantities as small as one-half gallon with profit to himself and customers. It is, of course, possible by extraordinary energy and forcsight to build up a big business under present conditions direct with the consumer as Mr. Laws has done, but this handicap should be removed. The new parcels-post law which has just gone into effect will afford some relief, but the rights of the producers and consumers—the public—will never be fully protected until this service is made cheaper and more extensive.

Advertising Expenses are Small

One cheering feature of Mr. Laws' success—and the success of practically every other farmer who has sold his products direct to the consumer—is the comparatively small amount of advertising required to create a demand. Mr. Laws finds a four-line advertisement in the classified columns of the leading Southwestern papers sufficient to bring him all the orders he can fill. It should be remembered, however, that many of Mr. Laws' orders come from his old customers and their friends, consequently he has to depend on his advertising to secure new customers only. In other words, it might require a heavier advertising campaign to start a new business of this kind than it would to keep an old and well-established one going.

Nevertheless, in selling any farm product direct to the consumer, no enormous outlay for advertising purposes will be needed as is the case in the manufacturing world when a new product is placed on the market, because the demand for the farm products already exists, and only enough advertising is required to bring the seller and purchaser together.

It need not be inferred, however, that honey and other farm products could not be extensively advertised with profit. This country imports many tons of sugar each year for which home-grown honey could be substituted with profit to both the health and pocket of the people, and this condition could be greatly remedied by a vigorous educational advertising campaign, such, for instance, as the automobile manufacturers are now engaged in to popularize their product. Such a campaign is, of course, an undertaking for the bee-keeper's organizations and not for an individual.

To sum up briefly, we find that to sell his products direct to the consumer a farmer needs, first, goods of uniform quality and, second, a fixed policy of square dealing. Then with a small outlay for advertising—which should be expended steadily throughout the year, instead of spasmodically—a good business may be built up.

MAURICE FLOYD.

The Golden Rule Profitable

ONE day in January, as I sat by a fire, the thermometer outside almost at zero and the wind blowing, I saw pass my home the hired man of one of my neighbors, with a wagon, going to town for a load of coal.

This neighbor of mine knows enough farm lore to be a good farmer, and is not a lazy makeshift by any means, but at times he is a very poor manager. He lost enough time last fall, after seeding, to haul an abundance of coal for his winter use, but, instead, was doing something else of little importance. He was now paying for some weight in his coal in the form of snow and ice, to say nothing of enforcing an unnecessary hardship on his hired help and team.

He has difficulty in keeping good hired help, although he pays good wages. He has no more sympathy for his hired man than for one of his cattle.

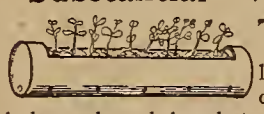
To a certain extent, hired men inform each other of such facts, and this makes it difficult for him to hire at all, except at wages above the average. He cannot hire at any price good men that know him, and he is forced to take the "leavings," or men of doubtful character and reputation. His help often become dissatisfied in the midst of a busy season and quit the job when hours count most.

Moral: Put yourself in the hired man's place, treat him as one of the family, do not ask him to do things you would not be willing to help him do, let him come to meals when you do and eat at the same table; in other words, treat your hired help *right*, and you will not have my neighbor's troubles.

F. W. PABST.

This winter New York will claim an interesting experiment. Some scientists say that the minds of dull students may be stimulated to better efforts if electric currents are passed through the walls of the schoolrooms. They are going to try it out for a six-months' period.

Substantial "Window-Box"



THE average wooden window or lawn box soon decays and must be bolstered and bracketed up to be kept intact. A much more satisfactory "box" for keeping flowering plants can be made from an old laundry tank which can be picked up on almost any dump-heap.

With cold-chisel or metal hack-saw cut away a part of one side as illustrated, punch a few holes in the bottom to provide drainage, and give it a thin coat of green paint on the outside. When filled with flowers, it will prove both attractive and durable.

D. S. BURCH.

The Market Outlook

Mutton and Wool

WHILE official statistics show a considerable decrease in the number of sheep during the last decade, yet the supply at the leading markets amply fills the demand, save perhaps for feeding lambs, yearlings and for breeding ewes.

In November, Chicago received the largest number of sheep ever received there in that month, and by the middle of December both top Western and native lambs were selling freely at $8.50; top wethers at $5.25 and yearlings at $7.00, in a very full market. Feeders also were in very strong demand, some up to $7.00. Reports from all markets show an upward movement.

The Woolen Trade is Promising

The wool-market remains firm, showing no tendency toward lower prices. Reports from all wool centers are to the effect that the output is below the average; manufacturers generally anticipate a rise; most mills are running to their full capacity; in fact, the woolen trade has not been as promising for some years.

Sheep and lambs have been coming in from the corn-fields in fairly finished condition, and as there is no way of estimating their numbers or how long the run may last, it is difficult to predict what their effect may be on the market for the next few weeks; but it is pretty certain that, though prices may be hammered down somewhat as long as the rush of these lasts, the pressing demand for both mutton and wool will make any permanent fall from present remunerative prices improbable during this new year. Expert opinion looks rather for a rising market for some weeks to come.

If we look the situation straight in the face, this does not appear to be a Utopian conclusion for our farmers to arrive at. In the past ten years our population has increased twenty-five per cent.; our farm area, four per cent. In 1900 every one hundred people could have their share in over ninety cattle; now, only sixty-eight. Relative to population, sheep and hogs have also diminished in numbers, though not so greatly.

These conditions, at present prevailing and likely to continue for a considerable period, offer great inducements to farmers of moderate means. The raising and feeding of cattle, to be successfully carried on, requires ample capital and an extensive acreage. The consumption of milk in its various forms increases, perhaps, more rapidly than that of any other farm product, and dairying is attracting men of large means. Hog products, save in the form of ham, bacon and lard, are not quite so popular as formerly; and until a sure simple preventive of cholera is found, the dread of it will lessen the number of hogs raised.

The prevailing taste for small joints of meat makes the rapidity with which sixty to ninety pound lambs can be perfected, and the prices they command, quite a factor in encouraging their production in place of two and three year old wethers. A ten-months' sixty to eighty pound lamb is worth about $6.50; a year-old wether, wool and all, is seldom worth more, and beside the saving in food there is less danger of loss with the lamb. The small capital required for the starting of a small breeding flock, and the quickness of its "turn over"; the small drain it makes on the food production of a small farm; all these things go to place the rearing of lambs within the reach of almost every farmer. The profits are large; and the care of them, though necessarily calling for intelligence, is but a small item in the labor account.

J. P. Ross, Illinois.

Packers Look for Lower Hog Market

DURING the early part of December the receipts of hogs showed an increase. At Chicago the International Live-Stock Show acted as a drawing card, while at other points the advance of the season was all that was responsible for it. As the winter has advanced, weight and quality have improved, due to the feeding of new corn. The run of hogs on the eastern markets continued, thus holding the shipping demand at its November status.

This gave the packers an opportunity to push their bear campaign, but they met stubborn resistance and were able to score only a small decline. The increased demand in the fresh-meat channels because of the season of the year and the advancing prices of mutton and beef enabled the speculators to nearly maintain prices against the packers' raids! That the packers were in need of all the available hogs was shown by the fact that there were never any "holdovers."

The packers are expecting to get a lower market later so have accumulated but little pork in their cellars. Their policy is never to stock up on a declining market.

The market has maintained a strong undertone at all times, showing that the demand has kept pace with the supply, thus forcing packers to purchase at the current prices or remain out and let the speculators absorb the supply.

L. K. Brown, South Dakota.

"Hello, Jim—I understand you're going to move."

"Yes, my wife says the scarecrow has become so ragged and old-fashioned that she won't stand it any longer."

Think Twice Before Selling Cattle

STOCK cattle are slowly going higher, even if the market reports do not show it in view of the poorer quality. There seems to be a hungry demand for them. Short-fed cattle are making money, and feeders are not only willing but anxious to refill their feed-yards. The temptation to cash in when there is a profit is too strong to resist, and, as a general rule, it is the wisest and safest thing to do. This year, with the present price of feed and the market prospect, it would seem as if there was no great risk in putting a decent finish on cattle and getting well paid for doing so.

Stockers are High Priced

As a matter of fact, stockers fit for feeding are costing nearly as much per pound to buy as "warmed-up" cattle are bringing, a condition that cannot last. Packers' supplies of meats on hand are less than last year, with no prospect of an increase. In view of this it might be well to think twice before selling "warmed-up" cattle and replacing with high-priced feeders of inferior quality.

There is no question but that hog-cholera is still eating into Iowa's future supply of hogs, and I am confident the spring markets will show it.

Husking is over, and farmers are beginning to cash in their corn around thirty-five cents.

I had 260 of my hogs vaccinated for hog-cholera, double treatment, thirty days ago and have lost none; looks like pretty good insurance with a ten-cent spring market facing us.

W. S. A. Smith, Iowa.

You would fight if a man struck your little chap a blow that brought the red, but you yourself will cut his heart wide open with your harsh words, and leave a sting there that will last through all eternity. Why do you do it? In a little while your boy will be out and away on life's footpath, and there will be a big hole by your chimney-corner. But the biggest hole of all will be the hole in your own heart. Keep your boy close to you by your love.

The FARMERS' LOBBY.

Watch for the New Wrinkles

By Judson C. Welliver

AN OLD friend of mine who was born and raised in Illinois, who knows the State, who has been a business success and lately has become a sort of philosopher of affairs, stood in front of a huge wall-map of the State.

"Right here in Illinois," he declared, "we have the whole problem concentrated. Can we solve it?"

I wondered what his problem was; there are so many of them these days. He waved his hand in a sweeping gesture that demanded attention to the north third of the State.

"That section is as industrial as Pennsylvania or Massachusetts," he went on. "But down here"—indicating the central and south two thirds— "is a distinctively agricultural section. Can we make the industrial people up here in the north understand that they have something in common with the agricultural population of the middle and south parts? Can we get them united in a general program of betterment for the State as a whole? Can we in some manner or other dispel or overcome the feeling among the farmers that we are trying to 'do them up'? That's the question, not only for Illinois, but for the whole nation.

Protection Means a Lot to the Farmer

"FOR forty years or so," he continued, "we had a system that gave real protection to industry and fake protection to the farmer. The farmer was bunked with the story that a home market was being developed that assured him better prices, yet all the time his big surplus went abroad, and its price, broadly, fixed the price of what he sold at home.

"Now the situation has changed. Industry is established. It doesn't need as much protection as it is getting in many directions. On the other hand, the farmer is just reaching the point where protection promises to mean something to him. His surplus for export grows beautifully less all the time. The time is close at hand when a good deal of stuff directly competing with him will be imported, if we permit.

"The result is that the farmer is becoming a real protectionist and the industrial population is getting farther and farther away from the old protection ideas. The industrial people are getting the notion that the farmer is getting more than is coming to him, which isn't unnatural, when you consider the cost of living. The farmer is getting determined to look after his own interest, because he knows he isn't getting more than he's entitled to. There's your line of division.

"Who's right, and who's wrong?"

I gave it up, and he proceeded.

"They're both right, and both wrong. The farmer is not getting too much, but the consumer is paying too much. Is there a way to convince the farmer and the consumer that we can help the consumer without hurting the farmer? Is it possible to do something for the industrial population, and yet not harm the agricultural community?

"I think it is. I don't believe either the farmer or the final consumer is to blame. The trouble lies in our fearfully wasteful system of getting the two together."

My oracle proceeded: "Here's an article by B. F. Yoakum telling the story of a specific shipment of watermelons from an Oklahoma town to St. Paul, Minnesota. There were 1,050 melons in the car. The farmer was paid five cents each for them. Besides raising them, he hauled them four miles to the railroad station and loaded them into the car. He complained bitterly that he was losing money on the crop; was only marketing it because he must have some ready cash.

"The farmer got $52.50 for his car of melons, and lost money, so he said. The commission man who bought them from him received $240 for them. He, in turn, paid the railroads $75 to haul them to St. Paul. They sold there for sixty to seventy-five cents each; the final consumers paid $630 for that car-load of melons that the farmer received $52.50 for.

Our Marketing System is Too Expensive

"THE farmer and the railroads together got $127.50; the consumer paid $630. What became of the rest? Plainly, it went in commission, expenses of handling, delivery, rents, salaries of people who carried on the business, interest and profits.

"It's too much. That's all. It's got to be reduced. If it isn't, we'll have an economic deadlock in this nation. What are we to do about it?

"We must convince the consumer and the farmer that they are not natural enemies. We must make them know that the railroads are not the inevitable antagonists of both. They must learn that our commercial system—our arrangements for collection, movement, transfer of ownership, distribution—is cumbrous, expensive and impractical. It costs too much to attend to these incidents in the transfer of the property from the grower to the user; and yet the middlemen are not robbers, either. They are merely a part of a system that has grown up because nobody stopped to think about it and realize its tendencies.

"We need to know what has been done in other countries to enable them to extract a living out of farm and factory, under conditions vastly less favorable than ours. They have reduced these wasteful, unnecessary charges to an extent that, if we could parallel it, would greatly help both our producer and our consumer." They have done it by dint of coöperative merchandising associations, coöperative manufacturing processes, coöperative marketing and buying. They have done it because they have had good roads in the country, and because the parcels post, developed in a large, practical way, has made the individual producer largely independent of the particular local market. They have done it because the rural credit systems have reduced interest rates for the farmer and at the time made it easier for him to get the cash capital he needs. They have systematized transportation arrangements; have eliminated a vast amount of unnecessary transportation, such as we have in this country, such as hauling a steer from Des Moines to Chicago to be killed and then shipped back to Des Moines to be eaten. Could anything be more wickedly wasteful than that? Well, it is a mild statement of what our concentration of industry and exaggeration of transportation's function means in many directions."

"Suppose on one hand we can give to the farmer better roads; coöperative buying and selling systems; a real parcels post that will serve him and his city customer alike; money at lower interest rates than he now pays; a better distribution of industry, so that his products will not need to be hauled so far to market. Suppose we can gradually distribute industry throughout the country, so as to have a generally better balance between manufacturing and agriculture everywhere;—will not those measures eliminate a large share of the waste? Will they not be, in effect, the price for which the farmer will give up the protection that never has been, until very recently, of any use to him? Will they not, in brief, bring prices back to a closer relationship with values? Will they not convince the farmer and the consumer alike that after all they are partners, not enemies?" A day or two afterward I talked to a Democratic leader in the Senate about the legislative program of his party.

A Few Tasks for Uncle Sam

HE DECLARED that the Democrats would without doubt pass an income tax measure in connection with tariff legislation. This measure will increase the government's revenues very extensively. There is possibility, indeed, that despite their tariff revision program—which will increase revenues from some sources while reducing it from others—the Democrats will have a large surplus to deal with. What are they to do with it? They are planning to start a scheme of national good roads promotion. Their intentions are not yet developed into anything like a plan, but it looks to a system of contributions by the Federal Government, which might put in, say, one dollar for every two dollars that the State contributed; letting the State divide its share in such manner as it might see fit between the State Treasury proper and the counties or townships. Once started, the scheme of federal aid for good roads is likely to last a long time. Personally, let it be said right here, I don't believe in it. I think the States ought to have some particular functions of their own, and that the construction of roads should be left strictly to them. Logically, that is just what Democrats, with their state sovereignty views, ought to contend for. But Tom Carlyle observed once that, "thank God, mankind is not logical." Maybe he was right. Somebody else noted that "consistency is a vice of small minds." There surely is nothing vicious—not in the way of excessive consistency, anyhow—in the attitude of a Democrat who can contend against federal interference in state affairs, and at the same time support a plan of distributing federal revenues among the States to build good roads under plans laid down by the Federal Government.

There will also be some plan for federal coöperation with the States to improve the school. It may not come for the next few years; prospects, in fact, are not flattering; but it is coming. So is some scheme for promoting coöperation among the farmers, in both buying and selling. All this business of education, promoting community interest and understanding of new wrinkles in business is necessarily a matter of intellectual arousal more than one of direct legislative enactment. The Government is not likely, in our time at any rate, to start government banks to loan money at low interest, or to go into the business of buying and selling produce and merchandise. But it is going to grant its charters to banks of a particular type suited to filling the needs of farmers. It is going to improve vastly the facilities at the disposal of the farmer for marketing and buying at the lowest cost. It is going to carry forward, in a myriad of ways we don't now imagine, the great business of improving agriculture, of supplying in the country more attractive living conditions that will make people want to live there.

The House is Unfriendly to the Page-Lever Bill

THESE are the things, in short, that people with the new and advanced economic and social thought are planning to offer to the farmer in exchange for his support of a long list of extensive and expensive reforms which seem, primarily, to interest the dweller in the towns. Tariff reform of course is only one, and only an incident. The real point is not to effect an exchange of benefits, but rather to arouse on both sides a realization that neither side can progress without the other side and that their coöperation in progress will mean vast benefits to both and to the people generally.

I have been talking to Senator Page of Vermont about the Page-Lever Bill which FARM AND FIRESIDE has always supported, to give federal aid to both country and town schools, on condition that home economics, agriculture and manual training should be taught. He is not very hopeful of getting anything done at the short session. The bill is right at the top of the Senate calendar; but to force a vote on it at this session will be well-nigh impossible. In the first place a number of southern senators are opposed to the educational features of the measure. They want the Government to conduct the agricultural extension work on a more extensive basis, by carrying the demonstration of scientific methods right to the farmers; but when it comes to giving money for schools, which would have to be matched by the States in order to get the federal aid, they balk. There is probably enough of this sort of opposition in the Senate to make it impossible to get a vote. Moreover, the disposition of the House is not very friendly, and it is felt that there is little use wasting the time of the Senate on a measure that would die, so far as this Congress is concerned, in the House.

Better Prospects for Parcels Post

SECRETARY of Agriculture Wilson inclines to side with this view of the opposing Senators. He has other plans for the immediate development of the department's work, which look to carrying scientific farming propaganda throughout the North, as it has already been taken to pretty much the entire South. He has little sympathy for the ambitious plan of agricultural and industrial education, considering it rather visionary and impractical. As to that, of course, it isn't but a couple of generations since public schools were widely believed to be impractical and, if possible, undesirable, by many communities.

In the last communication to the Lobby, it was pointed out that the parcels post promises to be a huge fluke, so far as benefits to the farmer are concerned. That was probably a highly pessimistic view for a good many hopeful people to read; so it is a satisfaction to be able to say that there is a good prospect of better things ahead.

It looks as if Congress would get excited very early about the defects in the parcels-post plan. Talking with members from all sections and all parties, I have found that there is a disposition to remedy the law without unnecessary delay if it proves ineffective.

One thing is pretty apparent. The power of the express lobby is broken. If it still wields a really significant force in Congress—such as it used to possess in the days when Thomas C. Platt, President of the United States Express Company, was a senator from New York—nobody knows or feels the power. The fact is that recent developments concerning the excesses of the express companies, their high charges, excessive capitalization, tremendous profits and until recently unsuspected financial power, have cost the express companies about all the friends they ever had. There used to be a good many people in Congress who dared get up and frankly defend the express companies, insisting that it was no business of the Government to take over the parcel business, any more than to take over the whole railroad system. But nowadays the congressman who would enter upon a serious defense of the express companies would be in danger of having his constituents believe his motives bad. Nobody dares do it, and very few would do it if they dared. The sentiment in favor of condemning the express properties and taking over the entire parcel business as a government function is vastly stronger than it was even last session. I have talked with a few of the newly elected members and find reason to believe that after March 4th this sentiment will be even stronger than it is now.

Their Wrath was Imaginary

IN MATTERS of this sort, public opinion is getting radical at a rate unparalleled in my own observation of affairs. There is a feeling that nothing that would better the condition of the people at large is to be brushed aside without consideration, merely because it is something new. Horrified conservatism doesn't any longer scare Congress or the legislatures to death by holding up its hands in terror at a new idea.

Another excellent sign in favor of the parcels post is that the ancient buncombe about how the country merchants would ruin the political career of anybody who supported a parcels post is completely played out. A dozen rural congressmen who voted for the parcels post with fear and trembling, and went home quaking in their boots for fear of the rural merchants' wrath, have told me that it was just seeing ghosts: the country town and the country merchant didn't rise up and smite them at all.

That old country-town terror was mostly manufactured by the express lobby. There is not on record a single case where a member suffered any serious opposition by reason of his support of parcels post. Quite to the contrary, members went home, bragged about their part in getting the law passed, and it helped a good many of them.

More than all this, the notion has found a secure lodgment in the congressional as well as the national mind, that a real parcels post would help in the cost-of-living problem. Nobody thinks it's a cure-all, but the impression is stronger every month that it is one of the things that would help. It has ceased to be an academic question. It is a present, insistent, practical one in which nearly everybody is intensely interested.

The ADVENTURES of a BENEFICIARY

by W. J. Nichols

Illustrated by W. C. Nims

Characters of the Story

EMERY WRIGHT, a young city man whose claim to his Uncle Nathan's fortune depends upon his successfully managing a Revolutionary relic in the shape of a man-propelled river ferry in New Hampshire.

PETE, a half-witted youth, who seems to "come with the ferry."

MISS LANSING, a young lady whose parents have a summer residence close to the hereditary ferry. She meets Mr. Wright on his first trip across the ferry. He falls at the same time into love and the river. He rescues himself and the ferry and determines to learn to swim.

MR. DODD, the attorney, who makes known to Mr. Wright the terms of his uncle's will and who is to give the nephew any necessary legal advice.

When Emery Wright arrives at the ferry, his adventures begin.

Chapter VII.—Green Fields and Pastures New

IT WAS a glorious morning. Sunshine flooded the shining land and turned the river into a great ribbon of silver winding along the green valley; the trees rustled in the gentle breeze, humming a song of peace and contentment. Standing in the door of the ferry-house, Wright filled his lungs with the clean, sweet air. It was good to be alive on such a day; it was endurable to be even a ferryman, bound to hereditary tasks by the chains of law and tradition; indeed, it might be more than merely endurable. Philosophy might achieve much, and Wright's philosophy was just then full of good-will to his fellow man. On that joyous and sparkling morning he felt ready to extend the hand of fellowship to the race—that is, with a few exceptions.

The first night at the ferry was passed, and passed not so badly, all things considered. His bed had been hard, but he had slept the honest sleep that comes from youth and weariness, and had awakened refreshed, invigorated and ahungered. Truth to tell, he had felt the stirrings of such a matutinal appetite as he had not known before in years, an appetite so keen and vigorous that it survived the remembrance that at the ferry he who would eat must first cook. Pete, who appeared to regard himself as a fully accepted member of the household, and who had curled himself up in a corner in calm disregard of various hints that they might become anxious about him at home, was already astir, and had started a fire; but Pete was not to be trusted with the responsibilities of a chef. Wright looked over the supplies, found that there was material for more sandwiches, and decided to have sandwiches for breakfast. With a cup of coffee to help out, they would answer famously, he reflected, and making coffee must be easy—of course, it must. Everybody made coffee; there couldn't be any mystery about the process.

Wright closed his eyes for a moment, the better to recall one of memory's pictures, or, perhaps more correctly, a composite of many agreeable scenes he had beheld, each with a charming young matron of his acquaintance busy with a contrivance of polished metal and shining glass, under which an alcohol flame purred like the most amiable and sweet-tempered of kittens. It had seemed no real work, no trouble at all, a proceeding simple enough not to interfere with jolly table talk and yet involving various little maneuvers, which, in turn, involved pretty little glimpses of lacy sleeves falling back from tapering arms. Making coffee had always appealed to Wright as one of the most alluring trifles of piquant domesticity. In this instance, to be sure, there was no charming young matron at hand, and a search of the ferry-house shelves revealed no silver and crystal contraption. The nearest approach to such an object was a rusty tin pot, with nozzle askew and a dark interior, the odor of which suggested, though not temptingly, the berry which gets its substance from Brazil and its name from Arabia.

Much of Wright's optimism was missing as he rinsed out the pot and filled it with clear water. He opened the package of coffee Mrs. Dodd's thoughtfulness had provided, and experimentally dropped three spoonfuls into the water. Then his brow furrowed. There seemed to be a disproportion between the amount of solid and the volume of liquid. He glanced furtively at Pete, who was watching the operation with absorbed interest, but the youth appeared to be in no mind to offer suggestions. Wright, with an air of deep gravity, ladled out another spoonful, set the pot on the stove, and stepped back to await results.

Pete's lips moved. There was a gurgle in his throat, a sputter, then an intelligible word.

"Egg!" he said.

Wright weighed the probabilities, and decided that the speech was more exclamation than question.

"You mean they—they put in eggs?" he asked.

"Shells!"

"What? Egg-shells?" Wright demanded. "Egg-shells in coffee! What for?"

Pete struggled manfully to explain. "They—they do it!" he insisted.

Wright's air grew distinctly thoughtful.

"I'm not going to be narrow-minded about this, Pete," he said. "I'm no hide-bound theorist. I'm ready to admit some people may do as you say, though I don't see why they should. Speaking subject to correction, of course, I should hold that an egg-shell is insoluble. In that case, why and wherefore the proceeding you indicate?"

The boy didn't even try to answer this query. Instead, he dropped his jaw and stared, open-mouthed, at the ferryman.

"Then, too," Wright went on, "there's another objection. I haven't seen any eggs—have you? Haven't, eh? In that case, as you'll observe, we've got to concoct this coffee my way or not at all. We'll make the practical test; in other words, we'll see what comes out of the pot."

"Ugh!" said Pete.

As it befell, Wright was to repeat the exclamation, but with greater fervor, when at last he took a sip of the brew. There had been an odor from the pot which was really encouraging, appetizing; but the light-brown liquor, full of small, soggy lumps, which he poured from the crooked spout, was of a taste which filled him with loathing.

"Ugh! Whew!" he said with a groan. "That's the worst stuff I ever tackled outside a drug-store. It's like some of those minor rascalities; it has all the meanness of real crime without the saving grace of strength. You may be right about that egg business, after all. Anyway, we'll try the scheme next time."

"Huh!" cried Pete, and nodded violently.

Yet, if the coffee was infamous, the sandwiches were still good and the doughnuts filling. They helped Wright back to cheerfulness, and a pipe after breakfast supplemented the work. Then the ferryman strolled to his door, and the witchery of the morning completed the cure. Coffee or no coffee, it was fine to be alive. Red-faced young men or no red-faced young men, there were good people in the world. Ferry passengers or no ferry passengers, there were tasks that were worth doing. Turning back into the room, he opened one of the flat packages and equipped himself for the field.

"I'm going sketching for a little," he told the boy. "If I'm wanted, call me. I shall not go far."

Wright's eye had already told him that the big field across the road should afford some pretty glimpses of the island below the ferry. Burdened with portfolio and easel and folding stool, he set out gaily, climbed the fence and marched along, whistling softly, and looking forward happily to an hour or two of delightful occupation. He had been quite within the limits in his expectations, as he soon found; for the scenic bits were even better than he had hoped. One especially caught his fancy; for it showed the upper end of the island and its fringe of rapids through a gap in the growth along the river bank, that was like a frame to the picture. He set up his easel in the shade of a tree, opened his portfolio and promptly forgot everything but the task in hand.

How long he worked undisturbed Wright never knew. Indeed, the interruption, when it came, forced itself upon his attention gradually. In the beginning he was aware of something like a far-off beat of hoofs; then a sound of panting mingled with the other; next the panting changed to snorting, with a growing hint of wrathful menace.

Wright looked up impatiently. "It's that infernal cow!" he said to himself. Vaguely he recalled that, as he entered the field, he had seen a reddish creature feeding in a distant corner; but there was nothing vague or distant in the animal which now confronted him. It was a great, hulking brute, very massive about the head and shoulders, long of horn and wicked of eye. It had halted perhaps a hundred feet from him, and was pawing the turf, switching its tail and bellowing rumblingly.

"Go way, Bossie, go way!" Wright called. He got upon his feet and, to emphasize his words, shook a fist at the intruder. He was not especially alarmed; for, though he knew remarkably little about lowing kine, he had listened to many amusing tales of the curiosity of cows, and somewhere or other had heard that they disliked red parasols. "Go way, Bossie!" he repeated, strong in the confidence that there was nothing of the offensive color in his garb or equipment. "Here! Get out of this! I don't want to be bothered."

But the Bossie declined to go away. The big head was lowered; the long horns swung to and fro; the heavy hoofs tore up the turf. Wright caught up his portfolio and chair. City-bred though he might be, he had a sudden understanding that here was a cow creature not to be moved by words alone. There was a bellow, louder than any that had gone before, and the beast broke into a heavy gallop, charging directly toward him.

Wright might have his moments of heroism, but he had no seconds of willing martyrdom. With all the speed that lay in his legs, he ran for the fence, abandoning sketch and easel, but still clinging to such of his property as he happened to be holding. Once he glanced back over his shoulder, but only once. The pursuer was gaining at every jump, and Wright's backward look was taken just in time to behold one of the long horns pierce his sketch and lift it from the easel. There was an awful instant when Wright believed himself lost, but which nerved him in his final wild leap. His burdens fell to the ground; his hands caught the topmost rail of the fence; he hurled himself forward—and something grazed his leg as he vaulted the barrier which meant safety.

The young man picked himself up from where he had fallen in the road, slowly and painfully getting upon his feet. Beyond the fence the enemy had halted, and again was bellowing furiously, pawing the earth and shaking wicked horns, upon one of which the sketch was still impaled.

There was a moment or two, when Wright felt weak and dizzy. This period was succeeded by one in which he was conscious of nothing except exceeding wrath. He picked up a stone and hurled it with all his strength and so true an aim that the missile struck the huge head between the horns. Whereat the enemy charged the fence, barely failed to batter it down and retreated a little, the movement being accelerated by a second stone, hurled with equal good will but less precision.

Wright was bending down to pick up another stone, when he heard himself addressed and bidden to forbear. Now the address was not courteous, and the command was profanely phrased; but the young man paused, while he watched the rapid approach of the newcomer. This was a tall man of middle age, with an expression of marked [CONTINUED ON PAGE 23]

"Them's Holsteins!" the vender said promptly

Sunday Reading

A New Year's Thought

By Flora C. Finley

EVERY day in the year is New Year's Day, a chance to begin a fresh page. Why make a long list of resolutions on one day because it happens to be officially recognized as "New Year's Day"?

Why not start every day with a sincere prayer for help through the day? "To-morrow never comes." It is to-day we live, and if every day is kept beautiful, as the beginning of a new year, with faithful performance of the duties which come with the hours, evening will find a quiet mind and peaceful looking forward. The sun rises every morning, though sometimes we do not see it. Opportunities come to everyone, every day. We may not dispel clouds that obscure the sun, but it is our own fault if we fail to avail ourselves of the chances which come to us to help, to cheer, to encourage; and for every help given, every cheering word spoken, every uplift we give, we receive double. It is truly "more blessed to give than to receive," and nothing is more heart-warming than the memory of a grateful look from one we have helped, it may be by only a word of appreciation or hope. Do not think you cannot help unless you are wealthy with money wealth. The truest wealth is in a loving heart, and the more it gives, the more it has. Never be afraid of spending this horde, for it is inexhaustible.

Look upon each day as a fresh page in your own book of Life, and write thereon all the good deeds you can. One day faithfully spent will do more good in the world than many good resolutions written down at once and then neglected.

Where Love Is

By William J. Burtscher

"Though an host should encamp against me my heart shall not fear." Psalm 27-3.

JOE WILLIAMS was a soldier in the Southern army during the Civil War. One day he became homesick. He wanted to see his mother. A leave of absence for a few weeks was given him. As he neared his home in Dickson County, Tennessee, he found Union soldiers encamped all about. However, though a host stood between him and his mother, he had no fear. At great risk he slipped through the Union lines at night. He did it for the love of his mother.

Now it happened that the Union captain and his wife were guests in the Williams' home. Joe's parents had taken an oath that they would not lend any help to Confederate soldiers. A few people in the county who had taken the oath helped anyway, and suffered great loss of property as a consequence—as they had to be punished.

Joe slipped up to the front door of his home and knocked. He did not know that there was a Union captain within. His mother opened the door, turned pale and made peculiar signs.

"Don't you know me, Mammy?" asked Joe. "I'm Joe—your boy Joe from the army."

The mother felt herself in a predicament, indeed. What should she do? "I don't know you," she stammered at last. "Go away! Go away! You're an impostor. I haven't any boy like you."

But Joe kept insisting that he was her boy. He could not understand her signs

"Don't you know me, Mammy?"

and excitement, nor why she would not remember him. He could not know at that moment that she was doing it all for the love of her son.

The captain's wife heard Joe's loud voice at the door, and knew that there was something wrong. She came forward, and demanded, "What's the matter here?"

Mrs. Williams was speechless. "I'm her son," explained Joe, "just back from the army, and Mammy won't own me."

The captain's wife smiled, and answered in tender tones—"My dear boy, your mother can't help you. She has taken an oath that she will not lend assistance to any of your comrades. But I can help you. Come right into the kitchen, and I'll take care of you."

Joe kissed his mother and followed the captain's wife into the kitchen. She prepared a bite to eat, and helped Joe to find a hiding-place, where she sent him food by a trusty slave for ten days. And the captain's wife, too, did all she did for the sake of love.

Now the captain was resting in his room when Joe was trying to establish his identity before his mother. He knew that his wife had gone to investigate, so when she returned to the room about thirty minutes later he asked: "What was all the trouble about?"

"Oh, nothing much," she answered.

"But what was it?" he insisted.

"I don't want to tell you, dear, and you must not insist. It doesn't concern you in any way, nor your army. Some day I'll tell you all about it." And like a good husband he dropped the matter right there.

When Joe had departed for camp, and had slipped through the Union lines as before, the good wife told her husband, the captain, all about her part in hiding and feeding one of the enemy. She was making a confession of her sinning against him and the Union, and she was confessing to the proper man—the captain. He listened to her story with astonishment. He didn't say a word until she had finished. If this had been done by one of his soldiers or officers, the captain might have been differently affected, and might have done and said something altogether different. But since all this had been done by his wife he forgot that there was such a thing as discipline and punishment, and simply chucked her under the chin, and said, all smiles, "You're a brave little girl." The captain did what he did for the sake of love.

Thus we see that strange things may happen where love is—the unusual, the unexpected, the unconventional thing. And if we will remember that God is Love, and loves us, though a host should encamp against us our hearts need not fear.

Weeds

By Emma Mayhew Whiting

WHAT are weeds? Do you know
They are fair and full of grace?
Meadow pests, in gardens, grow
Marguerites and Queen Anne's Lace.

What are faults? Perhaps you'll find
Virtues—if you will but bend
Stubborn will and haughty mind
To some lovely, gracious end.

Ten Royal Resolutions

By Christian F. Reisner, M. D.

I WILL study the language of gentleness and refuse to use words that bite and tones that crush.

I will practise patience at home lest my testy temper break through unexpectedly and disgrace me.

I will remember that my neighbors have troubles enough to carry without loading mine on them.

I will excuse others' faults and failures as often and fully as I expect others to be lenient with mine.

I will cure criticism with commendation, close up against gossip and build healthy loves by service.

I will be a friend under trying tests and wear everywhere a good-will face unchilled by aloofness.

I will gloat over gains never, but amass only to enrich others and so gain a wealthy heart.

I will love boys and girls, so that old age will not find me stiff and soured.

I will gladden my nature by smiling out loud on every fair occasion and by outlooking optimistically.

I will pray frequently, think good things, believe men and do a full day's work without fear or favor.

Chiseled Out by a Stone

By Edgar L. Vincent

UP IN the Adirondacks there is a round hole seven or eight feet deep, cut right out of the heart of a rock at the bottom of a rapid stream. Its sides are smooth and drop down perfectly perpendicular all the way from top to bottom, while the bottom itself has been whittled out till almost as smooth as glass.

What did it?

A good many years ago a hard piece of stone was caught in a little hollow in the top of that rock. The force of the water hurrying down from the heights above took that bit of rock and whirled it round and round in a circle. As it went it chiseled away a bit of the stone in the bed of the stream. Day after day that whirling and cutting went on, till now that deep, churn-like place may be seen by everyone who threads the mountains.

Chiseled out by a stone.

How do we master anything? How, if not by working faithfully at it day after day?

The other day, while in a shop waiting, I was interested in watching a man as he

He was an expert in his line

carved the pattern for some piece of machinery. It certainly was fine. He handled his knife quickly and with a skill that made me envy him. He was an expert in his line. How had he come by the skill which helped him to do that work?

Not all at once. It may be when a boy he troubled his teacher in school by getting his knife out during study-hours and whittling away on a bit of pine. Step by step he went on, and at last he became master of his profession.

It is so with everything we do. The first furrow a boy plows may be as curved as a rainbow and full of balks where the share failed to do its work because he did not hold the handles just as firmly as he should. It took days and days of hard work to think out a binder. Stop and look at the wonderful thing! Who knows how many different parts there are, and not one of them but cost somebody hours of hard thinking! The stone had to be whirled around a million times to cut its way deep into the bed of that rock, but in the end it accomplished its task.

Why should any of us think we can be good or great or true or honest all at once? So much rock must be cut through! Rocks of ignorance, rocks of pride, rocks of prejudice, rocks of selfishness, rocks of passion of all kinds. And they are so hard—no flint ever seen can be compared to the hardness of the stuff of which our hearts are made. Some days we get almost discouraged and think we never can do it. We might as well give it up and be done with it.

Don't give it up! Don't think that way! Every bit of experience that comes to us, every troublesome thing that we have to do, all the things which hurt and worry us, are helping to chisel out the beautiful thing we call character. That is what character is, something whittled out of the every-day things which come to us.

It means strength to keep the bit of rock whirling, the wheel turning, the heart striving, day by day. Oh, yes! It costs! Who of us does not know that? With every sweep of the pebble at the bottom of the hole up in the mountains, something of the hard material is torn away, and torn away forever. Hard things do hurt. To be hurled down does make us sore and bruised. Sorrow and disappointment do cut deep channels into our very souls and they are slow in healing.

But just be patient. Wait a bit. It is all right, dear heart! All this is being done after a plan and with a purpose we do not understand now, but which will all be plain in a little while. So keep steady and calm! Let the stone swing around its circle! Give the hard experience a chance to do its worst—and its best! To-morrow we'll be all right!

Our Unconscious Influence

By A. M. Gordon

THERE is a story of a saint who lived such a good life that the angels came down from heaven to see how a mortal could be so godly. He simply went about his daily life, diffusing virtue as the star diffuses light and the flower perfume, without ever being aware of it. Two verbs summed up his actions: he gave, he forgave. Yet these words never fell from his lips; they were expressed in his ready smile, in his kindness and charity.

The angels wished to grant him the gift of miracles. So they said to the saint:

"Should you like the touch of your hands to heal the sick?"

"No," answered the saint. "I would rather God should do that."

"Should you like to become a model of patience, attracting men by the luster of your virtues?"

"No," replied the saint. "If men should become attached to me, they might become estranged from God."

But the angels insisted: "You must ask for a miracle."

"Very well, then," replied the saint; "let this be the miracle: that I may do a great deal of good without knowing it."

This request greatly perplexed the angels. How could it be accomplished? They took counsel together, and finally resolved upon this plan. Whenever the saint's shadow should fall behind him, or at either side, so that he could not see it, the shadow should have the power to soothe pain and comfort sorrow.

So it came to pass, when the saint walked along, his shadow was thrown on the ground at either side or behind him and made arid paths green, caused withered plants to bloom, gave clear water to dried-up brooks, fresh color to the pale faces of little children and joy to weary mothers. But the saint simply went about his daily life, diffusing virtue as the star diffuses light and the flower perfume, without ever being aware of it. And the people, respecting his humility, followed him silently, never speaking to him about his miracles. Little by little, they even came to forget his name and called him only "The Holy Shadow."

This is what might be termed an unconscious influence, and we all have it in some degree. It is the more beautiful and far-reaching because it *is* unconscious and natural, like the perfume of a flower. It is the accompaniment of a sincere, earnest life. We have seen it in sweet, saintly mothers and in noble fathers. It inspires and consoles all within its influence.

From the Talmud we get a story which illustrates this.

In order to test Solomon's wisdom, the Queen of Sheba had two wreaths fashioned, one of natural flowers, the other of artificial flowers, but so like the natural ones that it was well-nigh impossible to see any difference between them. With these wreaths, she presented herself before Solomon and requested him to determine which was the wreath of real flowers. Observing some bees outside the window, Solomon ordered it opened, whereupon the bees immediately flew in and alighted upon the natural flowers.

Likewise, there is a fragrance and a sweetness to the true life which attracts others.

There is no more beautiful picture in the Bible than that in which is portrayed the surprise of the saints who are bidden to inherit the Kingdom because of their many kind deeds.

"When saw we thee a stranger, and took thee in? or naked, and clothed thee?

"Or when saw we thee sick, or in prison, and came unto thee?"

Ah, they had forgotten all these things! In fact, they doubtless never realized what a saintly life they had lived, or how much good they had done. They had simply diffused sympathy and love along their daily path.

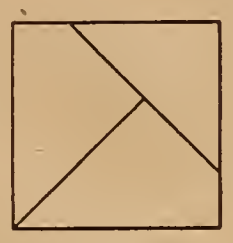
"And the King shall answer and say unto them, Verily I say unto you, Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me." They won immortality.

The Housewife's Club

EDITOR'S NOTE—Monthly we give prizes of $2.00 for the two best descriptions (with rough sketch) of original home-made household conveniences or labor-saving devices, and $1.00 for the third best or any that can be used. ¶ We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, and not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. ¶ All copy must be in by the eighteenth of January, and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copy, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio.

Baked Apple Dumplings—One quart of sifted flour, three teaspoonfuls of baking-powder, well mixed with flour while dry, shortening, make dough soft with water. Bake in quick oven, and serve while hot with cream and sugar.
Mrs. J. M. B., Indiana.

Handkerchief Apron—Here's a very original apron pattern made of two large pretty handkerchiefs. One handkerchief is used without cutting, as the largest part of apron. The other one is cut as the



lines indicate. The three-cornered piece being left large enough to fit across bottom of the other handkerchief. A yard and a half of suitable ribbon makes pretty strings. Mrs. W. A. C., Nebraska.

To Remove Stain, for M. J. P., Idaho—You will find oxalic acid excellent for removing stains. It is splendid for removing iron-rust, fruit, grass, ink and other stains.

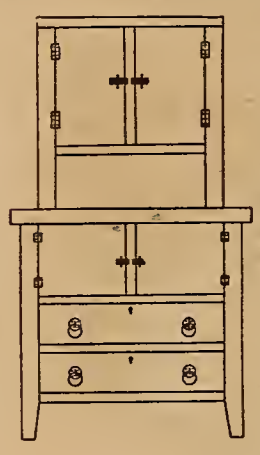
First soak the clothes the same as you do for washing, dissolve a large pinch of oxalic acid in one-half teacupful of boiling water. Wring out the clothes, and put the stained parts in the hot solution, and let stand for about ten minutes. Now wash in the usual way in soapsuds to which a little ammonia is added. Rinse well, and dry.

If the stains consist of small spots or the goods are of delicate colors, drop the hot solution on the stained portions with a toothpick. This will not injure the finest fabric. Housewife Editor.

To warm the bread-dough, plant a fruit-jar of warm water in the middle of batch, then cover with a piece of woolen blanket, tucked around pan to keep out the cold air. Keep pan in a warm place, and the heat inside will radiate quickly. E. M. S., Ohio.

Economical Meat Pie—To make a very nice meat pie take one pint of macaroni, and drop it into boiling salted water. Also four green sweet peppers; seed, cut fine, and throw into hot water. Cook till tender, pour off the water, and mix with the macaroni. Chop rather coarsely a pint or more of lean cooked beef, or take a can of roast beef and stir in with the macaroni and peppers. Add some thickened gravy or stock, and turn all into a suitable flat pan. Cover with a rich biscuit-dough, and bake to a tempting brown.

This can also be served as a stew without the crust, using a gravy made with flour. It is extremely wholesome and good either way. Mrs. E. C., Mississippi.

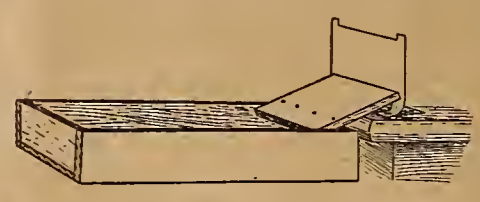


Kitchen Cabinet—One of the greatest time-savers I have is a large kitchen-cabinet where so many things can be kept handy. I have one which cost me only a few cents, and is just as good as an expensive one. The lower part is made out of an old bureau by removing the two upper drawers and hinging doors on. The lower drawers are kept for vegetables, etc. The top is made from a dry-goods box the bottom of which should be left open for things which are needed most. This cabinet is very inexpensive but most valuable. Mrs. J. P. L., Virginia.

Three Household Hints—I have often wished others knew how convenient a little invention of mine is. It is a box under the foot-scraper on the kitchen porch. I use a shallow box and nail a narrow board on the side next the scraper, on which the dirt falls, then into the box, which is easily removed by the men.

I have found that leaves from old catalogues are just the right size for the many uses housekeepers make of paper in kitchen work, so keep one handy.

The keys that come with dried-beef tins take the place of handles that come



off teakettle-covers, etc. Run the key through the hole left, put fine wire through hole in key, and wrap around it several times. A rivet fastened on key is better yet. Mrs. W. A. C., Nebraska.

To Preserve Eggs—Dip fresh eggs, one at a time, in hot melted paraffin, enough to cover the egg. Take out immediately with wire tongs made for that purpose of baling wire, let paraffin harden, and dip quickly again, reversing egg. Let cool. Wrap each egg separately in waxed or paraffin paper. Wrap carefully, so as not to scratch or break the coating. Pack cold in tin fruit-cans, and seal with paraffin, which excludes the air. Eggs so canned air-tight will keep several months, the paraffin having closed the pores in the shell. Keep in a cool place, and label can "Handle with care." The same tongs can be used for coloring Easter eggs. Length of tongs which I use for this work is seven inches. E. M. S., Ohio.

A very successful way of holding the straining-cloth on the cream-separator pan is by laying cloth over pan and slipping clothes-pins over rim of pan. E. A. E., Minnesota.

An emergency cupboard filled with canned goods will prove a convenience.

A New Silk Quilt—I have a design for a silk quilt which I find especially satisfactory because the lining, interlining and quilting are finished as each block is made, and when the blocks are completed and put together the quilt is all lined and finished ready to use and enjoy.

The pattern is a simple square of any preferred size.

Mine is six inches, which is not large enough to be clumsy, yet enables one to get on fast with the quilt.

On the inside of the silk square I baste a lining of glazed cotton batting (Fig. 1).

FIG. 1.

FIG. 2.

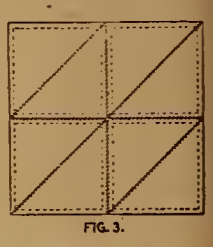


FIG. 3.

Turn the edges of the silk over on to the cotton batting, and baste carefully (Fig. 2). Fold over diagonally, and again baste, and when you have a series of these three-cornered blocks thus prepared, sew together with the over-and-over stitch.

The patches can be arranged in this diagonal fashion or four square corners to a center, just as preferred.

Careful arrangement of colors will add greatly to the beauty of the design and of the quilt. Mrs. E. C., Mississippi.

Boiled Puddings—When boiling puddings place a piece of greased paper over the top. This renders the cloth easier to clean, and keeps the pudding firm. Mrs. E. O. S., Ohio.

The Household Department

A Butter Hint—Sometimes in cold weather the cream does not ripen, and the butter is slow in collecting, in spite of all care about temperature. Try adding one half a cupful of buttermilk from your last churning. Mix well with the cream twelve hours before you churn, and you will be delighted with the difference in the churning.

Before I tried this simple plan I was often two or three hours trying to bring the butter and often left quantities of uncollected butter floating as little crumbs in the buttermilk.

With this new plan my butter comes quickly in large masses, leaving the buttermilk smooth and white and free from the butter. Mrs. E. C., Mississippi.

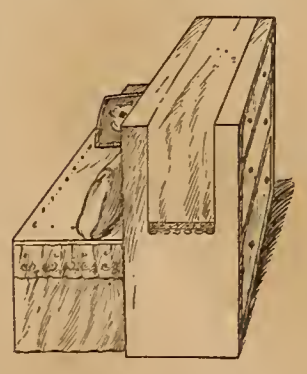
Crisp and Flaky Pie-Crust—If you will use milk instead of water in making pie-crust and take rather less lard, your pastry will be far more delicate and wholesome. It will also be easier to brown and is altogether more toothsome and desirable in every way. Mrs. E. C., Mississippi.

Patching Made Easy—A neat, quick and easy way to patch men's shirts and overalls, and ladies' kitchen aprons and dresses, is to pin the patch securely, then stitch it on the sewing-machine, instead of by hand. Turn the garment back to the right side, turn under edges of the tear, baste, and stitch again on the machine. You will find the work can be done much quicker than by the old method. L. G., Wisconsin.

Soft Gingerbread—One cupful, each, of butter, molasses, sugar and sour cream, four cupfuls of flour, with a teaspoonful, each, of soda, ginger and mace. Bake in a flat pan in a hot oven. Serve hot with sauce.

Light Biscuits—When the dough is ready to be worked into loaves, take out enough dough to make about one-half gallon. Add two tablespoonfuls of butter, two tablespoonfuls of sugar, knead well, and roll out one-half inch thick, cut out with biscuit-cutter, put in a well-greased pan, sprinkle butter over the top, let rise till twice the original size, and bake in a hot oven. Mrs. A. M. B., Kansas.

Filled Cookies—One egg, one cupful of sugar, one-half cupful of butter, one-half cupful of sweet milk, three and one-half cupfuls of flour, two teaspoonfuls of cream of tartar, one teaspoonful of soda and one teaspoonful of vanilla. Roll thin. Put cookies in pan, add one teaspoonful of filling slightly spread and place a cooky on top. Filling: One-half cupful of sugar, one-half cupful of water, one cupful of chopped raisins (or dates) and one teaspoonful of flour. Cook, stirring constantly. Miss M. L. S., New York.



Utilizing the Chest of Drawers—The old-fashioned chest of drawers was so roomy and convenient that it is a pity that it ever went out of fashion. Those who are fortunate enough to have one of these useful pieces of furniture will be glad to know how a woman who has some skill in interior decoration made her grandmother's chest of drawers not only a useful, but an attractive part of the furnishing of her bedroom. The fireplace stood out in the room, leaving a corner at one side, the other being taken up by a closet. She turned the chest of drawers so that it faced the door into the hall, thereby cutting off the draft, and by pushing one end of the old bureau into the corner made a nook which she fitted up with a couch. The surface of the chest of drawers was sand-papered to remove the old paint (for it was merely of common pine wood), and she then scrubbed it in water, to which she had added enough concentrated lye to take off all remaining impurities. Then she stained it with one of the prepared mahogany stains. The back did not look very nice, and she affixed some brass-headed nails to the top and made a curtain headed with a row of brass rings, by which she suspended it from the nails, so that she had an artistic background for her couch, which was merely a low packing-box padded with a couple of old comfortables and covered with draperies to match the curtain. Some pretty cushions were added to the couch, a lace-trimmed scarf was laid across the top of the bureau, and on it were set a couple of framed photographs and a pretty china bowl, and, lo, both comfort and convenience were served. The arrangement would look well in a dining-room or general sitting-room, the chest of drawers being used for the accommodation of the table-linen, towels and many other things for which the busy housewife has generally to run up-stairs when needed. C. W., New Jersey.

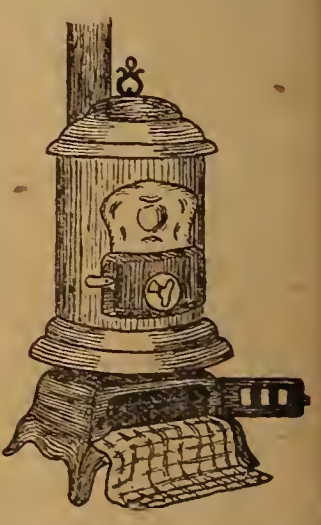
Carrot Jam—Wash and scrape or peel large carrots, cut in inch pieces, and weigh. To three pounds allow three pounds of sugar, six large lemons and two ounces of blanched almonds, cut in strips. Steam the carrots until tender, then press through a sieve. Add the grated yellow rind and strained juice of the lemons, the sugar and shredded almonds, and heat slowly. Simmer twenty minutes, stirring often; put up in jars.

Beefsteak Dumplings—Line a deep dish with pie-crust, cut up two pounds of stewing beef in small pieces, add salt, pepper, chopped onion, one-half teaspoonful of poultry dressing, a little butter and a little water. Put top crust on, and steam for three hours.
Mrs. J. J. O'C., Washington, D. C.

Marshmallow Cake—One cupful of sugar, three-fourths cupful of sweet cream, fill up the cup with sweet milk, a pinch of salt, one-half teaspoonful of vanilla, one and three-fourths cupfuls of flour sifted with two teaspoonfuls of baking-powder. Beat until very smooth, then fold in the stiffly beaten whites of two eggs, and bake in layers. For the filling, boil one cupful of granulated sugar with one-third cupful of water until it threads decidedly, then add the stiffly beaten whites of two eggs and one dozen small marshmallows, and beat until cold. Spread on the cold cake, and ornament the top with split marshmallows.
E. I. L., Wisconsin.

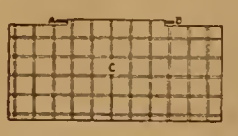
A Cooking Kink—If mustard for salads is mixed with milk instead of water, it will not dry out. Mrs. R. C. S., Florida.

The Ash-Catcher—All women, especially in the winter - time when they have two or three stoves to take ashes from, often wish for some article which will keep the ashes off of the stove, as they dull the blacking after being spilled on it two or three times.



I have found this home-made article a great help to me so wish to pass it on to help others.

Take a flat stick or large wire (A. B.) about two or three inches longer than the ash-pan opening, and fasten a piece of oil-cloth (C) around it, letting the oil-cloth extend three or four inches beyond the ends of stick or wire, thus keeping the ashes from settling on the base of the stove and allowing them to slip on down where they may all be caught and carried out without any dust or dirt at all.



The idea in using a flat stick or large wire longer than the opening is to hold it in place. By holding it at an angle it can easily be adjusted in the opening and pulled forward, thus allowing the ashes that may have fallen off the pan to be brushed out of the opening with a wing or brush. Mrs. C. T. B., Iowa.

Baked Eggs—Break five eggs in well-buttered muffin-tins. Put two tablespoonfuls of cream over each egg, sprinkle with salt, pepper and a little chopped parsley, and bake until set. Serve on toast.
Mrs. J. J. O'C., Washington, D. C.

Winter Feed for Birds

HAVING noticed the picture of a bird's lunch-counter in a late issue of FARM AND FIRESIDE, I thought I would tell you of an easy way to provide winter feed for our little feathered friends.

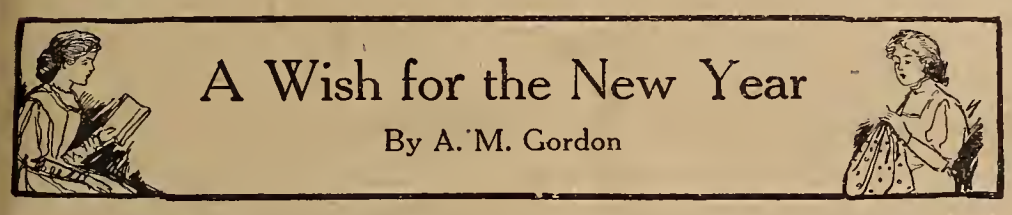
In late spring or early summer I plant sunflower-seed along the irrigation ditches, where they may grow without being in the way of cultivating the trees and crops. The large Russian is the variety planted, and as they become heavy with seed they bend over, protecting the seed from the heavy snows.

No matter how deep the snow comes, the feast is always exposed to the hungry birds, and it is a pleasure indeed to see them thronging among the dried stalks on a cold, wintry day.

I have counted half a dozen kinds of birds after the seed at one time; probably four or five on a single sunflower head busily picking out the seed, and several others down on the snow picking up what drops.

It would seem, at first thought, that sunflower-seeds would be rather large for bird food, but our smallest winter visitors apparently have no trouble in disposing of them.

As there are many places on every farm where sunflowers may be grown with little or no effort, we should see that our best allies, the birds, have this much encouragement at least to stay with us. J. D. YANCEY.



A Wish for the New Year

By A. M. Gordon

While Christmas comes around but once a year
With Christmas revelry and Christmas cheer,
Life starts anew with each new morning ray,
And every day, thank God, is New Year's Day.

THE first day of the New Year, according to the almanac, is the one in which we are accustomed to make new resolutions. Not that this day is really in any way different from any other part of the vast expanse we call time, but it seems a definite point from which to look backward and forward. It is a good stopping-place and also a good starting-place. We think over the failures of the past year and resolve to try to do better in the year upon which we are entering.

But before many days elapse, we discover that we have not kept our vows. And then we become discouraged. So let us remember that every day is New Year's Day—the beginning of a fresh, untried year, a day in which we may again resolve to live better lives.

This is well. For new trials need new courage and new determination to meet them. Our strength is as the heavenly manna, of which only one day's portion was given every morning. So we need to resolve, every morning, to lay hold of that day's strength for its work.

We are apt to make too many resolutions. It is far better to make only one, and keep it, than to make many, and then fail to carry them out. Now, if we resolve, each morning, to endeavor to waste no part of that day, this will cover a great many resolutions which we might make instead.

Mr. Arnold Bennett, in his little book entitled "How to Live on Twenty-Four Hours a Day," says:

"You wake up in the morning, and lo! your purse is magically filled with twenty-four hours of the unmanufactured tissue of the universe of your life! It is yours. It is the most precious of possessions. A highly singular commodity, showered upon you in a manner as singular as the commodity itself!

Our Incomes of Time are All Equal

"For remark! No one can take it from you. It is unstealable. And no one receives either more or less than you."

So if we say that we have not enough time in which to do certain things, let us remember that we have all the time there is, and as much time as anyone else has. And as Mr. Bennett says:

"You have to live on this twenty-four hours of daily time. Out of it you have to spin health, pleasure, money, content, respect and the evolution of your immortal soul. Its right use, its most effective use, is a matter of the highest urgency and of the most thrilling actuality. All depends on that. Strange that the newspapers, so enterprising and up-to-date as they are, are not full of 'How to live on a given income of time,' instead of 'How to live on a given income of money'! Money is far commoner than time."

This is true. For if one cannot contrive to live on a certain income of money, one can usually manage to earn a little more; but the supply of time, though gloriously regular, is absolutely restricted.

Do One Thing at a Time

"Which of us," asks Mr. Bennett, "lives on twenty-four hours a day? And when I say 'lives,' I do not mean exists, nor 'muddles through.' Which of us is free from that uneasy feeling that the 'great spending departments' of his daily life are not managed as they ought to be?"

Then he tells us that the first requisition to the wise employment of time is to learn to control the mind. By this he means that we must learn to concentrate our thoughts directly on the matter in hand.

He declares there is no secret in this practice—save the secret of perseverance. And the failure to attack each duty directly and squarely is the reason why we accomplish so little. We are always "going to do" things. Saint Paul said: "This one thing I do." Let us make it our motto. Let us do with our might the one thing we undertake to do, and then turn to the next thing. Of course, time spent in necessary sleep and relaxation is not wasted. But while we work, let us really work. Then we shall find that we have more time both to work and to play, to read and to reflect, to develop all our powers and to help other people, than we supposed we had.

My wish for the readers of this paper is that they may resolve each morning to use their time wisely and well. Thus I am surely wishing them "A Happy New Year," a year beginning every day, full of helpfulness, satisfaction and joy. Thus I am also surely wishing them not only one Happy New Year, but many Happy New Years.

Every day is a fresh beginning,
Every morn is the world made new.

OUR YOUNG FOLKS

Conducted by Cousin Sally

Do You Remember?

DEAR COUSINS—Do you remember my asking each of you to write five resolutions, in December, 1911? Do you remember that I asked you to try to keep them during all the long year? And, furthermore, I promised to publish the prize-winning sets a year from the date of the writing. 'Member that, too?

Well, here they are! I wonder how you've succeeded in keeping true to them! They're pretty high ideals, I'm sure. In fact, they're so good and so much worth while that I'm just hoping you'll start in the New Year with these very same resolutions; and if you manage to carry out even one of them for the next twelve months I'm sure life will be a happier thing not only for you, but for all who come in contact with you, at home, at school, at church—everywhere.

Our own Cousin Sally Club motto has three very good ideas for making the New Year happy—for ourselves and for everybody as well. Won't you try to be true to your motto, too? And then we'll be sure to have, every one of us, a very Happy New Year. COUSIN SALLY.

Here are the Resolutions

I will be honest.
I will tell the truth.
I will obey father and mother.
I will work with a good will.
I will do my chores promptly.
RICHARD R. CHAVERS, Century, Florida.

I expect always to speak the truth.
To obey my parents as best I can in all things.
To be kind and unselfish to my playmates at school.
To attend Sunday-school and church every Sunday I can.
To try to be noble in every thought and deed.
EARL AHALT, Route 1, Middletown, Maryland.

I will not use tobacco in any way.
I will not use intoxicating liquor.
I will rise early and help my father do the chores.
I will not use any profane language.
I will not disobey my parents.
ALVIN L. CLAYBAUGH, R. D. 4, Everett, Pennsylvania.

I will guard my temper.
I will be cheerful, helpful and unselfish in my home.
I will act as a Christian should in my school life.
I will stand by my Sunday-school teacher and be loyal to our class of "Gleaners."
I will set the right example before my two young brothers and before my schoolmates.
LETA MYRTICE HANCOCK, R. D. 1, Little Genesee, New York.

I will commit to memory at least one verse of the Bible every day.
I will try always to speak kindly to others.
I will have no secrets from my mother.
To the best of my knowledge, I will always speak the truth.
I will break myself of the habit of biting my finger-nails.
LAURA HUMPHREY, R. F. D. 3, Moweaqua, Illinois.

I will obey my parents.
I will be kind to my little brothers.
I will find more pleasure in giving than in receiving.
I will be contented with what God has given me.
I will make this New Year more cheerful for the sorrowful and afflicted.
EDITH MAUNEY, Maiden, Catawba County, North Carolina.

I will always tell the truth and be honest.
I will do my best to live a Christian life.
I will strive to make friends.
I will do unto others as I wish to be done by.
I will honor my father and my mother.
LETITIA WHETSEL, R. D. 4, Centerpoint, Indiana.

I will not bite my finger-nails
I will not quarrel nor tell stories.
I will not contradict anybody.
I will listen to what my mother tells me.
I will do everything in my power to be a good girl.
ZOE LAY, R. F. D. 4, Newville, Pennsylvania.

I will not tell any stories.
I will not quarrel with my playmates.
I will listen when told to do anything.
I will study my lessons well.
I will try to do what is right and to be a good boy.
KENNETH LAY, R. F. D. 4, Newville, Pennsylvania.

I will use no bad language.
I will be kind to all dumb animals.
I will be patient with my little brothers and sisters.
I will not use tobacco in any form.
I will remove my hat when entering the house.
GLENN HUMPHREY, R. F. D. 3, Moweaqua, Illinois.

I will never pretend to be what I am not.
I will listen to the advice of my parents.
I will be polite to everybody.
I will never meddle with other people's affairs.
I will save up my money.
JOHN DORSEY SLAUGHTER, Route 1, Denton, Maryland.

I will ask Jesus to help me to be kind and loving to everyone.
I will never speak evil of anyone.
I will do kind deeds whenever I can.
I will try to be satisfied with what I have, and not to wish for things which I cannot have.
I will help mother in any way I can.
MARGUERITE FOX, R. F. D. 4, Lincoln, Nebraska.

Prompted by the Inner Man

"What is the capital of the Philippine Islands?" asked the teacher, of her geography class.

"Manila," answered the class in chorus.

"And of the Sandwich Islands?" continued the teacher.

The class seemed nonplussed, until little Harry shouted, "I know; it's Ham!"

Cousin Sally's Letter

DEAR COUSINS—I am sure you will be pleased with the plan which has been arranged for you. A really *nice* plan which includes boy and girl cousins.

Let's play it's a game, for it really is that; one which teaches an important branch of sewing, and which makes a boy see a chance for mastering work methods in something he sometimes dislikes to do.

I want the dear little girl cousins to practise making buttonholes. Mama, or Sister, or Grandma will show you and be *almost* happier than you, if you try so really hard that you master the tiny stitches and can actually work one even and smooth.

After you have made the very nicest one, I want you to send it to me. I shall love to see the cunning stitches patient little fingers have wrought, and shall send a nice prize to each of the five little girls whose work is the neatest.

From the boys I want brief accounts of the best way to chop kindling. I know there are frosty mornings and nipping cold evenings when you'd much rather be cracking nuts or reading than cutting kindling. But, dear boys, while you are helping Mother, study out the quickest method, for there is a *best* way.

To each of the five boys who send in the best written accounts I shall send a nice prize, something they will *really* like.

And now, dear cousins, remember that prizes you will enjoy await you; prizes which it will make your loving Cousin Sally happy to send upon their way to ten striving girls and boys.

Faithfully yours,
COUSIN SALLY.

Be sure to send your efforts in before February 1st to insure publication.

The Gift Club

Conducted by

Jean West, Secretary

A BRIGHT and happy New Year to you all, dear Gift Club girls! May 1913 bring you all the good things that you longed for but failed to secure in 1912. You have three hundred and sixty-five empty days ahead of you, and you can fill them as you will. Isn't that a fine, big thought, and doesn't it make you want to do all sorts of fine and big things?

There's an opportunity right here in The Gift Club for you to accomplish all you wish to do, an opportunity for you to make all your dreams come true. Take time by the forelock before 1913 is a minute older, and find out all about our Club rules and regulations. There are no dues or expenses of any kind in connection with The Gift Club. It will not cost you anything to join. But the benefits that you will receive from your Club membership—that's quite another story.

There is nothing but gain for our girls in The Gift Club. The heap of enthusiastic letters on my desk is evidence of that. Just let me show you a few of them.

DEAR JEAN WEST:

The Gift Club is the finest thing in the world for girls! I'm so delighted because I joined. So far I've earned a silver toilet-set, a clock and that lovely silver mesh bag. I have my eye on lots of other things that you've offered me.

M. L., Ohio.

Now do read this note, just sparkling with vim and energy.

Count me as a member of The Gift Club for years to come! I never dreamed of anything so splendid! How I wish that every girl in the country could know and profit by our Club! They don't know what they are missing! You may be sure I'm telling all my friends about The Gift Club just as fast as I can, and they're all so delighted to know its secrets. The "work" that you ask us to do is so simple and delightful that, really, it isn't work at all! Thank you a thousand times for that exquisite gold bracelet. I can't believe it's mine!

There! Doesn't *that* convince you that you are wasting time every minute you delay writing me about The Gift Club? And here is another equally inspiring letter:

Oh, thank you, Miss West, for the beautiful china dinner set! It came just in time for our Thanksgiving dinner. My husband could hardly believe his eyes when I brought him in and showed him the table. He did not know anything about it, and I had hard work convincing him that it didn't cost me a penny. "Something for nothing" is so unheard of in these days—and yet I consider the little work I did was absolutely nothing!

The following letter has just come to me from one of our brides-to-be. Do read it.

You don't know what a blessing The Gift Club has been to me, Jean West. I am to be married in the early spring, and many an anxious moment I spent wondering how I'd ever be able to get all the little dainty things that I want for our new home. One day a friend told me about The Gift Club—and you know what happened since! I've got all my table-linen now and china and the table silver, besides lace curtains and a lovely clock for the dining-room. Next I'm going to work for the silver toilet-set. This certainly is a wonderful Club of ours, and I'm so happy to be a member.

Now, you see you can't afford to put off writing me a minute longer. Every day that you delay means just so much time wasted. Send me your name on a postal card, or write me a little letter, and I'll tell you our Club secrets and show you how to get all our lovely gifts without spending a penny for them.

Hundreds of school-girls have joined The Gift Club, and there is room for hundreds more. I've just received a bright little letter from one of these girls. She says:

Books are my greatest passion, and to think that I may earn them through The Gift Club! From now on I shall work for books. I shall never regret joining The Gift Club, and I appreciate the little collar-and-cuff set so much. It came in time to fill a vacancy in my Christmas list.

Jean West

Secretary, The Gift Club
FARM AND FIRESIDE, Springfield, Ohio

The Adventures of a Beneficiary

[CONTINUED FROM PAGE 18]

hostility on a face whose sharp features at their best could have evidenced benignity with difficulty.

"Hey there! Quit that!" the man shouted. "What in time you heavin' rocks at my bull for?"

"Oh, it's a bull, is it? And it's yours, eh?" Wright said, by no means penitently. "Well, I didn't happen to know either fact. And I don't happen to know who you are."

"You won't have to wait to find out. My name's Simonds—Zeb Simonds. I'll learn ye to go rampin' on my property, stonin' my stock!"

"I'm not on your property now, at any rate," Wright said. "I'm on a public highway; and I'm here because I had just time to save my life from that bull's attack."

Simonds doubled a sinewy fist. "If you want more trouble, sail in!" he remarked.

Wright felt his fingers tighten on the stone he had picked up. "Sail in yourself!" he answered, defiantly.

There was an instant when the young man felt that his invitation was about to be accepted. He saw Simonds studying him, estimating his strength, weighing the chances, in short. Then the adversary noted the stone. The tide of belligerency in his look began to ebb.

Wright was a good fellow and that morning had been full of love for his fellow men. Somewhat of the sentiment still survived, despite his recent adventures. This owner of the bull was not an attractive person, but he was a neighbor, one of the people with whom the ferryman must live; and from his point of view, perhaps, there was a shadow of excuse for objecting to a bombardment of his animal. Wright, of a sudden, put out a hand.

"Mr. Simonds," he said, "we're making a bad start. I'm sorry that should be the case, and, for my part, I'd rather see if we can't make a new one. Come now! What's your idea? I dare say we live next door to each other, for I've taken charge of the ferry. My name's Wright."

"Humph! Know that well enough!" Mr. Simonds responded, scornfully. "I know ye. I know the hull breed. I knew your uncle before ye. He couldn't bulldoze me, and you can't gammon me no mor'n you can stone my bull. You keep off my track, if you don't want to get hurt!"

Wright's hand was withdrawn more swiftly than it had been proffered.

"Mr. Simonds," he said, "I think there's very little object in continuing this discussion. I get your idea perfectly. I think I know how to deal with you or your bull. And these matters having been duly brought to your attention, I am happy to bid you good-morning."

Mr. Simonds swore, but made no other demonstration of hostility. For a moment he eyed Wright, and Wright eyed him. Then, as by a common impulse, they turned, each in the direction of his own house. The hereditary ferryman's first meeting with an important neighbor was over.

Chapter VIII.—Business and Sentiment

"SO YOU'RE the new ferryman? And you like it pretty good, eh, 's far's you've gone? I swan! but that's the way to get at anything! Still, if there's any of old Nathan's blood in you, you wouldn't be no quitter. Good deal of a man, Nathan was, I tell you!"

Wright, poling the scow in mid-stream, looked up at the speaker with fresh interest. The affair with Zeb Simonds was now a matter of history by some hours, but it had left its rather disagreeable smart. He was beginning to suspect, indeed, that the neighborhood arms were not likely to be opened wide to the stranger, the feeling being strengthened by the conduct of a couple of youths whom he had put across the river at noon, and who had met his conversational overtures with grunts and monosyllables. It was a surprise, then, and a grateful surprise, to find this passenger of the late afternoon disposed to amity and chat. At first sight his heart had not warmed to the man. When he watched him drive aboard the scow from the western bank of the river, he would have said in his haste that the traveler was a fat little fellow, somewhat shabby and still dirtier, with a shifty eye and a pasty complexion. Also, he might have added that his horse needed one good currying and many square meals, that his wagon was a rattletrap and that the crates of fowl stored back of the seat should have had a scrubbing and a thorough disinfecting whether they were worth it or not.

"Oh, it's going to be all right," he said. "I've got to get the hang of things, of course. You see, this is all novel to me. When I learn the ropes, though, I think I'll do very well."

"Been more of a city man, I reckon?"

"You guessed right, very much so."

"Little in the dark about country ways, then?"

"As much in the dark as if I were in a cellar at midnight, without a lantern and with a thunder-storm going on outside."

The man in the wagon glanced keenly, if swiftly, at the ferryman.

"Say, friend, you want to be keerful," he said. "You don't want to let that get out. There's a lot of people around here that'll swindle you out of your back teeth, if you give 'em a chance. You go to buyin' milk or butter or green stuff or eggs or poultry—'specially poultry—and you'll be robbed right and left. I speak of poultry 'cause that's my line. And talk about bunco-steerers and come-ons—say, friend, they ain't in it with these rubes! Don't I know 'em and their tricks? Well, I guess yes! You don't want to think all the deviltry stops in Wall Street. There's a heap gets out here in the backwoods. So if any of these folks 'round here, knowin' that you don't know, or suspectin' it, offers you a thing for a dollar, don't you give more'n fifty cents. Catch on?"

"I do. Thanks for the hint!" Wright said gratefuly. "But, I wonder—did you say you dealt in poultry?"

"Wholesale."

"That is, you wouldn't buy or sell small quantities?"

The man in the wagon wriggled with an effect of finding himself embarrassed by the question.

"Well, I don't—and, then again, I do—now and then—for a friend-like," he said hesitatingly. "How did you come to be askin'?"

"Because I've got to have eggs, and I suppose the simplest way to get them is to keep chickens."

"Well now, that's so!" the other said approvingly. "Guess you're gettin' more or less of a line on country ways fast enough."

"Where can I get them? Can you let me have some?"

"I dunno 'bout that."

"You mean you haven't them?"

"N-o-o; I don't mean that. I got 'em all right—just the sort you'd be needin', I bet you! And that's what makes it hurt. Seems a pity—but no; I'm 'fraid 'twouldn't do. Trade'd hear of it, and there'd be Sam Hill to pay."

Wright was guiding the scow up to the landing, but he found time to say:

"I don't know your trade rules, of course, but I need some chickens. What earthly harm would be done if you let me have them?"

The little man rubbed his chin. "Well now, if you put it that way, I dunno," said he. "There's the rule, but, then again, you're off here—and, say, how many'd you be needin'?"

"Oh, enough to supply me with eggs."

The poultryman drove ashore before he spoke again.

"If I was you," he said, "I'd lay in—oh, 'bout a dozen."

"Pairs?"

Wright uttered the little word simply, honestly, in all the good faith of ignorance. The man in the wagon gave him another of those swift, sidelong glances, put a hand over his mouth and raised his eyes as to heaven. When he lowered them, there was a smile of gentle admiration upon his countenance.

"Yes, pairs," he said. "Mated pairs! That's the very latest wrinkle, but how in the world did you know 'bout it?"

"I didn't," Wright said truthfully.

"Then you're the all-firedest good guesser I ever heard tell on. You seem to take to this business like a duck to water. But I can't let you have a dozen pairs. Mighty sorry I can't!" He said this with the fervor of genuine regret. "Best I can do is to fix you up with six pairs, well assorted. They'll make a nice, gentleman's outfit."

"Good!" Wright said heartily, and then was stricken by remembrance of the state of his resources. "Just a minute, if you please! How much will they cost?"

"Don't worry! I'll treat you square!" the wholesaler said with unction. He drove briskly up the bank and drew rein at the ferry-house door. When Wright came up, he was pulling a bird from one of the coops.

"That's—that's one of the roosters, isn't it?" the young man inquired almost timidly.

"Sure! And here's his mate. They're sorter dazed-like by the ride and bein' dragged out sudden, but they'll be livelier'n crickets, give 'em a chance."

Wright took the pair cautiously and deposited them upon the ground. To his untrained eye they did seem dazed; it struck him that he detected a stagger in the rooster's walk and a general feebleness in that of the hen. There was, too, a peculiar scar across one of her wings. "What's that?" he asked, pointing to the mark. "Funny-looking thing, isn't it?"

"That? Why, that's the sign of the breed—Barred Plymouth Rock, you know. 'Tain't often you get it so clear."

"It isn't on the rooster," Wright observed, not captiously, but as a seeker after truth.

"Never is—not with the full bloods."

"Oh, I see!" Wright answered. He took from the man in the wagon four more birds of no very distinguishing characteristics, and then came a pair of spotted blacks and whites.

"What's this variety?" he inquired.

"Them? Them's Holsteins!" the vender said promptly.

Wright puckered his brow. "It's a bit remarkable," he said, "but there's a name that sounds familiar. Where have I heard it? Seems to me it was associated with black and white in some way."

"Sure it was! Black and white's regular brand of the breed. Guess you know more about this business than you let on. That's all right, though. I ain't blamin' you a mite."

Then the transfer of fowls went on briskly until the sixth pair was duly placed in the purchaser's hands. Wright raised his eyebrows a trifle at the last combination—the hen was so little, and the rooster was so big. The dealer noted the brows and smiled easily.

"There's an odd case for you," he said. "Regular freak of nature! You're lucky to get it thrown in—do to show to folks, you know. That's what we call an affinity match. Yes sir, sure thing! Just the same as you'll see with people! Every now and then you'll come across some fellow that's six foot three, and yet has got to hitch up with a girl that's about three foot six. No, the two ain't the same breed in this case—he's a Shanghai, and she's an Alderney. Mighty few of them Alderneys left 'round these days, I tell you, though they used to be all the fashion with the fanciers."

Wright cast a glance over his flock. "I must confess I didn't know there was such a variety in chickens," he said. "But, I dare say, when a fellow takes up the fad, it adds to the sport. You're more or less of a collector, I suppose?"

"Collector—me?" The query seemed to bother the man for an instant, but only for an instant. "Oh, yes, I'm a collector—you bet I am! Why, you might most call me a—a—a what is it? Con—con—connoosher! Yes, that's the ticket."

"And now what's the other ticket?" Wright asked. "In other words, what are these birds worth?"

The man in the wagon puffed out his cheeks and looked thoughtful. "They ought to be worth five dollars a pair—nice, matched pairs like them," he said slowly. "But I ain't goin' to try to charge you no such money. I'd scorn to do it. I ain't no robber, and I ain't goin' to see your uncle's nephew robbed even by me. I told you a while back you shouldn't pay any of these yaps 'round here more'n fifty cents on the dollar of their prices; and I'm goin' to quote you a better figger'n that. I'm a-goin' to say a dollar a head as they run, and, as one citizen to another, I'm goin' to tell you you can't match that lot, if you go over New Hampshire with a fine-tooth comb. Twelve dollars—yes, that's the price; and a bargain price it is for you, my friend!"

Wright may have felt a sudden qualm, but he gallantly suppressed evidence of it. Never in his life had he haggled over a bargain. He was not going to begin the practice with this friendly soul. So he drew out his little roll of bills and counted out the twelve dollars with a fine air of enjoying the process. But in his innermost being he sighed as the dealer, with a wave of his hand, drove away. The twelve dollars loomed in memory like so many monuments.

Pete, wandering back from some excursion of his own, came upon Wright, still watching his birds, which were beginning to move about languidly. The boy's protruding eyes seemed to start from his head as they beheld the flock. He lifted a finger, and another, and another. He was counting, and checking off the count. At last he turned to Wright.

"Ugh!" he said. "Ugh! Six!"

"No, Pete; twelve," the young man said kindly. "You can reckon as far as that, can't you?"

"No, no!" he cried. "Six—six roosters!"

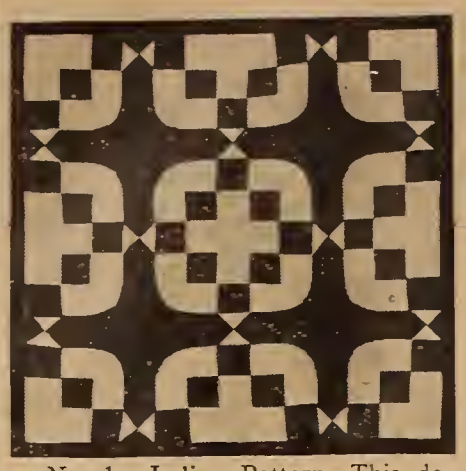
Wright nodded with a touch of complacency. "Why, of course," he said. "Six hens, hence six roosters, naturally. Mated pairs, don't you see? Half a dozen instances of blessed and feathered domesticity! What better could you ask?"

Pete didn't ask anything more. He merely looked up at Wright.

"Six—six roosters!" he repeated mechanically. [CONTINUED IN NEXT ISSUE]

Quaint Designs in Quilt-Blocks

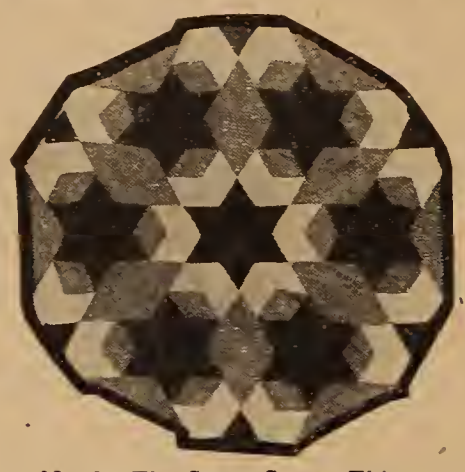
For Lovers of Fancy-Work



No. 1. Indian Pattern—This design makes a pretty sofa-pillow top, as well as an attractive quilt-block.

No. 3. Grandmother's Favorite—While not a difficult pattern, this is a most interesting and pleasing design.

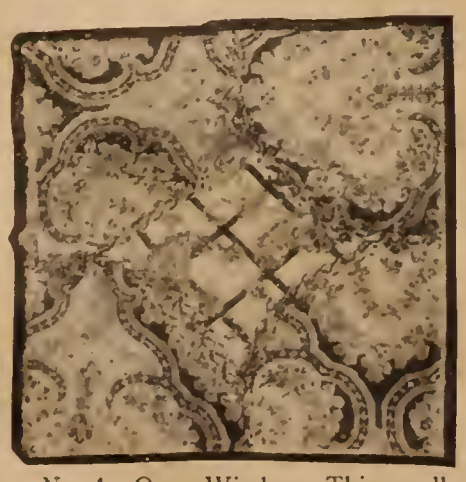
MAKERS of quilts have been besieging us with requests for new patterns. In response to these requests the Fancy-Work Editor has selected six of the very prettiest quilt-blocks that have been submitted to us for this department.



No. 2. The Seven Stars—This can be made into a circular pillow-top, as well as serving for a quilt-block.

PATTERNS for the six quilt-blocks are sold for ten cents. Either stamps or coin will be accepted. No one pattern can be sold separately. In sending for these quilt-blocks, please state that you wish Quilt Patterns No. 2. Quilt Patterns No. 1 were published in the issue of March 16, 1912.

No. 5. The Daisy-Field—This design is a most artistic arrangement of green, white and yellow patches.



No. 4. Open Window—This small block (six inches square) is a clever way of using up small pieces.

No. 6. The Oak-Tree—A quilt-block made one hundred years ago and still unique and attractive.

Address all letters and orders for the quilt-block patterns to the Quilt-Block Department, care of FARM AND FIRESIDE, Springfield, Ohio.

How to Be Up-to-Date in Fancy-Work

THE blue-prints are beginning to take hold of our fancy-work friends. You can't imagine what a help a blue-print is until you have tried one of them. Anyone who understands the simple stitches of crocheting, or the almost as simple ones used in Irish crochet, can use a blue-print without the need of printed directions. It's almost like having a sample of the work before you. These blue-prints are an innovation and, as far as we know, were first published in the Fancy-Work Department of Farm and Fireside. Soon every fancy-work editor in the country will be using them. In a short space of time they may supersede printed directions for certain forms of fancy-work.

By the way, have you noticed how popular cross-stitch is becoming? Everyone is becoming interested in the revival of this old-fashioned yet ever new fancy-work. The Fancy-Work Editor of Farm and Fireside has some most interesting articles for her readers. Be on the lookout for them. You'll find cross-stitch patterns to-day on sofa-pillows, tray-cloths, pincushions, bureau-covers, bedspreads, buffet-scarfs, table-cloths, towels, children's blouses, grown-up folks' waists and dresses; in fact, the cross-stitch is found almost everywhere.

COAN JOSAPHARE

A Big Variety of Aprons

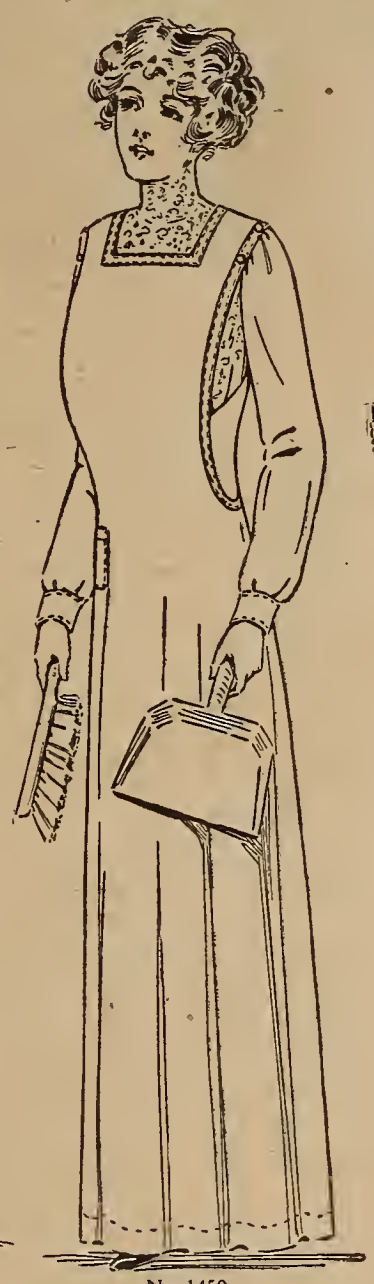
Practical Styles for Every Need

Designed by Grace Margaret Gould

No. 1440—Apron Buttoned at Sides

6 to 10 year sizes. Quantity of material required for 8 years, three and one-half yards of twenty-four-inch material. This practical little apron may be attractively trimmed with bands of bright-colored washable embroidery which is inexpensive. The price of this apron pattern is ten cents

No. 1904



No. 1450

No. 2183

No. 1473—Girl's Apron: High or Low Neck

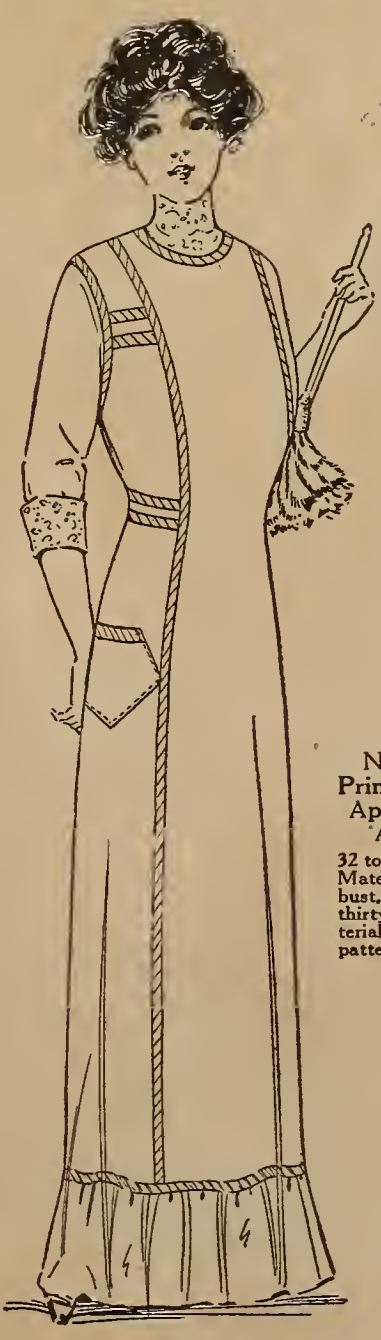
4 to 8 years. Quantity of material required for 6 years, two and three-eighths yards of thirty-six-inch material. This apron when made with the long sleeves and high neck may really be used as a play dress and is practical made out of gingham. The price of this apron pattern is ten cents

No. 1823—Housework Apron with Bib

22, 26 and 30 inch waist. Material for 26-inch waist, four yards of thirty-six-inch material, with an additional three eighths of a yard when ruffle is used. Price of pattern, ten cents

No. 1904—Suspender Apron

Cut in one size. Material required, one and one-half yards of thirty-inch material, with two yards of wide beading. The price of this suspender apron pattern is ten cents



No. 2182—Princesse Work Apron—Large Armholes

32 to 44 inch bust. Material for 36-inch bust, five yards of thirty-six-inch material. Price of this pattern is ten cents

No. 1904

No. 1450

No. 1525—Three-Piece Bib Apron with Pockets

32, 36 and 40 inch bust. Material for 36-inch bust, three and three-fourths yards of thirty-six-inch material. The tabs at the back button to the belt. The price of this three-piece bib apron pattern with pockets, ten cents

No. 1450—Work-Apron with Adjustable Sleeves

32, 36 and 40 inch bust. Material required for 36-inch bust, six yards of twenty-seven-inch material. Pattern, ten cents

No. 2183—Bib Apron with Flounce

One size only. Material required, three and one-half yards of twenty-seven-inch material, or three yards of thirty-six-inch material. The price of this apron pattern is ten cents

SEND your order to-day for any of the apron patterns illustrated on this page which you may need, and be sure to send to the pattern depot nearest your home. The pattern depots are: Pattern Department, Farm and Fireside, 381 Fourth Avenue, New York; Pattern Department, Farm and Fireside, Springfield, Ohio; Pattern Department, Farm and Fireside, 203 McClintock Building, Denver, Colorado.

IF YOU are in need of a new apron, you will surely find the style which will fill your wants among the many designs shown on this page. For every design illustrated a ten-cent Woman's Home Companion pattern can be secured.

Here is FARM AND FIRESIDE'S Famous Annual Flower Offer

Rose-Bushes

And Other Beautiful Flower Collections

FARM AND FIRESIDE Flower Collections have been famous for a good many years, and our Flower Collections this year cannot be surpassed. They have been grown especially for FARM AND FIRESIDE readers by one of the largest florists in America. No real lover of flowers can afford to miss this offer. The plants that we have for you are all quality sets, healthy, sturdy, and will reach you all ready for planting.

We Guarantee That All the Plants in Your Collection Will Bloom This Season of 1913

One of these magnificent collections will make your garden a perpetual bower of beauty, the admiration and envy of your friends.

All the plants in the collection that we have for you are distinguished for size, beauty, fragrance, and excellence in color. They will bloom freely, flowering not only once, but all summer long.

A single one of the plants in your collection is alone worth more than the cost of a year's subscription to FARM AND FIRESIDE.

Our offer will permit you to have flowers in your yard that florists sell for the very highest prices. Everyone loves beautiful flowers, and this offer gives you a rare opportunity to get an unrivaled collection.

FOUR LOVELY COLLECTIONS

That You May Choose From Are Fully Described Below

Six Beautiful Rose-Bushes

Order as Collection No. 101

This whole collection of six beautiful rose-bushes will be sent to those accepting our special short-time offer as explained in the box. You get the plants described below:

Climbing Meteor Rose

This is the ideal of all red climbing roses. In brightness of color it has no equal. It is a full and persistent bloomer, and will make a growth of ten to fifteen feet in a season. It blooms all the time—a real ever-bloomer.

New Irish Ever-Blooming Rose—Killarney

This is a very beautiful hybrid tea rose. The color is an exquisite shade of deep shell pink. The base of the petals is silvery white, the buds are long and beautifully formed. It is free in growth, has strong, heavy shoots, which are covered with buds, and is extremely beautiful.

Four Other Famous Roses

Rhea Reid. This rose is of the American Beauty type, but of the easiest culture. It never mildews or black spots, and opens its large flowers perfectly under all weather conditions.

Maman Cochet. The queen of all garden roses with color of rich clear tint. The flowers are extra large and perfectly double.

Famous German Rose. Pure citron yellow, outer petals edged with a pale rose. It is unusually vigorous in growth.

Clothilde Soupert. A French white, deepening to a rosy-blue in the center. It is vigorous in habit, and has a wonderful profusion of bloom. The form and coloring of this rose is perfect.

[This is a part view of the climbing Meteor Rose in full bloom.

Guarantee

All 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 refunded.**

BIG FLOWER OFFER

Good Until January 30th

Offer No. 1

We will send this Rose-Bush Collection, or any Flower Collection described on this page, all charges prepaid, and FARM AND FIRESIDE for three full years (78 numbers), all for $1.00.

Offer No. 2

We will send this Rose-Bush Collection, or any Flower Collection described on this page, all charges prepaid, and FARM AND FIRESIDE for two full years (52 numbers), all for 70c.

Offer No. 3

We will send this Rose-Bush Collection, or any Flower Collection described on this page, all charges prepaid, and FARM AND FIRESIDE for one full year (26 numbers), all for 50c.

Special to Club-Raisers

Any club-raiser who secures only two subscriptions to FARM AND FIRESIDE at 40 cents each will be awarded with this Rose-Bush Collection, or any Flower Collection described on this page. An additional Collection will be awarded for each additional subscription at 40 cents each. One of the subscriptions in club may belong to the sender.

Send Your Order Before January 30th

Six Fine Chrysanthemums

Order as No. 102

This collection consists of six large-flowering Japanese varieties, all different colors, and the finest to be had.

Silver Wedding, purest white, with broad reflexed petals, forming a flower seven inches in diameter.
Dr. Enguehard, Japanese incurved. Color, true pink.
Millicent Richardson, a beautiful rose violet.
Golden Eagle, a beautiful shade of clear yellow.
Admiral Sampson, a handsome, deep crimson.
Colonel D. Appleton, soft, creamy, amber yellow.

Four Magnificent Ferns

Order as No. 104

Of all plants for interior decorations, ferns are the favorite. You will receive the following four lovely plants in your collection:

Boston Sword Fern
Nephrolepis Elegantissima Compact
Plumosus Nanus **Sprengeri**

Five Elegant Carnations

Order as No. 109

The carnation is unrivaled for rich, refreshing fragrance, diversity of color and beauty of outline. Here is a list of the varieties you will receive:

White Perfection **President Roosevelt** **May Day**
O. P. Bassett **Prosperity**

This is FARM AND FIRESIDE'S biggest and best subscription bargain. You have four wonderful bargains to choose from. But hurry your order along. We cannot promise to send any more of these flower collections out after January 30th, because our supply will then be exhausted. Delays are dangerous. Order today.

Here is a view of the five other Rose-Bushes in our big Rose-Bush Collection.

Directions

Collections must be ordered entire. Accompanying each lot of plants are full directions for planting, care, etc. Please state **in what month** you prefer to have your collection reach you.

Send All Orders to FARM AND FIRESIDE, Springfield, Ohio

Extending a Chicken Indefinitely

By Beth Bowring

A TRUE account of a culinary feat given for the benefit of distracted mothers with large families.

The problem is this: how to make one chicken, hen fowl or rooster, do for two meals for twelve people, six of whom are adults, and none of whom have canary appetites, the youngest being six years old and a regular meat-eater if I would indulge him.

I am not rich, or this latest experience would never have been told. I am not even well to do but, putting it strong, I am decidedly poor, so that I am forced to make things go a long way.

Owing to unforeseen catastrophes, such as panics and many other ics, I suddenly found myself as it were on the ground, floundering like a fish out of water and it was "up to me" to "make good" and accomplish with one chicken, what three chickens had been required for hitherto.

I demurred some before I decided to have the few remaining birds slaughtered, for I had many birthdays to celebrate in a year, and what's a birthday without a cake, and what's a cake without eggs, and how is a poor woman able to buy them at thirty-five and forty cents a dozen? And besides, there are other dishes that need eggs to make them palatable, but, alas, nothing could save my few remaining fowls, they had to be sacrificed, not to make a Roman holiday, but to satisfy the hunger of twelve hungry people.

The children were requested to capture one hen, no more. The dog entered into the sport by loud barking and a great straining on his worn chain. At last the fowl was caught, all panting and dismally squawking. Pa despatched it in haste and threw it down in great disgust at having been interrupted when writing. But I draw the line at killing anything. I can't do it. I don't mean either to imply that I am more humane than he, because I am not by a long way, but it makes me creepy all over.

I scalded it, and the two youngest kiddies pleaded to pick it. In a quarter of an hour they returned with it entirely denuded of feathers.

Well, now I have arrived at the point where the trimmings commence. You begin by taking two good-sized onions, which you cut up and fry in butter to a nice brown. These you mix with a quart of bread-crumbs that have previously been soaked in milk, adding pepper and salt to taste. If you have it, celery-salt will improve the flavor. Also add a pinch of thyme, an egg if you should by any possibility possess one and wish to be extravagant, for it adds nothing to the flavor, but just helps to make it firm and look more appetizing on the plate. Now you proceed to stuff the bird, and what is left over you put into the pan in which you intend to cook it. Tie the legs to the parson's nose (or rudder, as my big boy says), sprinkle with pepper, salt and flour, and if ancient add a pint of water and some drippings (its own fat is best), cover with another pan, and set in the oven, removing it two or three times to baste.

Let it cook an hour covered, then remove the top pan, and let it brown a delicious brown, crisp and juicy.

Now comes the gravy, in which lies the success of the whole creation, for if the bird itself turns out all that can be desired and yet has a poor sauce to cover it with, you might as well consider your whole effort a failure.

The giblets must be treated gingerly, as it were. They are placed in a granite saucepan, with a quart of cold water to cover them, an onion spiked with cloves and two tomatoes; add a teaspoonful of salt and a generous shake of pepper.

Let these dismembered articles boil till tender, when you wet two heaping tablespoonfuls of flour quite smooth with a little cold water and mix into the liquid, let boil for a few minutes, and darken with caramel or burnt onion to a rich brown color. Remove the chicken from the oven, and place on a platter with the rest of the stuffing; pour off the fat, and turn the contents of the gravy saucepan into the pan, and set over the fire, stirring all the time; remove, and set to one side, and proceed to cut up the chicken.

It is understood, of course, that plenty of foamy mashed potatoes are waiting to be served with this chicken and a cabbage a neighbor has presented to you!

You commence finally to carve it, and by some magical power or other, six children have arrived on the scene, and stand watching your next move with bated breath and distended nostrils taking in the luscious sight of that one lone chicken; rubbing their little stomachs and saying "Oh my!" but not with the same meaning as do the ocean voyagers in Mark Twain's "Innocents Abroad."

One timid voice calling for the gizzard so that he can digest better his brown bread, another would like the heart so that *he* can love you more, and another wants the neck to rubber with, and they all desire the breast! Well, the tug of war comes when you set your brains to work to stretch that bird to its limits and make twelve people feel as though they had had a "Lord Mayor's banquet."

First of all if you are like me—short sighted: put on your double lens eye glasses so that you can pat your conscience into thinking that after all, that poor little scare-crow of a chicken, is really a fat little turkey in disguise and then proceed.

First remove its limbs, taking care to joint them so as not to take too much meat from the body, cutting them into four and also removing the wings, now you have six nice portions. Place each one on a separate plate, add to each a portion of potato, some of the stuffing, a little cabbage, several spoonfuls of gravy, and divide the gizzard between two of the children, and you will find all the plates as full as you would care to have them if you had three chicks. Now you have gotten rid of six members, two of which are adults; next remove the breast-bone, and that goes to the girl that is delicate, if, like me, you have one, and you put on the trimmings, and she is fully satisfied. Now comes one side of the breast, which goes to the provider, and he thinks it enough; the other side is divided between an adult and the delicate boy. What is left is the back, and by clever management you can cut off enough for two and find it all they can dispose of.

Of course, after all, it's the gravy and the stuffing and the vegetables that fill and appease, and as the gravy holds the flavor of the chicken as well as its own flavor, it satisfies tremendously. You may possibly find one member of your family disliking gravy, on account of its too much intimacy with the chicken, but such a one is a freak and needs cinching!

The rest of the giblets, with the exception of the liver, are divided between the children.

A side dish of pickle, cranberry or baked apple can be served, but they are not essential if you haven't them.

After all are through, the bones are collected, placed over the fire in a soup-kettle and covered with water, and the rest of the remnants are put with them, and the whole allowed to boil up; then remove to the cellar. Next day put into it an onion, a little rice, one or two tomatoes, a carrot, a very small turnip, a little parsley, pepper, salt, a dust of thyme and celery-salt.

Now you have a soup fit for the Gods and enough to go around. In the meantime, whilst this elegant soup is boiling, you take the liver, mash it very fine, put a lump of butter to it—no matter if it is the only piece you saved for your mother-in-law, you have just got to have it or be minus a part of your dinner—scrape a little nutmeg on it, with plenty of pepper and salt and two spoonfuls of the gravy you saved for that purpose the day before. Now mix thoroughly, pat down in a pretty dish, melt that other piece of butter you tucked away for those coffee-rolls, and pour on top; let cool, and then spread on slices of bread, and with the soup, and potatoes left from the previous dinner nicely fried, you'll find another dinner as good as the first.

After all, a little gumption, patience and a big heart will do wonders in a home where poverty has struck it of a sudden. It's the way we think, that makes, or mars a life.

If you have always had enough and to spare, it's difficult to imagine such economy as I have depicted and yet, it can be practised and no sign of poverty be visible.

What's more I guarantee that if I was put to it, I could make *three* dinners out of *one* measly chicken—if I had a dessert.

B-U-S-T-E-D-! PRICES

Biggest Price Wrecking Sale in the history of this Company. An excellent opportunity to save 30 to 50 per cent.

Never again will such remarkably low prices exist. Don't delay — Send your order at once or write us. Act now.

ROOFING

Corrugated Steel Roofing
1¼c Per Square Foot

Here is the chance of a lifetime to buy the best roofiug in the world, at a iuere fraction of it's real value. Our enormous buying power enabled us to pick up for spot cash a stock of this braud new, perfect corrugated, "V" crimped and Standiug Seam Roofing and Brick Siding, at a tremeudous sacrifice — 'way nnder what it is actually worth. Immediate cash needed made possible this purchase. Just anotber chapter added to the long list of our famous bargain sales.

Corrugated Steel Roofing
Practically Indestructible

There is nothing else that compares with corrugated steel roofing for real protectiou. It makes a long, lastiug roof. Is fire, rain, frost, wind, sun and lightniug proof—warmer in winter—cooler in summer; and under ordinary circnmstances does not leak, rot or warp, neither does it taint rain water. You can depend upon it that Corrugated Steel is the best material for roofing, siding and ceiling.

At 1¼c per square foot, we furnish our grade AB-700 Steel Roofiug, in sheets 22 x 24 inches x 1¼ inches. This price is delivered on board cars at Chicago.

Galvanized Steel Roofing
2¾c Per Square Foot

Another big Steel Roofiug Bargain. Several thousand squares of the very highest grade specially coated, corrugated, galvanized roofing and siding, made of specially prepared steel, of superior quality. Best roofing, and will last indefinitely. We will furnish it in suitable lengths for any purpose. Only a limited quantity on hand, so we urge you to send us your order immediately. Don't wait to write us again—order today, while this stock exists. Price only 2¾c per square foot, and will outlast 4 to 1. Just drop us a line, and tell us the size of your studding and general facts, and we will help yon to select proper sheets. If you are not ready to use the material now, we will reserve it for future delivery, if you will give us a small deposit on account. This price of 2¾c per square foot is for our Lot AB-800 corrugated material, and is delivered on board cars at Chicago. If you prefer some other style, we will furnish it. We have this same grade in "V" crimped, Standing Seam and Brick Sidiug. Samples on application.

Ready Roofing With Supplies
62c Per 108 Square Feet

We have several thousand squares of a superior quality Ready Roofing, which we are offering in our AJAX BRAND, 1-ply, at a price of 62c per square of 108 square feet, including necessary cement and caps to lay it. This is undoubtedly the most remarkable bargain ever offered in Ready Roofing. This famous brand is put up 3 or 4 pieces to a roll.

The price of 62c per square of 108 square feet is loaded on board cars at Chicago. We will, however, make a freight prepaid price on this same grade of roofing, including nails and necessary cement of 75c per roll of 108 square feet, and at this remarkably low price

We Pay the Freight

in full to any point east of Kansas and Nebraska and North of the Ohio River.

We will also furnish 2-ply, at 90c; 3-ply, at $1.05.

This Ajax Roofing is guaranteed to wear as long, and give as good service as any Rubber Surface roofing on the market.

We have other grades of roofing which we offer 50 per cent lower than others quote. Samples free. Get our free Roofing Book before buying roofing of any kind. This is a chance to lay in your roofing. You must send in your reservations at once—use the coupon shown in this advertisement, or merely write us a letter and tell us where you saw this advertisement. While the stock we have on hand would be considered large for any other concern, remember we have hundreds of thousands of customers who are waiting and watching for these bargains, and who will quickly take advantage of our offer; therefore, we urge you to get in your order at once, even though you are not ready to have the material come forward today. Send us your order and tell us when you want it shipped, and we will ship it according to your requirements. Do not overlook this chance—take full advantage of this offer while it lasts.

Send for Special Roofing Catalog and Samples

Write at once for our Special Roofing Catalog. Free samples and full instructions for laying roofing. No need to write a letter, simply use the free inquiry coupon shown in this advertisement. We will understand that you simply want full information, samples, prices and specifications, which will be sent you at once, prepaid. Just send your name and address. If you are in a big hurry, send in your order direct from this advertisement. We will fill it for you correctly, and will ship forward without any delay. In any event, write us today.

SMASHING BARGAINS

EXPLANATION

The Chicago House Wrecking Company known to the commercial world as the "Great Price Wreckers" is easily acknowledged **the bargain house of the earth.**

Our Mammoth plant covers 40 acres, and our list of customers are numbered by the hundreds of thousands, and include people from every walk in life. We sell practically everything under the sun at unbeatable prices. We buy our goods at Forced Sales, taking advantage of Sheriffs, Manufacturers' and Anction Sales. In this way we can sell brand new, clean high-grade goods at prices, in many instances even less than the cost of manufacture.

We Supply Everything Needed

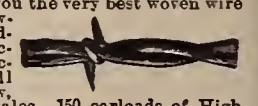
Our stock includes everything for the farm, home and personal use, Building Material—Lumber, Roofing, Doors, Millwork, Fencing, Hardware, Plumbing, Heating Apparatus, Furniture, Household Goods, Clothing, Shoes, in fact, every single article needed to clothe a man, woman or child, Sporting Goods, Harness and Vehicles, Jewelry, Sewing Machines, Groceries, etc. You cannot think of a single manufactured article but what we can supply it to you at a saving in price.

OUR GUARANTEE

Our capital stock is $2,000,000. Any bank or Commercial Agency, or any publisher will confirm our responsibility. We have advertised in this paper for many years. Ask its publisher what he thinks of the Chicago House Wrecking Company: get his personal opinion of the values, and our square methods of doing business. We guarantee each and every article that we sell to be exactly as per our representations. Should you buy anything from us that fails to come up to our representations, or does not agree with your expectations, we will take back such unsatisfactory merchandise at our freight expense. We want satisfied patrons.

FENCING

Brand New Wire Fencing Less Than 1c Per Running Foot



Biggest of all offers of the past. We come to you with the most wonderful proposition ever known, and offer you the very best woven wire fencing at a fraction of it's real value; lower in price than ever before, not withstanding that all other merchants and manufacturers have advanced their prices on fencing. We are determined to simply get all the business in sight, and with that in view, we bought up from manufacturer's sales, 150 carloads of High Grade Woven Wire Hog, Cattle, Field and Poultry Fencing, Barb Wire and Nails, in quantities sufficient to take care of our regular customers and those who will quickly respond to this advertisement.

Barb Wire Less Than 2c Per Rod

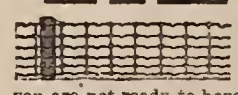
Galvanized, two-point Barb-Wire, full weight (not the light kind) put up regular on spools, containing about 100 lbs. to a spool. It is made of No. 12½ wire, with good weight barbs. Price per 100 lbs. during this sale, **only $1.95. Order by Lot No. AB-600.** Several thousand spools of this Barb Wire, Painted, price per 100 lbs. **$1.75. Order by Lot AB-500.** Also have in stock 1000 spools of light weight, new galvanized barb wire, put up 80 rods to the spool, made of No. 14 galvanized wire, No. 15 barbs, barbs 5 inches apart: price per spool of 80 rods **$1.45. Lot AB-400.** We also have several other bargains. You never had a chance like this before, and we advise that you send us your order today. Don't wait until the material is sold—we cannot hold this quotation open.

Galvanized Hog Fencing
At a Material Reduction in Price

100,000 rods of 26 in. Galvanized Steel Spring Wire, 26 in. high, hog fence, put up in 10, 20, 40 and 60 rod rolls, made with 7 bars, spaced 12 in. apart, with No. 9 top and bottom wires, No. 11 intermediate wires, heavier than the regular fencing offered. Price per rod, during this sale, **only 15c. Order by Lot AB-900.**

Same fencing spaced 6 in. apart, per rod during this sale, **only 21c. Order by Lot AB-1000.** Other heights at proportionately low prices.

High Grade Poultry Fencing
48 in. High, Per Rod 27c



A complete stock of all heights of Woven Wire Fencing for every purpose. Do not delay your order, but send it in at once, even if you are not ready to have it shipped. We will hold the material ready to deliver when you want it.

Several Carloads of Galvanized Wire Shorts

This is smooth wire, put up 100 lbs. to a coil, first-class for general use. Comes in sizes from 6 to 15 gauge. **Price for 9 gauge, $1.25 per 100 lbs. Lot AB-1200.** Other sizes in proportion.

Some Big Bargains in Nails

At last we have the bargain of bargains. 10,000 kegs of genuine galvanized wire nails; will outlast all other kinds. Put up in regular kegs. Price per keg of 100 lbs., as follows:—

10 pennyweight, $2.00
8 pennyweight, $2.10
6 pennyweight, $2.15
Shingle Nails $3.00

Also 5,000 kegs of Nails, mixed all kinds in a keg; good assortment, handy to have around your workshop. During this sale only, **per 100 lbs., $1.45. Order by Lot AB-1100.** We have other bargains in nails.

Also, in this same job, we have 5,000 kegs of Fence Staples, galvanized; **per keg, $2.00. Lot AB-1400.**

Crimped wire for reinforcing, cut to any desired length; **per 100 lbs., $2.25. Lot AB-1300.**

We have bargains in every line. Write us today for our Wire and Fence Catalog, but the best thing for you to do is NOT TO DELAY, BUT SEND IN YOUR ORDER, and WE WILL HOLD FOR SHIPPING INSTRUCTIONS.

LUMBER

Complete houses and barns at an enormous saving. Never before in the history of Building Material has such an opportunity existed. We offer high grade, brand new complete lumber and building material needed for the construction of houses and barns at lower prices than ever before.

20,000,000 Ft. of New Lumber at Our Yards and Warehouses Ready for Quick Delivery

We have upwards of twenty million feet of first-class, brand new lumber for the construction of buildings of every kind. A wonderful stock of the very finest millwork, interior trim, etc.—enough material to construct cities and villiages everywhere. It is our determination that 1913 will be the "Banner" year in the history of our Great Lumber and Millwork department, and the way we will accomplish this, is by quoting prices that will undersell any possible competition. The proof of this is in our catalog and literature.

Write today and tell us what you contemplate improving or building during this Spring — talk to us plainly, and we promise you the advice straight from the shoulder. No other concern in the world is equipped such as we are. Right in our main yard and warehouses, at Chicago, we can load you out complete, at one time, and in one carload, every single article required for the improvement of the building you have in mind. No where else can you go and get such service.

House No. 6 A

$725.00

Buys the material to build this 2-story modern, 8-room residence. Write for description.

Personal Service To You

You can get the kind of service that will give you absolute satisfaction — satisfaction from the word "go." If you have ideas of your own as to the kind of building that you want, we will give you the benefit of the Greatest Architectural Department in the world. Will furnish you with plans according to your own ideas, and will quote you a price on the material that will make you a wonderful saving. Dollars saved are dollars earned.

Write today for our **Book of Plans** and **Latest Catalog of Building Material and Supplies.**

GET THESE CATALOGS FREE

Roofing Catalog
A book covering this subject complete. Tells you how to select the best kind of roofing for general purposes; also describes our Siding and Ceiling. It's free. Write for it today.

Wire and Fencing Catalog
A complete description contained in this book of all our wonderful bargains in Woven Wire Fencing, Barb Wire, Nails, Bolts, etc.

Book of House and Barn Plans
Contains 100 designs of different kinds of buildings and houses, from $147.50 up. Also shows the latest style barns. It's free.

Building Material Catalog
A 200 page book of bargains in Millwork, Lumber, Paints, Plumbing, Heating Apparatus, Hardware, etc. Just what you need. Write for it today.

SEND IN THIS COUPON

CHICAGO HOUSE WRECKING CO.
35th and Iron Streets, Dept. AB 28 Chicago

I saw your "Busted Price" advertisement in _____ and am interested in the following:

_____

Without any obligation or promise to buy, please send me the following catalogs and full information free:

(Put a check mark opposite the books you want)

- ☐ Special Catalog and samples of Metal Roofing.
- ☐ Special Catalog and samples of Ready Roofing.
- ☐ Catalog of Lumber and Building Materials.
- ☐ Book of House and Barn Plans.
- ☐ Catalog of fencing and wire.
- ☐ Catalog of house and Barn Paints

Name _____

Address _____

County _____ State _____

R F R _____ P O Box _____

CHICAGO HOUSE WRECKING CO. Dept. AB 28 CHICAGO

EASTERN EDITION

FARM AND FIRESIDE

EVERY OTHER WEEK — THE NATIONAL FARM PAPER

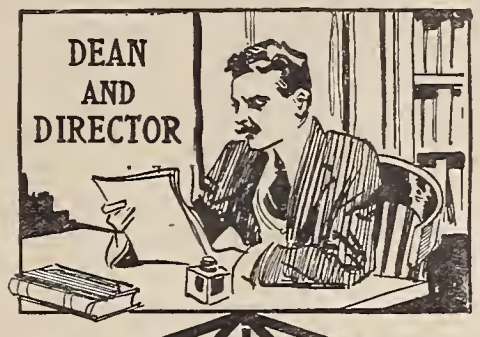
ESTABLISHED 1877 — SATURDAY, JANUARY 18, 1913

We Believe

We believe in the mission of the agricultural college and experiment station.

We believe their cost is insignificant compared with their usefulness.

We believe also that they are far from perfect and their imperfections should be corrected at once.

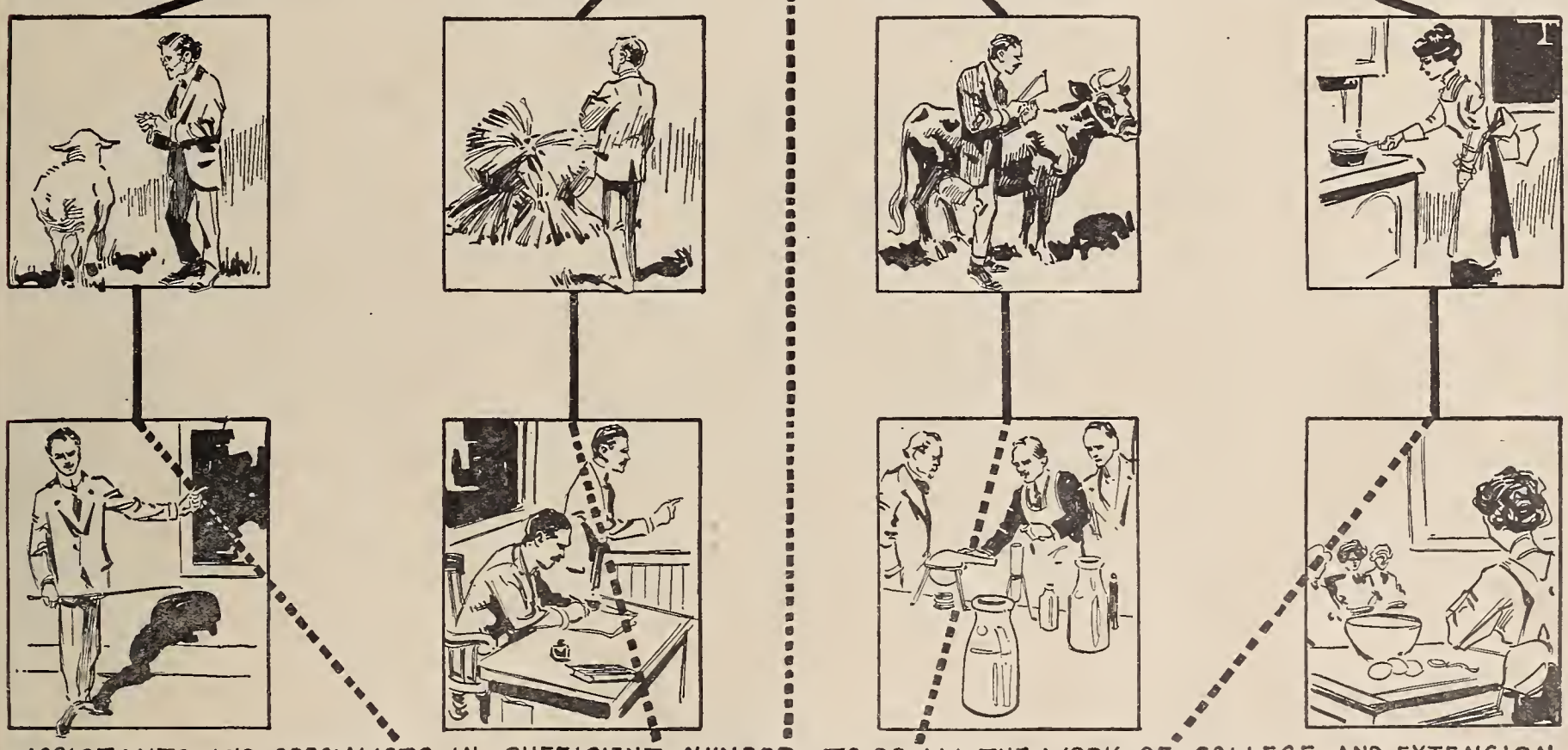


We Hope

We hope that the extension work of our agricultural institutions will be greatly extended.

We hope that some day there will be an advisory farm expert in every agricultural county in every State.

We hope that agriculture will be soon taught in all our common schools.



We Regret

We regret that politics and private commercial interests have contaminated some of our agricultural institutions.

We regret that the funds available are not sufficient to keep the best men enlisted in public service agricultural work.

We regret that the public does not take a greater interest in the administration and the work of our agricultural institutions.

We Expect

We expect to hammer away on the subject of better agricultural education and the dissemination of practical agricultural information from perfectly reliable sources until conditions are vastly better than they now are.

For explanation of the diagram here presented, we urge every farmer, and especially every taxpayer, to read Dr. A. N. Hume's article on Page 4.—Farm and Fireside.

ARTICLES OF SPECIAL INTEREST IN THIS ISSUE

WITH THE EDITOR

School is Not Life

On the eighteenth of December I was in the city of New York. I was skimming the morning paper while at breakfast, when my attention was drawn with a shock to one of those tragedies with which the newspapers make us so familiar that we are apt to miss the shock which such a thing claims of our common humanity.

"Boy Student Dies a Suicide—Defends His Act." So ran the head-line. He was a sixteen-year-old boy named Joseph Dobin, who had failed to pass his September examinations in the Cooper Union, and had been despondent ever since. He had killed himself by inhaling gas. The whole thing was shocking—there must have been something wrong with the course of study which such a boy failed to master, or he had chosen the wrong course. Clearly there is something terribly wrong, when a boy of sixteen is led to suicide because he has failed to perform the tasks of school, which is not life, but only preparation for life. Maybe that's what's the matter—his school had not been life, but only a sort of false life to be gone through with as a preparation for the real thing.

But the remarkable thing about this poor boy's death was the letter he left behind him. Here it is:

His Defense of the Act

"To My Friends and Relatives:

"I do not want any of you to be troubled at my voluntary death. It is necessary to terminate an odious and useless existence, and what is necessary is just. I have often delayed it on account of the others, but now it can be delayed no longer. I am aware that I shall succeed in nothing except in destroying my own hopes. There are found a few harder situated than the rest who refuse to take the place designated for them, who prefer death to a life not in accordance with their principles. They know that 'at the bottom of every river, in the coil of every rope, on the point of every dagger, liberty sits and smiles.'

"There is a great deal of talk about the cowardice of taking one's life. Preachers vie with each other in denouncing them as pagans and infidels,—those who assert the right to choose the manner of their own death. I believe it is even more cowardly to submit weakly to social conditions, to allow one's individuality to be crushed in the grind of commercialism, to live a semi-animal existence. Those who take the facts into account, weigh arguments for and against, who decide that death is the best, and then resort to reasonable means, certainly act in a reasonable and manly way.

"I believe a serious blunder has been made in bringing me into this world, as it has been made in the millions of toiling, drudging human beings condemned to a life of misery and degradation, and I am glad to be among the brave souls who have the courage to do away with themselves amid a community controlled by the sentimental dread of death."

How strong and thoughtful! How fine in diction! How powerful in construction! And what a proof it is that the poor boy made the most ghastly mistake possible in destroying himself! It was a weak and wicked act, the best thought of the world will say; but, on the surface of the matter, one good sane look would have told any wise friend of this boy's that it was a deed unfounded in reason, and a silly act.

Give Us More Patience

For the world is full of opportunity for such a boy as this. He was a youth of fine brain, and fine brains demand the fine rewards of this life. Not a month ago I talked with the president of the greatest manufactory of one sort of iron pipe in America. He said, "I have places in my business for several men at salaries of from $7,500 to $15,000 a year—if I could get the right sort of men. They must be men who can decide things for themselves, who won't have to have their work laid out for them. The ability to make decisions is the rarest and most profitable of business endowments!"

And here, right in the same city, a boy with the ability to decide even the matter of stepping unbidden through the door which swings one way only into Eternity, a boy of extraordinary powers of thought and of expression, killed himself because he failed in his examinations! The world was rich in the very opportunity he yearned for, if he had only had patience and the wisdom to seek rightly.

The Ohio Corn Boys

From New York I went down to Washington, and reached that city the day the three hundred "Ohio Corn Boys" visited the capital. Here was another sort of boys. They had the tan of outdoors on their faces and the light of fun and victory in their eyes. They were made heroes at the Department of Agriculture. They were allowed to take possession of the House of Representatives and be addressed by Speaker Clark. They called on the President and talked with him, and he talked to them. They had passed their examination, an examination the questions in which were propounded by the soil, the sun, the rain and the mysterious powers of growth. They were a happy lot, for they had made good. But would not poor Joseph Dobin have made good, too, if he could have had something tangible, something concrete, something to which he was adapted to make good in? I think he would. I feel sure he would.

Poor Joseph Dobin may have been a brighter boy than any of the three hundred, but the life of the city, the methods of the school, the artificial curriculum or somebody's bad judgment in directing him, perhaps the lack of a wise counselor, fastened on him the habit of failure. So he committed the greatest failure of all.

The contrast between the boy who committed suicide and the wholesome "Corn Boys"—that seems to me worth while for the farmers of this country to think about for a while. It's a contrast which will grow more universal as we build up a more vigorous social life through the educational activities of the farming communities.

Herbert Quick

ADVERTISEMENTS ALL ADVERTISERS GUARANTEED

[CONCLUDED ON PAGE 16]

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 381 Fourth Avenue, New York City; Tribune Building, Chicago, Illinois

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter

Vol. XXXVI. No. 8 Springfield, Ohio, January 18, 1913 PUBLISHED BI-WEEKLY

How We Treat Our Subscribers

A GREAT many farmers expect a farm paper to be sent right on after the subscription has expired. We are afraid that some of them have learned to expect publishers to make attempts to collect for the paper under such circumstances. FARM AND FIRESIDE is stopped when the time is out. We take it for granted that a subscriber who does not renew prefers to have it stopped. It is doing as we would be done by to cease sending the paper when we think the subscriber would like to have us do so. That's why it is stopped.

Yet we know that a great many would be glad to have us continue it until they order it stopped. They have been in the habit of letting it run on and remitting when convenient. They do not like to lose a single number. Now we are anxious to oblige such—it is good for us and for them. They are among the most faithful of our readers.

We have never failed to send the paper to a subscriber who has notified us that he would like to have the paper continued and that he would remit later. Every farmer's credit is good with us. We don't stop the paper because we are afraid we won't get our money, but purely because it seems like good business to stop it rather than to carry anyone who does not want us to do so.

To the subscriber whose time is nearly expired, and who prefers to have the paper sent on, a bill to be rendered a few months later, we shall be glad to extend the time on request. A post-card saying that you prefer to send the money later, but would like the paper sent continuously, will do the business. We get a great many such now, and shall be glad to have that kind of an order from every friend to whom it will be an accommodation.

Get Out of the Rut

IT IS hard for any man to get out of his rut. Farmers find it especially hard, for the reason that their ways are adjusted to very rigid conditions. A merchant may try out a new thing for a month, and if it doesn't pay abandon it.

A farmer plans for a whole season, and ought to arrange his work for many seasons ahead. It takes nerve and confidence to change the plans that have made a living for himself and his father before him. And yet the farmers who study how to get out of their ruts are the ones who succeed best.

Most intelligent farmers are conscious of being in a rut in one or two respects at least. The winter is the time to plan ways to get out of these. The farmer who plans to do one or two new things which he is convinced are correct in practice will in a few years find himself not only a progressive, but a successful farmer. You may get out of one rut at a time. And indeed it is the best way.

My Neighbor and I

MY NEIGHBOR is my enemy and my friend. He envies me every acre of my farm, yet would mow my hay for me or husk my corn if I were sick.

He would chuckle himself to sleep if he could beat me trading horses, yet would be a sincere mourner and would help my widow if I were laid away.

My neighbor is my nearest living fellow man and my closest companion. We do not adore each other, yet we cultivate each other's friendship. My neighbor is my inferior physically, yet I glory in having him help me when I need an extra hand.

We congratulate each other when we have seasons of plenty, and commiserate each other in times of hail and drought, yet he envies me my sorrel mare, and I would like to own his best Holstein.

At every auction we bid against each other in the hope to make each other's purchases more expensive, yet he has the pew in front of me in church, and we both worship in sincerity. If my barn was burning or my horse fell in a well, he would be the first to help me, yet he fought me when I ran for sheriff last election, and I failed to win.

I like my neighbor near, yet often wish him farther away. His sentiments are about the same as mine. We both agree that it doesn't pay to quarrel with your neighbor, for you never know when you'll need him, and need him badly.

Is Yours Like the Rest?

THIS is about butter.

For the time being we'll let prices alone and talk about good and bad butter. There's too much of the latter. Is your butter like the rest? Do you sell it in a chunk or a roll or an irregular mass? If so, step up to the grocery counter and take your little fifteen cents in summer or twenty-five cents in winter.

But if you have really good butter with its natural aroma, get a butter-printer and a little parchment paper, and make an attractive rectangular package, put your name on the outside, and then let the storekeeper and hotel-keeper and your best families in town bid on all you can make. Now learn these by heart:

1. If you have the best, make it look different from the rest.

2. Don't put good butter into a market system that doesn't recognize quality.

3. You can't change the old system, so start a new one of your own. The old system favors poor butter.

The Playmate

By Berton Braley

I HAVEN'T got a dog, an' I haven't got a cat,
But I've got a little piggie that is wigglety and fat,
And when a feller's livin' away from other boys
It's fun to have a piggie that makes a funny noise,
A jolly little piggie that is black as he can be,
To play around the ranch-house an' to be a friend to me.

It's awful far to neighbors', an' you bet that I would feel
Most terribully lonesome if it wasn't for his squeal,
If it wasn't for my piggie that is lots of fun to tease,
An' see him kick an' wriggle when you hold him up an' squeeze;
But if anybody hurted him you bet I'd raise a wail,
'Cause I love my little piggie from his nosey to his tail.

They say when little piggies gets farther on in life
They sells 'em to the butcher, an' he sticks 'em with a knife,
But not MY little piggie, 'cause I'll find a way somehow
To keep him just exactly like the way you see him now,
An' when they come to get him they will look at him an' say,
"Aw, he's a *little* piggie; let him run around an' play!"

Moore, the Weather Man

MR. WILLIS L. MOORE, of the Weather Bureau, is spoken of as a successor to James Wilson as Secretary of Agriculture. Inasmuch as he represents a class of candidates for this most important place, as well as his own qualifications, his candidacy is worth more than a passing notice.

Mr. Moore gained fame as a weather-forecaster. He has not been identified with farming in any way so far as the people know. As Chief of the Weather Bureau, his administration has been severely criticized, and if it has been in any way distinguished for efficiency the country is not aware of the fact. He went out of his way to antagonize the conservation movement, and may be regarded as an enemy of the improvement of our streams by headwaters control and the reforestation of denuded watersheds.

The only legal warrant for the reforestation of our ruined mountain-sides by the Government is the theory that forests will regulate the flow of the streams and thus promote the purposes of navigation. Mr. Moore published a bulletin in which he sought to show that forests do no good in that respect, and when Secretary Wilson held up the distribution of the document for the reason that it was in direct conflict with the bulletin of Maxwell and Hall, Mr. Moore succeeded in getting it into the congressional record, while Maxwell and Hall were silenced.

This action has endeared Mr. Moore to those great financial interests which oppose waterways and favor water-power grabbing. Subserviency to such interests, in such matters as conservation and the enforcement of the pure-food laws and our forest policy, is likely to place great private interests back of any candidate for the place, but it is to be hoped and confidently believed that Governor Wilson will consult public interests first.

Much of the milk sold in cities is two and three days old. Some have claimed that Pasteurization of milk will remove all danger from disease. But Uncle Sam wants to find out for himself, and so he is going to investigate the relative merits of the ordinary and the Pasteurized milks.

If in Grain, Why Not Butter?

THE *National Stockman and Farmer* does not believe that the Elgin quotations have had any great influence in "fixing the price of butter." "No doubt," it remarks, "the price named by the Elgin Board of Trade has not always represented the exact market value of butter, but the fact that so many farmers, creamerymen and dealers have used it as a basis of their contracts shows its value." We are not quite so sure, as our exchange seems to be of the harmlessness of the fixed quotation. We remember that the margin of profit was manipulated on wheat, corn, oats and all other grains for many years by "dummy track bids" on grains sent out by state grain-dealers' associations; and that the farmers were plundered, and may yet be in regions not reached by the coöperative grain-dealers' movement, of millions of dollars a year by this sort of fake bid. If the great grain trade itself could be faked in this way, why may not the butter trade have been faked in a similar way? The favorite device for swindling the farmer has always been the trick of the dummy market and the fraudulent bid. The whole question at issue is whether or not the Elgin bids have been dummy bids or genuine. But everything said in the *National Stockman and Farmer* in favor of the Elgin bids might have been said of the notorious "Iowa dummy track bid" on grain. Farmers, millers and dealers "used it as a basis for their contracts" for years. But it was a fraud, and a wicked fraud, for all that. It's just as well to be "from Missouri" as to the harmlessness of these little coteries which fix prices and make quotations.

Making Agricultural Colleges More Useful

Some Good Hard Thinking Along the Line of Improving Their Extension Work

By A. N. Hume, State Crop Expert, Brookings, South Dakota

As an organization, the typical American college and university has "stood pat." Agricultural education, like all other kinds, comes from within. It is not a process of pasting something on the outside.

THE idea that a college or a university is a public-service institution is, after all, a new one. Moreover, before the American people, meaning, therefore, also the farm people, shall have fully measured their democracy they must fully appropriate this new idea and use it.

What was the old idea of a college or a university? Briefly and therefore incompletely, it was this, a college is a local teaching-plant where students are given the usual forms of instruction. It should never be forgotten that this usual method of teaching is yet, and always will be, about the most important means by which any college may accomplish its mission.

The Useful College is Democratic

But the new idea of college and university work goes vastly farther. Instead of remaining sedately and serenely and sapiently at home, the new college and university organization goes "out into the by-ways and hedges." And it mightily influences many who cannot be compelled to come in. The old idea of college and university administration was and is aristocratic, the new is democratic.

Without fear of getting strictly into politics, we may predict that the educational institutions of the time are coming in for a profound share of present-day change.

It has been sometimes assumed that colleges and universities are leaders of public thought. It is only that a few of the men in them have been leaders. As an organization, the typical American college and university has "stood pat." It will continue to "stand pat" if our systems of government are to become aristocratic. It will assume the intellectual leadership of the people, if our systems of government become democratic, in the broadest sense. There are indeed some signs that certain universities have seen a great light, and that they have resolved in turn to be great lights. Such are already taking some risk of being disagreed with, and are here, there, wherever there is need, speaking the truth for all the people, in a way they, the people, understand. That is really "college extension."

"We Believe in the Farmer" is a Good Creed

Agricultural college extension means efficient public service in agricultural lines from all divisions of agricultural colleges and experiment stations. It means that every worker in an agricultural college or experiment station shall have faith in, and high respect for, farm people and that he shall think definitely to the end that his work shall contribute to making life better for farm people, and therefore all people. If the agricultural colleges and stations should fail in their high calling, of actually inspiring our rural people to the highest life and finest citizenship, that work would remain undone. Thus the profoundest educational duty of our time or any time rests upon the agricultural colleges and experiment stations in the several States. They are by all means to reach out to inspire, to educate the people of the farms. They are to do this as adequately as the work is done for people in other walks of life. If they do not, our farm people will become peasantized, and our democracy will be lost. The calling of your agricultural college and station is a high calling indeed.

It is well known that many people have taken an interest recently in "agricultural education." Machinery-makers, implement-dealers, lumber companies, grain-handlers, railroad companies, mail-order houses, commercial clubs, real-estate dealers and politicians have of late years been vastly active, by way of "educating" the farmers. Sometimes even the farmers themselves have shown considerable interest in the various movements for their own betterment. This latter is a fact of mighty importance. Agricultural education, like all other kinds, comes from within. It is not a process of pasting something on from the outside. When the great body of American farmer citizens shall arise and demand what belongs to them by way of education, in their own right and not as a gift, then they will have it.

It's a Man-Sized Job

Time will make more and more clear to all the vital position of the several agricultural college experiment stations in accomplishing the tremendous job of creating and maintaining a strong, independent, rural citizenship. For the agricultural college experiment station in each State to be in truth a farmers' school, and in turn to inspire and aid farmers in their efforts for adequate common schools and all other community advantages, and maintain actual farmer citizens enough, is no job for a weakling. It is a job that has never before been accomplished in the history of the world. Whether it can now be accomplished by our coming democracy is an open question.

In the number of the *Experiment Station Record* for June, 1912, is an editorial review of a paper on "Organization and Administration of Extension Teaching in Agriculture," written by the Director of the Federal Office of Experiment Stations. The writer should not assume to make any critical review of something written by Doctor True. Some of his statements, however, should not only be read, but also reread, especially in view of present demands for extension of agricultural college experiment station work. Properly adopted as part of our educational systems, they will make for symmetrical and rapid progress in agricultural education in the several States. Forgotten or disregarded, they will lead to confusion and often unnecessary strife.

These fundamental principles stated in the editorial referred to were:

The Responsibility Falls on the Colleges

(1) "Considered as an essential feature of the American system of agricultural education, it was held to be primarily the business of the State to create and maintain the institutions through which extension teaching in agriculture shall be conducted. Since it is an educational enterprise, it will naturally be carried on by educational institutions rather than by administrative departments. The national and state departments of agriculture may both properly aid in this work, but the chief burden of responsibility for it in the several States will naturally fall on the agricultural colleges."

(2) "Since it is highly important that the information on any subject given to the students and public should represent the views of the institution as a whole, all the experimenters, teachers and extension workers should be grouped by departments representing the specialties in which they are working. Thus the department of agronomy should embrace all the agronomists employed by the college, whether they are engaged in experimenting, teaching or extension work."

Education Should be by Direct Route

The two basic principles might be tersely summarized by saying that *it is the business of the State to educate the citizens of the State* and that *given lines of work in any organization must be administered as a unit.*

The writer is interested in the problem of agricultural extension, not in an executive, but in a departmental way. It is this interest which every department, and every member of every department, must take in the ultimate success of the projects which the department represents, that may serve as an excuse, if any be needed, for the present article.

With the conviction that the agricultural colleges and experiment stations of the several States are the only logical central distributing-points for agricultural education in a democracy, their importance is urged upon the attention of the readers of Farm and Fireside.

Every department of every agricultural college should have a head or chief, and he should be responsible for all the work and all the time of all people in the college experiment station extension organization who are engaged in the line of work which he represents. Such a statement may sound dictatorial. It is not. It is only good administration.

What is the logic of college "departments"? Answer, college departments logically grow out of natural lines of cleavage between the several portions of work before the college organization. Such lines of cleavage do not naturally intersect, and if they are permitted or forced to do so the result is confusion. If the natural divisions of labor in agricultural college experiment station extension organizations are kept clear, in any effort to extend the work, information from the several departments will reach the people by the most direct route. The "extension work," so called, will be done in the various lines by the college experiment station departments representing those lines.

How to Get the Most Work Done

The job of making a compact organization, through which the bona fide work of the agricultural college experiment station may make contact with the State, is obviously of immense importance to the college concerned and to the State it must serve. The great amount of work to be done outside of the college proper has called for larger college station organizations. Sometimes all necessary extra helpers have been bunched together into a so-called "Department of College Extension." For instance, such a department would theoretically have a man or men to give all their time to talking about live stock, or, again, about fruits and vegetables. Such men are apparently to extend themselves, to spread themselves, each one in his sphere.

If the agricultural college experiment station extension organizations in the several States are to accomplish their high calling, they will find it imperative that they work with unified departments with the only divisions between them being the logical ones, based on work. The animal husbandry department, for instance, cannot do otherwise than have control of all work of agricultural college experiment station extension in the State so far as animal husbandry is concerned. This is scientific management for the State. Otherwise, the lines cross; then work cannot be done.

Duplication of Work is Confusing

American fashion, every time work piles up we must have a new organization. If the old one is too dumb or too lazy or too small to do the work, American-like, instead of setting about to strengthen the organizations we have, and make them serve us, we try making a new one. Our rule should be: the new organization must not duplicate the work of the old ones. If it does, it is unnecessary, harmful and a cause of confusion.

The writer makes bold, very bold perhaps, to briefly sketch the plan which it seems to him the people of the several States might well have their college of agriculture experiment station extension organization follow.

From the diagram on the cover it would appear that the administrative head of the entire agricultural college experiment station extension organization is the dean and director. If, as in the small colleges, the dean and director shall be also the president, the case is not altered so far as purposes of administration are concerned. The president or dean or director, whichever he may be called, must not only administer his institution, but he must reflect the spirit of the institution. He must represent the State in which his college is located, in the specialty which his college represents.

He Must Be Mentally Big

He must be big enough, broad enough and sympathetic enough and democratic enough to provide ways through which all the departments of his organization may independently each attain its highest efficiency. The efficiency of the executive office is not only measured by the efficiency of the several departments which report to it, but also by the ability of the chief executive to make such efficiency available to the State.

The lines from the several departments lead directly to the office of the chief executive. Each head of department reports to the executive office, and nowhere else. The assistants in various departments, which, in fact, may be inferior to the head of department only for administrative purposes, report directly to their chief of department. These assistants shall be of sufficient number to do all the work that needs to be done, whether it be classroom teaching or investigation or extension teaching. If, for instance, the chief of the department of animal husbandry finds that more extension teaching in his line is necessary, he may assign more extension teaching engagements to the members of his staff, and this may naturally call for the appointment of additional assistants in order to accomplish the additional work. The departments, therefore, must grow with the demands made upon them. Thus the work must be accomplished by the growth of the departments, and not by organization of new departments, if these latter are to duplicate work.

Executive Action if Necessary

Latter-day call for extension "departments" in agricultural colleges has grown out of the insistent demand that the agricultural colleges shall actually serve the State. The dean and director may be his own extension man. That is, he may personally direct the work of disseminating information from his institution. The chief executive, however, may choose to accomplish this work through a superintendent of extension.

The logical work of the superintendent of extension is to assist the dean in collecting and disseminating agricultural information. His usefulness in the institution will be measured by his ability to do this to the fullest extent harmoniously. In detail, his work would naturally include such matters as the arrangement of meetings throughout his State and to secure speakers from the college to attend these meetings. In order to arrange for these speakers, he must of necessity confer with the heads of the several departments and have them delegate one or more of their assistants to do such work at specified times. If any given department is constantly unable to furnish teachers for extension work, either a lack of ability or a lack of desire upon the part of the department is indicated, and the department should either have more assistants to strengthen it or it should be otherwise helped by executive action.

By this same token the superintendent of extension should be an arm of the executive office, and not a department head.

There should be no department of college extension in the same sense as there are other departments based upon natural division of labor. The function of extension is to extend the work of collective departments, and not in itself to be a department. If it is allowed to be a department, it can only do so by either duplicating a part of the essential work of other departments or by usurping the same, and then it becomes a private and public nuisance.

Public Service Above All

There are colleges of agriculture in the United States, which, if named, would at once be recognized as in many respects the strongest in all the country in which the superintendent of college extension is virtually an assistant to the dean, and not head of a coördinate department.

As time goes on, the personnel of departments and their assistants, and executives and their assistants, including extension men, will all understand that they are servants of democracy. When that time, which is rapidly approaching, is completely here, no agricultural college experiment station will rest content without putting its useful and usable information as rapidly as possible into the hands and hearts and heads of the people where it belongs. This latter work may be accomplished in the doing by an office of agricultural extension, but this office will not function like an extraneous department pasted on over other departments like a porous plaster.

Coöperation! Coördination! Consolidation! Scientific management! And above all public service!

When the great body of American farmer citizens shall arise and demand what belongs to them by way of education, in their own right and not as a gift, then they will have it.

Shearing Sheep by Machinery

By J. C. Courter

Fig. 1

MACHINERY on the farm, as in the factory, has come to take the place of hand methods. From start to finish machinery steps in to lighten the work, and often to perform it more correctly and profitably. The old, old practice of clipping the fleeces from the backs of the sheep, a work for only human hands from time immemorial, has at last yielded to the advance of this machinery age. Now sheep-shearing by machinery has come to stay, for experience proves its value, and where it has shown its worth it is seldom discarded.

Machine Shearing is the Quicker

Shearing sheep by machines is but little different from shearing them by the older hand-shear method. In both cases it is a matter of systematic procedure from start to finish. He who can handle the old hand-shears well soon becomes proficient in the newer method with machines that are quicker, easier and much cleaner in the majority of cases. To be sure, there is somewhat of a knack to it and a trick that only experience will perfect, yet any able-bodied farmer can soon learn to be proficient with these machine shears, if he will apply himself and use his brains.

Take the sheep to be shorn, turn it on its rump, legs away from the machine, about two feet in front and to the left, as shown in Fig. 1. Pull up both front feet, one behind each arm, and press out with the knees in the middle of the sheep's back, as illustrated, in order to make the belly stand out free of wrinkles and smooth. With downward strokes cut the wool from the brisket. Follow with two or three strokes from the right shoulder of the sheep to the right hind thigh, in order to open out the fleece so that the next lateral sweeps can come from right to left down the belly. Carry this same movement on till the inside of the legs is shorn clean, as illustrated in Fig. 2. Make no change of position, except possibly to bend lower over the sheep, till down onto these legs. Then drop to the right knee, using the left one to support the sheep. Continue to tip the sheep still farther back on its rump, holding with the left knee at the back and the left arm hooked around the front leg of the sheep until the shears can cut around the tail-head, as shown in Fig. 3. The time most advantageous to do this work is a much disputed question, but to me this is the time that naturally follows. The sheep is not restless, nor as apt to struggle as at any later time, and you are not as tired yourself.

The First Change of Position

Now comes a change of position. Stand the sheep straight up on its rump, putting one foot between its hind legs, with your right knee at the breast and your left knee gripping the sheep at the back, as in Fig. 4. Catch, as illustrated, the sheep's front leg back of your right knee, for this is a very helpful trick which keeps the sheep from slipping. Bend the head over your left knee so that the neck is stretched out straight and smooth. This must be done quickly, for this position is hard on both shearer and sheep. Then with upward strokes, from brisket to jowl, open a swath along the neck, and on over the back of the head, as far around as is possible from this position. Cut this swath as far around as you can between the ears at this time, for now it is easier to most men than it would be to do it after the next change of position. Continue around the ears, eyes and then the muzzle. Follow this with strokes starting from the brisket up the neck. There is on the under side of the necks of most sheep a long wrinkle to be avoided right at this time, and the easiest way I have found to do this is to approach from the side and obliquely cross it from the side, instead of running straight up the wrinkle. Try this way, and soon it will come easily. This is probably the slowest and most particular point to be shorn, but in this way, as illustrated in Fig. 4, with the sheep straight on its rump and the knees in the position shown, it is most easily done. Everything naturally follows as described if the shears come from the back of the head, around the ears and eyes, down the nose and then obliquely up the neck.

Fig. 2

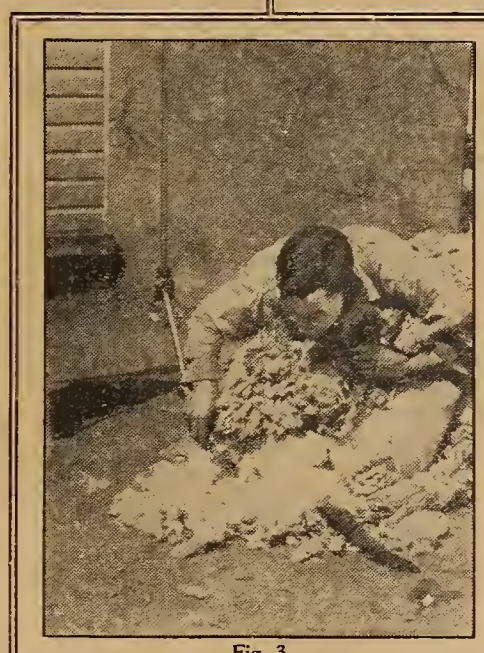


Fig. 3

Fig. 7

Fig. 4

This neck-shearing is the last small, trying work on the sheep. All from here on is cut with long, quick strokes if the shearer learns to tip the sheep's body so as to make it lose its wrinkles. Holding the sheep so that the skin under the shears is always tight is a most vital point to master for, as in shaving, from a smooth skin the hair is cut more evenly and more quickly. The easiest way to tip the sheep at this point, then, is as illustrated in Fig. 5. Behind the sheep the shearer's knees are pushing out on the sheep, and with his hands the sheep's head is held close on his knees in order to bow out the body. Then with long sweeps the knives travel around the side to the backbone. By keeping the wrist and the back of the hand high, the points of the shears are kept down tight on the skin even as they travel around the circle of the sheep's body. It is very important, this keeping the knives down tight on the skin, for, if not held close to the skin at all times, the knives run off into the wool making "second cuts" in the wool fibers. "Second cuts" mean ruined fleeces from the buyer's point of view, which is rather hard on the farmer. When rightly handled, the machine shears are less likely to make these cuts, but carelessness spoils this natural advantage. Therefore, when speeding up on these long strokes do not forget to hold your shears properly.

The progress down the side will cause the operator to bend over considerably, which can be alternated by his dropping onto his right knee, holding the sheep meanwhile with his left leg. In whatever position, the shears should travel rapidly down the side till the hind leg is reached. Here the simple change of starting the stroke, as illustrated in Fig. 6, out on the leg is made in order to save time. It may be that at this point the sheep has squirmed so far from the correct position that the arm of the machine will not reach out to the leg. But, if this is so, know that the directions are not at fault, but the movement of the sheep when turned is the cause of the trouble. The sheep at all times should be turned when straight up on its rump so that it will whirl instead of moving any on the floor. By careful turning at first no trouble should result at this point, and if it does practice will correct it.

Now comes the last change of position. More than half the fleece is off. With this last change the finish is easy. Straighten up the sheep, and turn it one-half turn to the right, taking pains all the time to see that the sheep is turned as if on a pivot. Never turn to the left, for that will merely mix the sheep up in the fleece and give confusion. Turn to the right and grip the body just the reverse of the position in Fig. 4, one foot between the hind legs, with knees gripping the breast and front legs. Bow out the body, as done in Fig. 5, with the left hand on the sheep's head, and run out the cuts to the extreme point of the front leg, as shown in Fig. 7. There will be a little work to be cleaned up around the right ear and eye that was not done when the head was shorn, but that is a small job. This soon lets you down to making sweeps that count and hurry the end.

As the shears run down this last part, watch for the struggles of the tired sheep, for naturally this is a lax position, and the sheep is tired. Bend over, or drop onto the right knee, and press the sheep's head down onto its right shoulder with your breast to hold it securely. The ordinary sheep will not need such a tight position, but the wild ones will wriggle up if not so held. From this position the last strokes, as shown in Fig. 8, will come naturally, and then all is done. It may happen sometimes in this last position that wrinkles clog the knives, but if so simply pull them out with the left hand, as illustrated in the photograph of the last position.

Fig. 5

Fig. 6

A Rough Floor is Desirable

Thus the sheep is systematically and neatly shorn by machinery in a manner quicker, cleaner and more satisfactory than is the case with the older hand-shear method. Whether the machine is a hand-driven one or the engine-driven one, or one of the long line at a large shearing plant, the system is practically the same. Some differences might be made in the kind of floor used, but, as shown in the illustration, clean-swept ground is good enough. When working on a smooth floor, I prefer to tack down an old bag or piece of heavy carpet about two yards square, on which to stand, for this holds the rump of the sheep from slipping out when the sheep struggles to free itself. Then there are other little conveniences to help and make for quick work, such as a pail of hot water to dip the shears into in order to cut the oil of the fleece that often clogs the knives, suitable oil-cans and screw-drivers. But all is simple and yet so businesslike that it should recommend itself to the farmers everywhere who handle sheep.

That shearing-machines are not more generally used is due to the lack of up-to-date and business initiative of the farmers. Such is illustrated in the attitude of one of my near neighbors who every year still uses the old hand shears on his flock of nearly one hundred sheep. I go over and visit him at shearing-time and find him and his two sons, whom he forces into the back-breaking drudgery, laboring with shears so old that the blades are worn to about half their original length.

Mechanical Help is Most Reliable

Working steadily, but not hurriedly, they consume about half an hour together on one sheep. True, they shear cleaner than most hand-shear men, but, oh, the drudgery of it. Then see how long it takes them. Several days are used up, and all their patience is worn completely out by the time they finish, and small wonder. Due to the tediousness of it, no one but the sons and negro women will help; and poor is their help. What a contrast is this newer and more sensible machine method where with the one son and one negro helper they could turn off the whole flock in a day and a half at the most.

Fig. 8

Inexpensive Poultry-Coops

Let Your Chickens Live in Homes, Not in Tenements

By Chesla Sherlock

WE MUST have some definite object in view for building our chicken-coops. The man who builds a coop or house without an object in view is likely to find later that his haste was costly.

If the object is egg-farming on limited space, the question of coops will not be hard to settle. If the object is producing poultry for meat, it can be settled easily, but where there is no object in view, only to *have* hens, we have no advice whatever to offer. There must first be a purpose.

Let Old Sol Smile on the Coop

The first thing to consider in building poultry-coops is their location. The ideal place is on a gentle slope to the south. Gravelly or sandy soil adds to the value of the location. Most any place will do, however, provided it is protected in winter on the north and west, and provided it is where Old Sol can smile on the coops pleasant days.

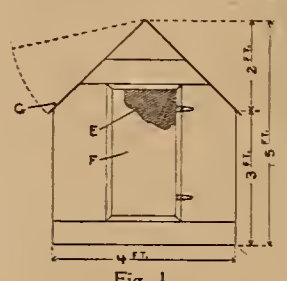


Fig. 1

Avoid damp localities. Dampness and disease are twin sisters, and where dampness is found disease is bound to follow. Damp, soggy soil will never support healthy flocks. Remember all these things before you start so you can, in a large degree, do away with the chances of failure.

Plenty of sunshine, on a soil that is not given to dampness, will make the fowls happy, and they will thrive whenever they are comfortable and happy.

The small flock laying house (shown in Fig. 1, Fig. 2 and Fig. 3) was first built and used by the writer in the early spring of 1911. It is four by eight feet, having two floors, making a total ground and floor space of sixty-four square feet. The upper floor (Fig. 2), which is covered with roofing-paper, is used for the roosts (A) and nest-boxes (B). Later, it was found convenient to place the water-pan (C) and food-hoppers (D) on that floor, because the fowls were inclined to scratch dirt into them, when they were down on the ground floor.

Provide for Warmth and Dryness

The body and the roof of the coop are made solid with one-inch boards. The roof is covered with roofing-paper (T, Fig. 3), but the body part of the coop is not covered, except the cracks, which are covered with common lath to keep out the cold. If the lath cannot be obtained, you can use, with good results, strips of roofing-paper about three inches wide. Tack these strips securely over the cracks. They will add a good deal to the warmth of the interior of the coop and will prevent rain and snow from beating through.

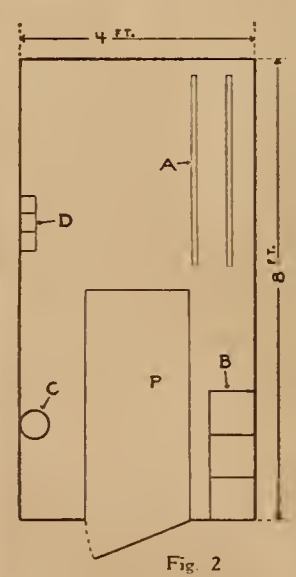


Fig. 2

During the last winter, when the temperature was often below zero, the water in this coop seldom froze more than a thin coat of ice, while in some of the other coops it would freeze up solid. During the whole winter I used a cloth door, being only a frame made of one-by-fours covered with wire netting (E, Fig. 1) and duck cloth (F, Fig. 1). This afforded the fowls plenty of fresh air, and as there was no other opening in the coop, no draft was created. The four windows, which are twenty inches square, provide ample light for the lower floor. If kept clean, they will aid a great deal in preventing dampness.

Solid Lumber for the Roof

The proper construction of the lid (G, Fig. 1) of the coop is very important, for on it depends a good deal the keeping of the interior of the coop free from dampness. At the first we made our lids of one-by-four-inch lumber, four inches apart, covered with roofing-paper, but a hailstorm came up, and the hail pounded holes through our roof. Since that time we have made all the roofs of our coops out of solid lumber. It does away with the danger of holes being punched through them, and adds several years to the life of the roof, which is an important factor in the finances of the "farm."

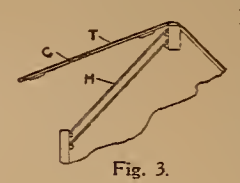


Fig. 3.

We do not hesitate in pronouncing this the best and most serviceable of all of our coops. We have designed and used many others, but we have found this one the most practical and serviceable of all. During the spring and summer of 1911 it was used as a summer colony coop for about twenty-five youngsters. It answered the purpose well. During the fall and winter of the same year it did good service as a winter laying house, and in the spring of 1912 we found it the best breeding coop one could wish. One of the reasons of failure on so many chicken-farms is the lack of coops or houses of this kind that can be used the whole year for all fowls.

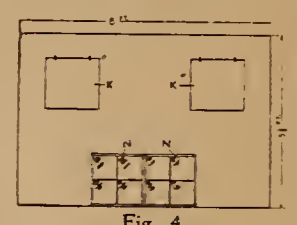


Fig. 4

The Advantage of Sliding Frames

One of the advantages offered in this coop are the sliding frames (H, Fig. 3). These frames are made of one-by-two-inch material and are covered with wire netting of one-inch mesh. Both of the frames slide the entire length of the coop and can be lifted out by the attendant, but the fowls cannot knock them out of place by flopping or jumping against them. The photograph shows this clearly.

The Leghorn coop

By the use of these frames (H) it is easy to clean the interior or gather the eggs without opening the door and disturbing the fowls on the first floor. In bad weather, when the lid is down, we use the door, plenty of room being allowed (P, Fig. 2) on the inside to clean everything with the door closed. This is of great advantage in cold and stormy weather.

The lid is fastened on hinges so that it may be opened or closed to conform with weather conditions. However, on nice clear days, no matter how cold it may be, the lid is always open, it is closed only when storms are raging or at night when the weather is doubtful.

A Good Coop for Six Hens

The Leghorn coop (shown in Fig. 7, Fig. 8 and Fig. 9) is a great deal smaller in size than the small flock laying house, being only three by six feet. It also has two floors, making it a sort of reproduction of the small flock laying house on a smaller scale. However, it has been found comfortable for six laying hens.

The coop was originally a brooder coop, being used for that purpose during the spring of 1911. As the season advanced and the chicks grew larger and demanded more room, it became necessary to raise the coop on "stilts." Accordingly, a frame (L, Fig. 7 and Fig. 8) was made of two-by-two-inch posts and one-by-four-inch lumber. This frame was covered with one-inch wire mesh. On one side, two doors (V, Fig. 7 and Fig. 8) were made so that it would be easy to get at the fowls in case it should become necessary.

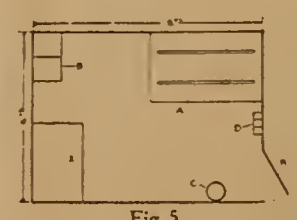


Fig 5

The brooder coop was placed on top of the frame, which had been covered with one-inch boards to make a floor, or second story (Fig. 9). A space (Y) one foot wide was left for the fowls to make their way from one floor to the other at will.

As the weather grew colder, we found it necessary to cover the frame on three sides with roofing-paper. As it continued to grow colder, we lined the inside of the coop and the frame with burlap, which raised the temperature in the coop nearly five degrees. During the rest of the winter we had little trouble on account of cold. In fact, the fowls did not even suffer frozen combs.

The coop got its name from the fact that it was used during the winter as an experiment coop or house for six White Leghorn pullets and a cockerel.

A common window-shade was fastened so that it could be pulled down in front of the fowls after they had gone to roost, and it added much to their comfort. In that little coop they lived all winter and thrived! Can you wonder at it? It only goes to prove that the first requisite is warmth.

This coop is provided with the sliding frames and the hinged roof. It is constructed exactly like the roof, and sliding frames of the small flock laying house. In the photograph of the Leghorn coop these sliding frames can be seen to better advantage than in the other illustration.

The poor man's poultry-house (shown in Fig. 4, Fig. 5 and Fig. 6) was built largely to satisfy ourselves as to just how cheaply a good serviceable house could be constructed.

It is six by eight feet in size, five and one-half feet high in front and three feet in the rear. The body of the coop is built of one-inch boards solid, excepting the roof, which is made of one-by-fours placed four inches apart and covered with roofing-paper. The whole coop, roof and all, is covered with one-ply roofing-paper, with the exception of the door, which is covered with cloth and wire mesh (R, Fig. 6), and windows (N, Fig. 4). The two windows (N, Fig. 4) are twenty inches square, the same size as the windows in the small flock laying house.

Fig. 6

The window-sash is one I purchased for the sum of $1.00 of the dealer in poultry supplies, but if you are unable to obtain one it can easily be made. The panes are five by eleven inches and the framework of the sash is made of very thin material, what is commonly known as cigar-box lumber. The panes can be removed at will, but they are waterproof, in that they do not allow water to leak into the interior. Any person who is handy with tools can make a window-sash in an hour and a half.

Fig. 7

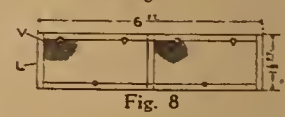


Fig. 8

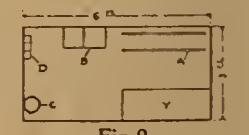


Fig 9

The two windows (N) and the two cloth-covered frames (K) all open inward. They are hinged and can be regulated to suit the weather. However, it is advisable to keep the windows closed during the winter and use the frames as a means of ventilation. Wire netting is tacked on the outside of the openings so that they can be opened without the fowls escaping. Always make it a rule to keep them entirely open on nice clear weather, no matter how cold it may be, unless the air is very damp.

While it is not as artistic as either of the other coops mentioned, it is serviceable and answers its purpose in every way. Fig. 5 shows the convenient arrangement: A, roosts; B, nests; C, water-can; D, grit-hopper; R, door; X, dusting-box.

All of the above coops were designed and built by the writer and have been in actual use for periods varying from three to eighteen months. If accustomed to the cold gradually, I have found that a hen can stand all manner of cold weather if you are only careful in the way it reaches her. It would decidedly hamper your chances of winter eggs were you to keep the frames tightly closed on a hot day and then have them wide open on a very cold day. Start early in the fall to accustom the hens to being practically in the open, and you will be surprised at the results.

Farm Notes

Why the High Prices?

ON READING in FARM AND FIRESIDE of August 17th the editor's account of the manner in which a certain argument of his own was once disposed of by a Dartmouth professor of economics I could not help sharing the editor's feeling that the professor was "only half right." Let me quote a sentence or two from the professor's argument, as given in FARM AND FIRESIDE of the date mentioned:

"High prices for lands on either purchase or lease arise from the fact that production can be done on them economically. They follow economic conditions. They do not cause them."

Our Hopes Outrun Reality

It may be freely admitted that the prices paid for land are not usually in excess of the amount on which they are expected to yield a fair return either immediately or in the very near future. Buyers, as a rule, are not disposed to make much allowance for prospective increments of value. This, however, is far from being the case with owners who can afford to hold on to the land they have. It is the rare exception, rather than the rule, that owners of that class are willing to sell at prices corresponding to present economic conditions. They are looking forward to different economic conditions, arising, perhaps, from the extension in their direction of a trolley line, or other improved connection with some near-by city; the growth of population from a rapid influx of immigrants, or some other circumstance tending to increase the demand for land and so to enhance its price. Hence, as regards selling prices, the professor's statement that "they follow economic conditions" needs, perhaps, but slight modification; but, as regards asking prices, it must be said that for the most part they are related to and largely dependent upon economic conditions which exist at the time only in the hopes, expectations and more or less optimistic imaginations of the owners of surplus land. In most cases, no doubt, these hopes and expectations far outrun the reality; and it thus happens that asking prices are seriously affected, not only by actual economic conditions and by probable economic conditions to become actual within some moderate stretch of time, but by a multitude of other economic conditions, most of which never will exist outside of the imaginations which have, more or less vaguely, conceived them. Thus the influences tending to keep asking prices above their normal level are far more numerous than the influences of real life by which actual selling prices are chiefly governed. And, except when counteracted by the necessity of selling, they seem to be more powerful.

The Human Dog-in-the-Manger

Some will, perhaps, say that asking prices don't count; but they do count in a most real and vital way. And, what is more, they give a flat contradiction to the professor's assertion that land prices do not cause, but only follow economic conditions. Their effect upon the economic conditions prevailing among a people is simply tremendous. The editor hit the nail right on the head when he pointed to land monopoly—the holding of land out of use, or in very imperfect use, by men who are playing a dog-in-the-manger part—as the real source of trouble. And it is by asking more for land than, under existing economic conditions, the folks who need land can afford to pay that this dog-in-the-manger policy is carried out.

Economists tell us that prices of produce are determined by the cost of production on the poorest (or least favorably situated) land that must actually be used, in order that enough may be produced to supply the market. The less desirable the land which must be reached by this "margin of cultivation," the higher the cost of production upon it and, also, the higher the prices of produce, since it cannot be cultivated unless these are high enough to cover the cost of this production. Hence, everyone who holds desirable land out of use, on which, could it be had on reasonable terms, production would be less costly than on marginal land, is incurring a part of the responsibility for the high cost of living.

Plans for Land Taxation

Different plans of land-taxation have been proposed, whereby the ideas of owners as to the values of their unused lands could be greatly modified. Over half a century ago John Stuart Mill proposed in his Political Economy to intercept by taxation for the benefit of the State the future unearned increase in the value of land. Later, Henry George proposed the plan now known as the Single Tax on Land Values. And quite recently someone in Texas suggested a graduated land tax, the rate of taxation to increase according to the size (or value) of the estate owned. Some of these plans, in whole or in part, are being tried in certain places and will, doubtless, be tried in others, till experience shall result in the evolution of some scheme worthy of pretty general adoption among progressive people.

But, as the editor of FARM AND FIRESIDE says in the article which supplied me with my text, "there are dozens of things" that contribute to the high cost of living; and I can sympathize with the farmers to whom, as the editor says, "the prices of farm products do not seem exorbitantly high." I have been one of them myself, and have been grieved to see the city customer stand aghast at prices that would hardly pay me laborer's wages for the trouble I had had in growing the fruit or vegetables offered for sale. Possibly, like thousands of other farmers, I might have been growing my produce on better land at a lower cost of production, if it had not been for the millions of acres held out of use, or in very imperfect use, by the Bookwalters and others. Yet I, too, can say that I don't blame the Bookwalters; and still less do I look to them for a remedy. The American people seem to be putting on their thinking-caps, and that is just what is needed. It is really the only thing that holds out much hope of permanent and substantial improvement; for the only condition on which democratic government can be so carried on as to serve the interests of the people is a degree of popular intelligence that will enable the people to protect themselves.

EDWARD T. PETERS.

Old-Fashioned Crotch-and-Pole Shed

I DO not think any farmer can truthfully say, "I cannot afford a shelter for my stock or poultry." For several years I used a shelter like the picture below. I put six posts in the ground, about ten feet apart, making me a shed ten feet wide by twenty feet long by about six feet high. I placed a

Though temporary, it's a useful winter shelter

twenty-foot pole on each side on top of the posts, then put rails crosswise on top of the poles. I sided it up on the south side and placed two large windows and a door on this side of the shed, and when I thrashed my grain I stacked the straw on top and on the west, north and east side.

This made me an excellent place to winter about sixty head of well-bred chickens, and I could not see but they did as well as some of the others that I had in framed and sided coops involving a fair-sized lumber bill.

I have used similar sheds to shelter cows, sheep, hogs and even farm machinery, and found it answered the purpose very well. Such a shed is, of course, only temporary.

E. S. RICHARDSON.

Fertilize the People

THIS is an age of conservation of all the best elements of humanity. Men and women are seeing to-day, with a larger and surer vision, their relations to life. They are getting a wider horizon, and this means an efficient use of more light in civilization.

Soil, civic, sanitary fertility are the three standard-bearers of a progressive society. Soil fertility and mind fertility go hand in hand. You cannot raise potatoes unless you raise ideas. Ideas are the fertilizers of agriculture. You cannot raise potatoes or ideas without good health. There is a kind of affinity between poor health and watery, wormy, scabby potatoes; between sordid, dirty, vicious ideas and the slum.

Socialize Education

Down in Old Virginia, where the writer sojourned three years, he frequently traveled over thousands of acres of soil which had been robbed of its fertility. Now, the inhabitants are striving to restore this lost fertility by working upon and through the soil; but there have come no promising results, because the fertilizing humus should first be applied to the minds of those who are working the soil.

Politics lost long ago much of the fertilizing ideas of Lincoln, the civic idea of a government of, for and by the people. Since "politics is the source of government" and the people are supposed to be the government, civic fertilization is badly needed. The best way to get this fertilization at work is by the year instead of a Sunday, is through a socializing education. This educational fertility can best be had through farmers' centralized high schools and neighborhood social centers. In each such school should be a social-center audience-room for school entertainments, farmers' institutes and Grange rallies. "Held together in social relations, men modify each other's natures. Intellect and conscious personality are developed. This evolution of human nature is the function of society."

Reasons for the Progress of the Grange

Why is it that the Grange has lived and progressed for nearly a half-century? Because it is a social center that is meeting more and more nearly, as the years go by, the social needs of rural life.

In different Grange States, the conservation of the public health is being made a campaign. Here in Michigan the Grange is leading a movement in sanitation that means good water, pure milk, well-ventilated schoolrooms, sanitary outhouses.

Now, FARM AND FIRESIDE can do no better work for humanity than to place the banner of sanitation, social-center education and civic cleanliness upon its outer wall.

D. E. MCCLINE.

Make Them Drunk

IN COUNTRY and city alike the English sparrow makes himself at home and his presence felt as a decided nuisance. He is one of the most aggressive and gluttonous feathered mites on earth. Nothing can discourage him. He lives on street droppings in the dead of winter and will swallow whole kernels of corn. He whips out and drives away useful song and insectivorous birds. He makes his habitat under eaves in cornices, and there the nests are made and the young raised and buildings rendered unsightly from their roosting.

You may destroy the jumbled nest of straw, ravelings and chicken-feathers repeatedly, and as often will the sparrows build it up again.

Sparrows are Trap-Shy

To reduce their numbers has been a problem in all sections of the country, and to encourage the warfare on them bounties are paid.

No trap or snare has been devised that proved successful in reducing the sparrows' numbers. They are exceedingly keen and suspicious of any sort of trap. In the rural districts shot-guns have been the main dependence, but sparrows soon become wary and difficult to shoot.

In cities and towns firearms are not allowed to be used. Recently poisoning them by soaking grain in a solution of Paris green, arsenic or strychnin has proved very effectual.

In my city, however, so many chickens and doves were poisoned that such means have been discouraged. The latest scheme has been to steam oats until soft and then soak them in grain-alcohol or whisky for a couple of hours, and then scatter the grain where the birds will find it. They soon become helplessly intoxicated and are easily caught. During the winter of 1911-12 many hundreds of the birds were so captured in Grand Rapids, Michigan.

The grain must be scattered, for if placed in piles the birds suspect a trap and will avoid it.

J. A. NEWTON.

The Farmer's Information Tour

IN THE wintertime, during the period of slack work, the countryman can advantageously spend a few days or a week in visiting and inspecting some of the up-to-date and successful farms in his locality or neighboring States. The man who really makes a success of country life is the one who browses about and can profit by the successes of his neighbor as well as his own. Some little hint or practical point regarding the care or feeding of his live stock, his system of tillage or crop rotation which the farmer may come across in his rambles may be put to such efficient use on his home farm that it will more than pay the entire expenses of his trip.

I know of a prominent Ohio live-stock raiser who devotes three weeks each winter to his "information tour," as he calls it, and the benefit which he derives from becoming conversant with different methods of agriculture and the numerous acquaintances he makes among the farming and breeding gentry are of inestimable value to him. He claims that a visit to a few modern-day farms is a complete agricultural education in itself. As far as possible, he aims to cover new territory each year and to make a close study of all systems of farming which he may come across, irrespective of whether he is engaged in any of them. He never neglects to include a visit to the agricultural college of each State through which he passes, as, according to his estimate, this institution is the logical center around which are grouped all the important farming systems of the region.

Where the farmer is handicapped by lack of funds which prevent his extensive traveling by rail, let him follow the plan of a Wisconsin friend of mine who rides off on his bicycle on a knowledge-seeking quest as soon as the grain-harvest is completed in the late summer. In a week or two he returns perhaps travel-stained and tired out, but nevertheless much the richer as regards the useful information which he has acquired and his wider acquaintanceship among men.

GEORGE H. DACY.

Mr. Jolly's Problems

SOMEBODY has written to Mr. Jolly that a farmer down in West Virginia is practising a scheme for making his hens lay two eggs a day. He wakes the hens at four o'clock and makes them leave the roosts. Getting this early start, they finish laying by nine. He then shuts them in the hen-house and gradually closes the windows, causing artificial twilight. By ten the hen-house is in darkness, and the fowls are asleep again. About one he rouses them once more, and thinking it is another day the hens proceed to lay the proper quota of eggs.

Mr. Jolly wants to know whether this is not really cruel to the trusty birds. If there were not so many experiments already going on upon his farm, he would try this for a few days at least, but he dislikes, so he says, to undertake anything new without asking me for counsel. Mr. Jolly is so credulous concerning new enterprises that he is easily taken in. I try to warn him as much as possible without hurting his feelings, for he is so innocent himself.

Another correspondent asks him what to do for red hen-lice. He says he replied that he was really unaware that red hens had a special variety of these pests. He advises the inquirer to try the remedies he would use for any other color of hen and see how they work. He wants to know whether he could have written anything better.

The English language is odd, to be sure. To what noun a given adjective may apply is often hard to determine. It reminds me of a young minister whom I once knew. A young lady said to him, "Mr. Blank, don't you think I would make a splendid preacher's wife?"

"Undoubtedly!" replied Blank. "But where would you find the splendid preacher?"

A man in Indiana writes the old gentleman that he saved his hogs from cholera by letting a goat run with them. It is well known, he says, that the odor of the goat will repel germs of disease from other stock. He wants to know whether it might not be possible to collect from a flock of goats, by means of a draft, the natural odor; then to separate it from the air, supposing it to be heavier than the atmosphere, and finally to compress it, and use it to blow up stumps and blast rocks. He asks my friend if there would be anything in it. The latter replies that there would doubtless be a scent for everybody. Not bad for Mr. Jolly, is it?

But he certainly did get off a good one about the whitewash. And the best of it is he was so unconscious of the point. Mr. Jolly has probably never heard of the so-called "government whitewash," and when a neighbor asked, in good faith, for the recipe, the old gentleman replied, in some embarrassment, that he didn't know how it was got up, but that it was usually applied by a congressional committee. I must say that is almost as good as I could have done myself.

W. Jay Spillboy.

The Story of a "Book Farmer"

THERE is not as much ridicule for the "book farmer" now as formerly. The tables have been turned on the other fellow who is accepting the "book farmer" as his guide.

There are a great many bad community habits. Usually a farmer is raising potatoes or keeping a dairy because it is the common work of his neighbors. It is a community habit. But once in a while a man who really thinks for himself will move into a neighborhood and establish a new system of farming.

His farm serves as an example of what can be done to improve local agriculture. It is the very best kind of an object-lesson, for the lesson it teaches is self-evident, requiring no proof. Moreover, it sets people to thinking, which is the prime requisite of all educational processes.

From Poorest to Best

A good illustration of this so-called "book farmer" is G. W. Jackman, who lives near Atlanta, New York. When he purchased his farm, he had to face a circumstance that was seemingly discouraging. The former owner had been a "slipshod" farmer. The low productivity of the soil and the dilapidated condition of the buildings evidenced this fact. But what was then one of the poorest producing farms is now the best in that part of the county.

The farm itself is located about one mile northeast of Atlanta, in the beautiful Cohocton River Valley. It contains eighty-five acres, sixty of which are tillable, the remainder being devoted to pasture-land. The soil is a gravelly loam having a gravel subsoil. It is a general farm in character, with potatoes and sheep as specialties. Atlanta is one of the biggest rural potato-markets in the country. Over five hundred car-loads of potatoes are shipped from there annually.

Mr. Jackman plants about fifteen acres to potatoes each year, for he thinks that this is a good acreage for a farm the size of his. When he took possession of the farm, the land was yielding something like eighty bushels per acre, but now it is yielding him two hundred and fifty bushels per acre, an average which he expects to increase year by year. The principal reasons for his success as a potato-grower are: first, a well-prepared seed-bed; second, a wise and judicious selection of seed; and, third, a thorough cultivation of the crop.

The seed-bed is prepared so as to bring about a moist, mellow and well-drained soil. Contrary to the general rule, the ground is never plowed in the fall, but in the spring after a good application of stable manure has been made by the use of a manure-spreader which to him is a necessity.

His Potatoes Bring Fancy Prices

Mr. Jackman claims that for a three-year rotation this is the best plan, or at least experience has proved it the best for him. He further believes that plowing a uniform depth of six or seven inches by means of a sulky plow is another important advantage in the preparation of the seed-bed. In his opinion a wise and judicious selection of seed is a very valuable requisite. The varieties from which he selects his seed are the German Queen and the Sir Walter Raleigh. To kill the scab-spores, he soaks the tubers one to two hours in one pint of formalin diluted in twenty-five gallons of water. Probably, this treatment of the seed, more than any other, has given Mr. Jackman the name of drawing to market the best wagon-loads of potatoes of any other farmer in the community. At any rate the buyers are of this opinion, for they are always glad to pay him a fancy price in order that they may have good stock to "top out" their car-loads.

The tubers are cut into pieces of nearly uniform size, having at least one eye to the piece, and are planted with a potato-planter, sixteen inches apart, in rows thirty-three inches wide.

One Hundred Dollars per Acre per Year

Mr. Jackman says his ideas as regards cultivation are as follows: "I believe in a thorough cultivation of the crop. Last year I went through my potatoes with the cultivator as many as thirteen times. About ten days after planting, my field is harrowed, either with a spike-tooth harrow or a weeder. Often this is repeated before the plants appear above the ground. Just as soon as the plants begin to prick above the ground the cultivator is used, cultivating very shallow the first time, in order that it will not injure the plants. This shallow cultivation within a few days is followed by a deep one, the main thing in all treatments being to keep the soil porous.

During the past three years Jackman's potato crop has yielded him an average of one hundred dollars per acre, this source of income alone is commendable, considering that there are fifteen good producing acres of potatoes.

Another important feature of this farmer's progress is his flock of sheep. Although his consists of only one hundred and twenty sheep, he makes them pay him a good dividend, by employing the most successful methods of flockmasters in the breeding, housing, care and feeding of sheep. One reason for his having a small flock is that he sells his lambs when they are ten or twelve weeks old, thus eliminating a large item of expense in the feeding of growing lambs. This industry is an important consideration with him, for he figures each sheep as being worth ten dollars a year to him.

Besides these two specialties, Mr. Jackman is engaged in diversified farming. Usually, he has five acres of wheat, fifteen acres of oats and a few acres of barley and buckwheat. One year he planted five acres to cabbage, and the crop yielded him about one hundred and twenty dollars per acre.

Truly this man is a master farmer, who is rendering his community a real service. He is a student farmer also, for he reads and studies at least ten agricultural papers, besides numerous bulletins. It is gratifying to know that men of his type are rapidly becoming a permanent fixture of the rural community, and the prejudice against them is decreasing.

F. N. Darling.

Xenophon

A Farmer of Ancient Greece

THE schoolboy who is set to studying Greek, as he pores over the pages of his Anabasis, doubtless thinks of Xenophon only as a military commander who had the audacity to write a book which has since been used as an instrument of torture for the young. But Xenophon, grand old Greek that he was, was something more than a military commander, something nobler and higher and, to my mind, more worthy of record: he was a farmer; and to be a farmer among a people who had attained what was probably the highest civilization the world has ever seen was no small thing.

Do you think that the agriculture of that day was crude? No one who reads Xenophon's treatise on farming (for he, like Cato, wrote upon agriculture) could think so for a moment. The highly developed mechanical appliances in use by farmers at the present time were not, it is true, in use at that day; but the cheapness of labor made them unnecessary. In all that pertains, however, to the management of land and crops, the breeding of live stock and other agricultural matters, I cannot discover that the Greek farmers of Xenophon's time were at all behind those of the present day. I have heard it said that this is a severe reflection upon our present-day agriculture. But while it is sure that we have not advanced as far as we ought, it is likewise sure that the civilization and enlightenment of the world has ebbed and flowed.

Xenophon's Opinion of Agriculture

Xenophon's farm was in the country to the westward of the mountains of Arcadia, looking toward the Ionian Sea. Here he studied soils and crops, raised horses and dogs, and spent his time, as he tells us, in riding or walking over his land and to a considerable extent in literary work.

Xenophon's views upon country life were the finest and soundest of all the classical writers: none of them seem to have appreciated quite as fully as he did the independence, the health and the joy of living that comes from country life. The high position of agriculture as a calling seems also to have been more fully realized by Xenophon than by any of the others. "I am of opinion," says he, "that agriculture, for an honorable and high-minded man, is the best of all the occupations and arts by which men procure the means of living. It is the most pleasant to practise; it puts the bodies of men in the fairest and most vigorous condition, and does not give such constant occupation to their minds as to prevent them from attending to the interests of their friends or their country." He further says that, "although agriculture offers blessings in the greatest plenty, it does not permit us to take them in idleness, but requires us to accustom ourselves to endure the cold of winter and the heat of summer. To those whom it exercises in manual labor it gives an increase of strength, and in such as only supervise it, it produces a manly vigor, for it forces them to rise early in the morning and move about with activity." And he adds this charming bit of classic wisdom which every present-day farmer should fully appreciate: "It is becoming for women to stay within doors, but to a man it is more creditable to attend to out-of-door affairs."

It's Industry or Idleness

In his remarks upon the practical side of agriculture, Xenophon is almost always sound and seems to have perceived the real pith of agricultural matters, as few writers have done before or since. Take, for instance, the matter of scientific agricultural knowledge; "It is not knowledge," says he, "or want of knowledge in farmers that makes them rich or poor, but industry or idleness." And following the same practical line he says, "one farmer takes care that his workmen spend the full time at their work and another is neglectful of this point. To allow men to loiter over their work through the day may make a difference of fully half in the whole undertaking. The causes that ruin farmers much more than want of knowledge are when expenses are paid out of the working capital and the farm is not managed with such profit as shall balance the expenses." Cato, stern old Roman that he was, would doubtless have sneered at Xenophon's farming, for Xenophon raised horses and dogs for his pleasure, loved to ride about on horseback and altogether struck a far more leisurely gait than Farmer Cato, who viewed all recreations with disfavor, and who diligently plodded with his workmen in the field, and we may be sure kept them busy. But there is no evidence that Xenophon's farming was less profitable than Cato's, and certainly it was by far the most attractive. And a great many farmers have lost a great deal in life from not having learned that it is as important to play as to work and that country life provides a vast number of pleasures that are lost simply because they are not appropriated. "What occupation," asks Xenophon, "offers men greater gratification for their labor? Where is there greater facility for passing the winter amid plenty of fires than on the farm?

An Idler Cannot be Happy

I should be much surprised, for my part, if any man of liberal feelings has met with any possession more pleasing than a farm, or discovered any pursuit more attractive or more conducive to the means of life than agriculture."

"More conducive to the means of life"! I want all my readers to take note of this phrase, for it has more meaning than may appear on its surface. Do you know what life is made of? Do you know that man cannot live by bread alone? Do you know that you can never be happy if you live in idleness? Do you know that a certain amount of manual labor is essential to the well being of mind and body? Do you know that a country estate should be a thing of beauty and not only a farm upon which to make money? Xenophon knew all these things. And I who, through a life of varying fortunes, have also learned them, can testify that they are worth the knowing.

DAVID BUFFUM.

The Goldfinch

WHY do I class this little bird as a winter resident? Simply because I think that many a farm boy sees them and hears the

familiar "canary notes" and does not know them to be our common black and yellow "wild canaries" of the summertime. This is what they are, but they have donned the greenish-yellow garb of the female. Often, if they have found a good feeding-place with plenty of goldenrod or a ragweedy corn-field, they will remain until the seeds have been consumed, which often requires weeks of time.

They must not, however, be confounded with another, similar northern winter bird, the pine-siskin, whose notes are somewhat identical, but whose streaked breast can be distinguished from the solid color of the goldfinch.

During the winter they travel in small flocks, often in company with tree-sparrows and juncos. But when spring comes they pair, and then begins a long season of courtship, for they do not breed until into July. The males are very ardent and affectionate lovers. Goldfinches are among the few birds that may be observed indulging in kissing one another during the courting period.

Especially Fond of Thistle-Seeds

In the late summer and fall they visit the gardens, both in the country and in town, to gather what lettuce and sunflower seed they find awaiting them.

They benefit agriculture by eating the seeds of noxious weeds, especially the common thistle, and in feeding their young upon harmful insects. Being with us, to some extent, throughout the winter only tends to add to their usefulness. H. W. WEISGERBER.

Ask the schoolboy to figure the number of tons in a stack of hay, compute the number of bushels a wagon-box contains, or to tell you how many acres there are in a triangular piece of land, and you'll find about how much our text-books in the schoolroom deal with the practical things of the farm under our present school system.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

GARDENING

By T. Greiner

About Elephant's-Ear

A READER asks how to get the bulbs of that showy subtropical foliage plant, *Caladium esculentum*, or, more properly, *Colocasia esculenta*. I know that when I buy good bulbs in spring (they are generally expensive), and plant them in a well-prepared bed made of richest fibrous loam kept damp right along, I am reasonably sure of getting a fine show of mammoth leaves; but when I use old plants, or try to raise my own bulbs, I am not so sure of satisfactory results. The old plants, however, may be taken up in the fall and stored out of reach of frost. The *Caladiums* are generally propagated by division of the tubers in early spring. These tubers are potted in as small pots as will accommodate the bulb, and in a mixture of fibrous loam, leaf-mold, peat and well-rotted sheep or cow manure, with a little sand added. They are shifted to larger pots as they need it. I always go to the regular dealer for my supply of bulbs.

Increasing the Gooseberry Plantation

One of our friends has had good success in increasing his currant plantation by "splitting" his bushes. They had grown unreasonably large. He now wonders whether he could treat his large gooseberry-bushes in the same way. When you have old and thrifty currant or gooseberry bushes, it is a very easy matter to enlarge the planting. Any little sprout or cane broken off, cut off or torn off the old plants, and having even a suggestion of roots, will, when planted in the fall or spring in any kind of good soil, soon take hold and grow into a nice bush. If we desire to hurry up this propagation still more, we may make currant-cuttings of any new canes in the fall, and plant them out immediately in good soil, leaving only the upper one or two buds above the soil surface, or bury the cuttings in bunches, in the cellar, with butts up, and plant them out in spring. Gooseberry-cuttings do not strike root quite so easily, and the safest way for the home gardener is to mound up some of the larger old bushes with soil, quite high, in fall or spring and leave them thus at least until fall, by which time the young canes will have become nicely rooted and may be taken off and planted. This method is to be particularly recommended for the English gooseberry varieties, as their cuttings do not easily strike root.

California Privet in Shade

"Can California privet be made to grow in the shade?" I am asked. A little shade will not prevent this hedge plant, nor many other things, such as lettuce, radishes, beets, carrots, cabbages, celery, strawberries, raspberries, blackberries, currants, gooseberries, etc., from making a fair or good growth, provided that the soil is kept supplied with a fair amount of moisture. In some cases the roots of the trees which furnish the shade take up so much moisture in a dry time that none is left for the other things. We cannot expect to see much growth made in dust-dry soil. In such cases irrigation may be necessary.

With the Seed-Books

Now comes the time when we are having our annual fun with the seedsmen's catalogues, or "seed-books," as some of them prefer to call them. I always get a large number of them, and look them through with considerable care and delight. To make sure of being on the right side of the dealers who issue these interesting, instructive and tastily and elaborately gotten-up publications, I try to give to each one at least a small order, picking out such things as are made a particular specialty of by each dealer, or one or more of the novelties which he offers or which appear to me most promising. Every seedsman sends his new catalogue to the last year's patron without asking. All or most of these books can be had for the asking, or for part of the postage. And what a lot of good service we usually get out of them—hours of pleasant study, reminiscences and of instructive conversations. Really, what could we, as gardeners, do without the seed-catalogues? I cannot wholly agree with the sentiment in the old rhyme: "Be not the first by whom the new is tried, nor yet the last to cast the old aside." It has often paid me exceedingly well to take the very first chance at trying a "novelty of the season." But I usually look closely into the matter, and take an account of all the surrounding circumstances, and even of the reputation of the man who offers the new thing. I do not test all the novelties that are offered. Not by any means, but I rather spend a few dollars for novelties, many of which I would not care to plant the second time, than miss one that is of real value, and may bring me in return many times the cost of the whole lot.

Blighted Potatoes for Planting

The late blight of potatoes was quite prevalent over a wide range of territory this past season, and we had plenty of it here in New York State. The anxious inquiry comes also from far Washington: "Are blighted potatoes all right for seed?" The late blight, if allowed to reach the tuber in the ground, will cause it to rot, and this rot will spread even after the potatoes have been stored in the cellar or in pits. I do not like to use potatoes from a rot-infected bin.

In my own case, I shall for this year probably plant only early potatoes, as these were not injured in any way by blight and are now perfectly sound in storage. I may plant a few late ones if I can secure a supply of seed-potatoes that I am sure were kept free from blight. But if I could not do any better, or rather than not plant any potatoes, I would use potatoes for planting from a blighted patch. Whether our potatoes will be struck with late blight next season depends very largely on weather conditions. If late summer and early fall is dry, we shall probably not see much of the late blight. To a great extent, also, we can control this disease by timely and persistent spraying with Bordeaux mixture.

The growers in this respect are too often caught napping. The disease comes and spreads when we least think of it. Spray, and spray again, and then spray once more. That is the real treatment to be given. But if I find late blight spreading again in any of my late patches, I am sure I shall not wait until the tops are dead before I dig the crop. By early digging you may be able to prevent the infection spreading from the blighted foliage to the potatoes in the hill.

There are those who do not believe in the exercise of the recall, even as applied to their own opinions on trivial matters.

Crops and Soils

Sudan Durra

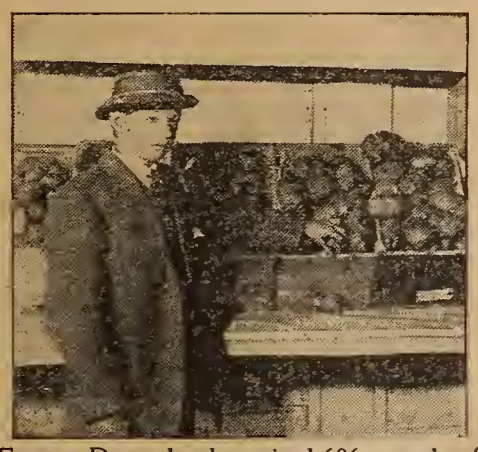
WHAT Egyptian wheat was to the public some years ago, Shallu was later, and Sudan durra will be soon. This sorghum has been under test for about three years and gives promise of being a valuable plant for certain localities. It has yielded up to sixty bushels in some places, but where Kafir can be matured we question whether it will be a paying crop.

Our trial here in Nebraska in 1912 showed it to grow to a height of five to seven feet. It has bluish-white seed that shatter quite easily. The heads weighed from two to three ounces. It matured in from ninety to one hundred and ten days, or earlier than milo. The heads were naturally erect, and at a distance looked similar to Kafir. It suckered badly and branched, also. We were unable to obtain the yields, for the season, of the experiment stations, but ours (8.8 bushels) was the lowest on the grain-sorghum list. We believe anyone wishing to try this variety can procure seed through his congressman, although we don't think it is far enough out of the experimental stage to warrant planting, except on a very small scale.

C. BOLLES.

Record Potato Yield

A LAD in the outskirts of Albany, New York, and only twelve years of age, has made a world record. The state fair board offered a prize for the largest yield from one seed-potato. Each contestant was furnished one potato of a special and unusual variety in his part of the state.



Eugene Durand, who raised 686 pounds of potatoes in 308 hills from one potato

Eugene Durand raised and exhibited 686 pounds of potatoes, twelve bushels, of contest quality and size, and left at home, unweighed, about two bushels of non-exhibitable size. So far as known, this is fully twice the yield ever before known from one potato.

The potato had fourteen eyes. Each of these was planted in a hotbed. When the sprout was about three inches high, he cut it off and placed it in sand, where it took root. Durand then set it out in soil adapted to potatoes. The sprouts kept on growing, and he kept on rooting them and then transplanting them, and great was the harvest thereof.

A. E. WINSHIP.

Preparing Land for Grass-Seed

I HAVE been sowing grass-seed here in Virginia five years without a nurse crop and have found that when any one of the following conditions prevails a failure to get a stand is almost certain. First, when the land is loose, the seed is almost sure to be covered too deep and may not come up if there is a drought. If after a time the seed does come up and if the soil is loose, the moisture will not rise high enough to nourish the young sprouts, and they will die.

Then, if the land is so lacking in humus that it will bake, the young plants cannot break through the crust. More grass-seed is lost because of a poor seed-bed than for the lack of fertility. Of course, plant-food is required to make the crop. But whenever I get my land plowed early in July, and it has humus enough to make it granular, and when it is so smooth and firm that a blind man walking on it would not be sure he was on plowed land, a good stand is almost certain.

C. L. THOMPSON.

Buy Fertilizers as Feed

THE feeder who takes advantage of the peculiar adaptability of cottonseed-meal in balancing rations composed of home-grown grains gets good returns from his feeding operations. In my experience with this concentrate, I have found that the returns do not stop there. A handsome premium can be secured in its fertilizing value. Feeders of live stock in England and Denmark, by reason of long experience, have learned to understand the importance of maintaining soil fertility very thoroughly.

Composition of Cottonseed-Meal

Hence they appreciate the dual properties of cottonseed-meal to such an extent that large quantities are imported annually. It would seem evident that if the European farmer recognizes the advantage of obtaining this food-stuff from a distance of from three thousand to five thousand miles, surely the American farmer, who is comparatively close to the source of supply, would benefit substantially by following the Europeans.

A ton of cottonseed-meal contains about 135 pounds of nitrogen, or 150 pounds of available ammonia, which, at 12.8 cents a pound, would be worth $19.20; 56 pounds of phosphoric acid, at 5 cents, which would be worth $2.80, and 36 pounds of potash, at 5.4 cents, which would be worth $1.94, or a total of $23.94 per ton. There is no other concentrate on the market which approaches cottonseed-meal in fertilizing value, linseed-meal being its nearest rival. The following table giving the number of pounds of fertilizing material in one ton of various concentrates brings this out very nicely:

	Nitrogen	Phosphoric acid	Potash
Cottonseed-meal..	135.8	57.6	37.4
Gluten-meal	100.6	6.6	1
Linsced-meal ...	115.6	36.6	27.8
Brewers' grains..	76.4	20.6	1.8
Corn	36.4	14	8

Notice that linseed-meal contains 20 pounds less of nitrogen, 21 pounds less of phosphoric and 9.6 pounds less of potash, which at the prices for fertilizer quoted above amounts to $4.57 per ton. As linseed-meal contains considerably less protein to commence with and costs about twelve dollars per ton more than cottonseed-meal, it is worth a great deal less either from the standpoint of a food-stuff or a fertilizer. A comparison of the fertilizing value of the several food-stuffs listed above, and which are most commonly purchased to provide protein on stock-farms, cannot fail to be of very great interest and profit to the farmer.

There is another point which cannot be too strongly emphasized. Many have the idea that when these rich protein food-stuffs are fed to live stock very little will be available as plant-food. This is erroneous. From 96 to 98 per cent. of the mineral constituents will be voided in the case of beef-cattle, and from 70 to 80 per cent. in the case of dairy cows.

Useful Both as Feed and Fertilizer

If the stable is provided with cement floors and plenty of good absorbents used so that the urine will be preserved, and the manure thus obtained applied directly to the land and plowed under, only a small amount of the fertilizing value of the meal will be lost. There is no reason why under good methods of farm practice, at least 75 per cent. of the fertilizing value should not be obtained after feeding to live stock. Did farmers more generally realize that if cottonseed-meal were fed in conjunction with home-grown grains and suitable forms of roughage, and that from four hundred to five hundred pounds of beef would be obtained for every ton fed, they would recognize more clearly the importance of utilizing it as a food-stuff, and then as a fertilizer after the plan suggested. Experiments have abundantly demonstrated that the high fertilizing and feeding value of cottonseed-meal makes it an important asset to the average farmer.

There is no reason why he should not realize from twenty to twenty-five dollars a ton for the meal as a food-stuff and from fifteen to twenty dollars a ton as a fertilizer, making it worth to him forty dollars a ton and giving him two profits as the result of one investment.

J. HUGH MCKENNEY.

More About Field-Peas

FARM AND FIRESIDE for November 23d contains, on Page 11, an article on "Field-Peas and Prosperity." In justice to my brother farmers I feel called upon to reply to this article, and think I can intelligently do so, as I have just put in two years in Colorado growing hogs and peas as well as other crops.

This article overdraws the money-making possibilities of the combination of peas and hogs, notwithstanding this claim is backed up by the Colorado agricultural experts.

Exaggerations of Production and Value

True, the peas make a cheap feed compared with corn in cost of production. While the claim of an average yield of thirty to fifty bushels is made, yet in my two years' residence there, twenty-five bushels per acre was the highest yield I cleared off, and many acres yielded less than one half that. I had hogs in an average field of peas, and about two hundred pounds of gain per acre was the result; while the writer claims four hundred to six hundred pounds of gain.

This pea crop the past three years has been selling at from six dollars to eight dollars per acre in field. In the place of one dollar above the top Denver market, the ruling price paid by buyers has been in my experience one dollar below.

In the corn belt the hog is looked upon as a money-maker, and from the claims one would expect still greater results in the Valley, but such is not the case.

I have witnessed great financial losses by many farmers going there from the corn belt.

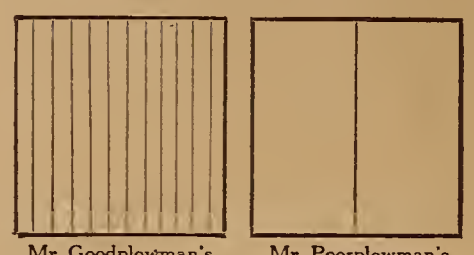
W. H. JORDAN.

Lands for Plowing

I WONDER if everyone has stopped to consider how much time can be lost or saved in plowing a field. Plowing is such a big job, and such a hard one, that a man should plan to save all the time possible. Some fields one sees when driving through the country make him wonder if the fellow who plowed them had ever given this subject a serious thought.

Here, for instance, are two forty-acre fields which I noticed recently. The lesson was driven home to me clearly and forcefully because the two fields were side by side. One looked as though the plowman had wasted all the time possible on his job. The other looked as though its plowman could not have well saved any more.

Look at the two sketches. They will shout their lessons so loud any man should hear



Mr. Goodplowman's field — Mr. Poorplowman's field

them. Mr. Poorplowman divided his field into two lands of twenty acres each. Mr. Goodplowman divided his into about twelve; it looked as though each land was only four or five rods wide.

Mr. Poorplowman was obliged to turn four square corners every time he went around a land. Of course, in the early stages the rounds were long. But as the land grew smaller, the rounds grew shorter and the turns oftener. If he dead-furrowed the lands, he packed down four long, wide strips in each land after he plowed them. If he back-furrowed, the same amount of ground was packed before it was plowed.

A Matter of Horse-Flesh Also

On the other hand, Mr. Goodplowman turned no corners. He left a strip about a half a rod wide unplowed at each side of his field. He drove empty across the ends of his narrow lands. He would do this in the same time Mr. Poorplowman turned one of his four corners. He had only two turns to each round, instead of four; and both would plow the same number of rounds in the end. He did not finish each land by itself; when a land became too narrow to turn readily, he would plow another; then finish the two together just as though he were just beginning a new land. His horses would walk lightly, easily and quickly across the ends, and be rested by the change from a heavy pull to an unloaded walk. Mr. Poorplowman's horses would flounder heavily while turning the square corners, would step on themselves and each other and be confused and wearied instead of rested by the turns. When Mr. Goodplowman had finished all his lands, he would plow a few rounds around the outside of the field and plow up his two "turning rows." His horses were not worked so hard nor worried by the constant turning at the corners. He was the better plowman and his field showed it in every way. JAMES A. KING.

A Balanced Ration From Ensilage Alone

THE intensive use of the silo has increased the feeding efficiency of the corn crop at least thirty-five per cent. Some southern farmers have even gone a step farther in the feeding game with the idea of securing a variety of ensilage which will practically supply a balanced ration. Corn-silage is deficient in protein, but relatively rich in fats and carbohydrates. Therefore, they had to utilize some forage that was rich in protein which they could mix with their corn and store away in the silo. Finally, they hit on soy-beans and cow-peas as crops ideally adapted for this purpose.

Nor have the farmers been alone in their attempts to produce an efficient silage from a combination of cow-peas or soy-beans and corn. Some of the experiment stations have conducted tests with these legumes as supplements to the corn-plant in the attempt to produce an ensilage that will, for all practical purposes, fill the bill as a balanced feed for live stock. In the main, the results have been uniformly satisfactory. Virginia steer-feeders are making a successful use of an ensilage composed of two parts of corn-silage to one part of cow-pea hay. Other feeders silo a combination of equal parts of soy-beans and corn.

The Results Have Been Successful

As a general rule, they plant the cow-peas or soy-beans between the hills of corn, the idea being that the cow-peas will grow up the stalks of corn, which will permit of harvesting the two crops at one time. The soy-beans also grow vigorously between the hills of corn and can be harvested with the corn crop. There is this objection to growing cow-peas and corn as a combination crop. Some of the corn-seed may not germinate, or the seed may not be evenly planted, with the result that waste spaces are left in the field. The cow-peas have no supports by which to climb, and in consequence the vines spread over the surface of the field. This seriously complicates matters at harvest-time, as the bunches of pea-vines clog up the corn-harvester. It is only where a uniform stand of corn is secured and where the pea-vines climb up the corn-stalks that this method can be successfully followed.

By reason of the upright habit of the soy-bean plant, less trouble is met with where it is grown on the same field with the corn. Difficulties of this nature have led some farmers to grow the leguminous crop and the corn on separate fields and to combine the two feeds at the time of cutting the crops and filling the silo. However, the difficulty has arisen of accurately mixing the two materials so that the resultant silage will satisfy the requirements of a balanced feed. Some feeders make a practice of curing all their cow-pea or soy-bean crop as hay and of siloing their corn crop. Then they feed the nutritious hay and ensilage together, the succulence of the silage offsetting the dryness of the leguminous forage.

Cow-Peas and Alfalfa Compared

In the case where cow-pea hay and silage are fed together, there is no question but that better results would ensue were alfalfa-hay used instead of the cow-pea roughage for this purpose. Although the cow-pea hay is richer in the fatty elements, the alfalfa is more succulent, higher in protein content and is better relished by the fattening animals. Here are the percentages of nutritive elements in each:

	Cow-Pea Hay	Alfalfa-Hay
Digestible protein	5.8	11.1
Carbohydrates	39.3	40
Fat	1.3	.8

Cow-peas or soy-beans have been efficiently combined with corn to make a silage that will have the necessary content of fat, protein and carbohydrates. A little extra effort and attention have been devoted to this combination crop, but in the majority of instances the returns have more than justified the increased endeavor.

The maximum of feeding value has been realized from each of the crops composing the ensilage mixture. About the only crop that equals this mixture from a feeding standpoint is peanut-hay or peanut-vines and fruit.

An acre of peanuts, under good conditions of tillage and management, will yield about sixty bushels of nuts and from one and one-half to three tons of hay. Where the peanut crop is "hogged off," an acre of peanuts will produce 1,324 pounds of pork, as compared with 436 pounds developed from one acre of corn similarly fed. GEORGE H. DACY.

How Much Gasolene?

A MARYLAND subscriber asks how much fuel per horse-power is used by a gasolene-engine.

A gasolene-engine in first-class condition and operated by an experienced man can be made to work successfully on an average of about one pint of fuel for each brake horse-power of work that it does in one hour. For instance, an engine actually delivering one brake horse-power continuously for one hour would use one pint of fuel in doing it. But the average small engine, as it is generally used, will not show as good an average as that. When worked to its full capacity by the average operator on the farm, an engine will come nearer using a pint and a quarter for each horse-power hour of work done, this difference being due to slight variations in the timing of valves and ignition, and dirty igniters. JAMES A. KING.

Poultry-Raising

Testing the American Hen

By B. F. W. Thorpe

THE poultrymen of this country are particularly fortunate in being able to get the results of two great egg-laying contests that took place last year. The Connecticut Experiment Station, Storrs, Connecticut, had 490 hens contesting for supremacy under the generalship of Mr. William F. Kirkpatrick. The contest held in Missouri was directed by Mr. T. E. Quisenberry at the Missouri State Poultry Experiment Station, Mountain Grove, Missouri, where 655 hens strove for egg-production honors.

Explanation of Illustrations

The rough appearance of the prize-winning birds is attributable to the heavy demands made on their constitutions by their enormous production of eggs.

Fig. 1—White Plymouth Rock hen No. 717 ("Lady Showyou"), champion layer in last year's Missouri egg-laying contest as she appeared at end of year after laying 281 eggs which weighed 35½ pounds. This hen laid 82 eggs in 82 consecutive days. Owned by J. A. Bickerdite, of Illinois. Sold at the close of the contest for $800 to James W. Bell of Chicago.

Fig. 2—S. C. Rhode Island Red hen No. 204. Made the best record in last year's Connecticut egg-laying contest. Record, 254 eggs. Weight of eggs, 31¾ pounds. Owned by Mrs. Harris Lehman, Kentucky.

Fig. 3—Barred Plymouth Rock hen No. 381, photographed at end of last year's Missouri egg-laying contest. Laid 245 eggs and led her variety. Owned by M. W. Baldwin, Iowa.

Fig. 4—Silver Wyandotte hen No. 525, in last year's Missouri egg-laying contest. She laid 230 eggs and led her variety. Owned by Jacob Miller, Kansas.

Fig. 5—Ancona hen No. 19 at close of last year's Missouri egg-laying contest. Laid 241 eggs and led her variety. Owned by Mrs. Daisy Rose, of Missouri.

The Star Performers

The champion laying hen in the Missouri contest was "Lady Showyou", a White Plymouth Rock hailing from Illinois. This hen laid 281 eggs during the year. She lacked but one egg of equaling the best official record made in this country, which was 282 eggs laid by a Barred Rock at Guelph, Canada. Lady Showyou's eggs averaged a little over two ounces each, a total weight of 35 pounds for her year's production. In this connection it is of interest to note that the six pens of White Rocks in the Missouri contest did only mediocre laying as a whole. The highest laying pen produced 813 eggs and the lowest only 354 eggs. The average of the 30 hens of this variety in the Missouri contest was 118 eggs per hen.

Fig. 1

The heaviest layer in the Connecticut contest was a S. C. Rhode Island Red. She produced 254 eggs which weighed 32 pounds. The average production for 45 S. C. Rhode Island Reds was 159 eggs during the year.

Fig. 2

The Two-Hundred-Egg Class

There were 41 hens in the Connecticut contest that laid over 200 eggs each during the year, the average of these high producers being 223 eggs per hen. One hen out of twelve entered in both contests laid over 200 eggs. In the Missouri contest the average for the 59 hens laying over 200 eggs was 215 eggs per hen.

The standing of the different breeds in both contests among these top-notchers is shown by the following comparisons:

Plymouth Rocks—Two White Rocks in Missouri contest laid 281 and 218 eggs respectively, two of the same variety in the Connecticut contest laid 217 and 202 respectively. Three Barred Rocks in the Missouri contest averaged 232.3. Four of the same variety in the Connecticut contest averaged 214 eggs.

Fig. 3

Rhode Island Reds—Seven S. C. Reds in the Missouri contest averaged 212.7 eggs; four R. C. Reds, 218; five S. C. Reds, in the Connecticut contest averaged 225.4.

Orpingtons—Four White Orpingtons in the Missouri contest averaged 212.7 eggs; three Buffs, 212; and two Blacks, 206.5. In the Connecticut contest two Buffs averaged 213.5, practically the same as in Missouri.

Wyandottes—Eight Silvers in the Missouri contest averaged 214.1 eggs; two Whites, 223.5; one Golden laid 217. In the Connecticut contest six Whites averaged 226.1; one Columbia laid 219 eggs.

Fig. 4

Leghorns—Ten S. C. White Leghorns in the Missouri contest averaged 211.6 eggs; two R. C. Whites, 213.5; one S. C. Brown laid 210. In the Connecticut contest 19 S. C. Whites averaged 225.2; one S. C. Brown laid 233, and one S. C. Buff 225.

There were 20 S. C. Black Minorcas in the Missouri contest (none in the Connecticut contest) and of these but one was in the 200-egg class. She laid 208 eggs.

Ten Black Langshans were in the Missouri contest and five in the Connecticut contest. Of these, one in the Missouri contest laid 204 eggs.

Fig. 5

There were 20 Anconas in the Missouri contest and five in the Connecticut contest. Of these, the three highest producers in the Missouri contest laid 241, 218, and 204 eggs respectively. None of the others were in the 200-egg class.

In both contests the birds were entered by their owners in groups of five hens of each breed or variety to each pen. Each lot of five hens in the Missouri Contest were housed in buildings that provided twenty square feet of space to each pen and a small out-door yard. In the Connecticut contest each pen had 72 square feet of house space, and an out-door yard twenty by fifty feet.

The number of different breeds and varieties in these contests ranged from thirty pens of White Leghorns in the Connecticut contest and eighteen pens of this variety in the Missouri contest down to single pens of a number of the less popular varieties. But the Leghorns, Plymouth Rocks, Rhode Island Reds, Wyandottes, Orpingtons and Minorcas were the mainstays of both contests, so far as the competition was concerned.

[CONTINUED ON FOURTH COLUMN OF PAGE 14]

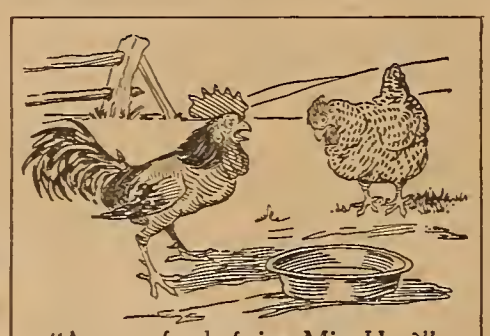
Breeding Plymouth Rocks

"IN THE issue of June 23d was an article by W. W. Kulp entitled 'Value of Standard Breeds.' My favorites are Barred Plymouth Rocks. I noticed Mr. Kulp mentioned the female-color line, also one-color line. This is something I would like to know about. How is the breed kept pure? What is the method of double mating? This is something I have wanted to know about for some time." These questions come from a reader in Oregon.

You wish to know of the female color of a Barred Plymouth Rock. The standard color of male and female is exactly the same shade, a bluish black or a black not quite a perfect black. The color is in bars, as you know. The black bars are narrow and of the same width as the white bars, running from the skin to the tip of the feathers. You understand that male and female colors are alike, but when you mate a standard-colored male to a standard-colored female your offspring will be neither standard-colored males nor females, but a poorly barred lot, some lighter, some darker. Therefore, we must mate the son of a show female to a show or standard-colored female, and we must choose such a shade as experience has shown us to be about the color that will breed the greatest number of the proper shade, for the dark ones are not only darker in shade of bar, but the dark bars are wide. They are perhaps twice the width of the white bars. or even more out of proportion. Some will be the opposite—too light. If you have a female just about right, mate a son of hers to her. Take one evenly barred all over, well barred to the skin, and if he breeds almost perfectly colored pullets use him again; if not, take a son, again, of the hen, and if you want the pullets a little darker use a son a little darker, only be sure the bars are straight, especially on the neck. If they break at the shaft, take another. The base of the hackle feathers will largely show you the male's breeding value as to straight bars, and to be correct they must be straight.

Double mating is a mating for female color, which I have given, and a mating for male color. To mate for standard male color, take a male as nearly correct as possible, and mate him to females of fine heads and shapes, daughters of a show male. Take those that are straight narrow-barred, with the dark bar twice the width of the white bar or even a little darker. You see in female-color mating you consider the female first; for male color we consider the male first.

You can make it female-color or male-color mating, or you can choose one in between, but if you do this you will get very few prize-winners. To raise prize-winners you must double-mate. W. W. KULP.



"Are you fond of rice, Miss Hen?"
"Oh! Mr. Leghorn; tehee, this is so sudden."

The American Ostrich

THE conservative English have recently invested several million dollars in the profitable oil districts of California. This reminds me that there is one industry in the Golden State that the English alone control and from which they reap large dividends every year, and that is the California ostrich-feather business. Time was within the memory of very young men that the California ostrich-feather had no reputation, and the so-called ostrich-farmers, chiefly Englishmen, one by one went under the hammer of the auctioneering sheriff and disposed of their assets for the liquidation of accumulated indebtedness; one of these enterprising Englishmen committed suicide, and several passed away at a premature age, owing to the troubles they had experienced in trying to endow the American republic with the African ostrich. In the year 1900 a change occurred: the American women began to read the advertisements lauding this California product and to remit therefor, so that over the sullen Rocky Mountains and the sterile, wind-swept wastes a stream of gold began to flow into the pockets of the Anglo-Californian ostrich-feather farmers.

One of the last annual reports gives these facts of one of these English companies since its inception a few years ago: It was capitalized for $300,000, and some of the stock was purchased by the various employees of the farm, resulting in the entire outfit in control having a real producing interest in the business and all working together for the common good. The result has been a dividend each year of twenty to thirty-five per cent.

But there is a precedent for all this. Ten million dollars per annum are received by the English in London in exchange for African ostrich-feathers: the world's buyers assemble there for their supply, and countless fortunes have been made in the business. There is another avenue open to the California ostrich-farmer, of which the African farmer has had no experience: California is haunted by a perpetual stream of wealthy eastern travelers. These people each pay a quarter or fifty cents admission to see these ostrich-farms, to view the birds in their native state, hatching their monstrous eggs, fighting and loving as the case may be. Fifty thousand dollars a year flows into the coffers of the company from this source, and now there are few large towns in southern California not decorated with a side-show known as an ostrich-farm, but they are no more like the great African farms than a canal-boat is like a steamship.

As soon as the American ostrich shall have multiplied in sufficient quantities, the American women will buy only the American ostrich-feathers. The sun-scorched areas of Arizona and California will be covered with uncounted numbers of these ornithological freaks, and the weary tramp going from town to town will solace himself, not alone with lemons, oranges, apricots and prunes, but with the eggs of the timorous ostrich who will fly with the speed of the wind when he beholds the weary Willie sticking his head over the field fence. One ostrich-egg is sufficient for one meal for one boarding-house of fifteen people. The taste is exactly the same as that of the ordinary hen's egg, but the time in boiling is longer.

Yes, the English—those masters in the control of barbarians—have corralled the African ostrich in California and are now reaping the benefit from this product of the Dark Continent. E. H. RYDALL.

Making Money on Eight Acres

The Encouraging Story of a Colorado Friend

MY WIFE and I are making a living and laying up a nice little sum each year from eight and one-fourth acres of land. We have three children from eighteen months to seven years of age. It might be of some interest to someone to know how we make it.

In 1905 I was working in a furniture-store in Oakland, California. I had been at that work some time. But my health broke, and I quit my position January 1, 1905. We came to Colorado. We arrived here January 10, 1905, with just $129, all we had in the world, and I not able to work at all. We did not know what to do, but we concluded to buy a small tract of land. There were several tracts at that time for sale. We borrowed $50 of my father (who lives in Kansas) to pay down on the land. We used the $129 to build us a shack to live in.

When we got moved into our shanty and bought what furniture we had to have, we had less than $2. Had I been able to work, we would have been all right, but I wasn't. So we borrowed $25 of my brother. By the time that was gone my health was much better. I went to work at $1.50 per day and my dinner. In the meantime we went in debt about $60 for the material with which to build a chicken-house. We took seventy-two hens March 7, 1905, on the shares, we giving one half the eggs. That was our start in the chicken business.

That summer we raised seventy-five pullets, which started laying in December and laid all winter. August, 1906, I got a position as rural mail-carrier. I carried the mail till January 1, 1909. All this time we kept one hundred hens. In 1908 my health began to fail, so I quit the mail route, and we went into chickens on a little larger scale. In the summer of 1909 we raised three hundred nice White Leghorn pullets. We needed two new houses, but had no money to build with. I was not able to work much, so we decided to sell all of our pullets but one hundred, as almost everyone said, "Oh, you may make one hundred hens pay, but you can't make three hundred pay."

Well, I went to town and sold two hundred pullets at twenty cents a pound. But on the way home I took to thinking. I thought, now we have three hundred pullets and most everyone says you can't make them pay. But I went home and told wife that we would do it.

I went to one of the neighbors and 'phoned to the party I had sold to not to come after them, as we had decided not to sell. We were already in debt about $30 for brooder-houses at the lumber-yard, but we went in $120 more for two new chicken-houses, each twelve by twenty-four feet. I did the work myself.

We think we have made, or rather are making, a success of the chicken business. We have our land almost paid for—$170 back yet. Have a nice little four-room house; three hen-houses, each twelve by twenty-four feet (we run one hundred hens in a house); brooder houses for nine hundred chicks; four four-hundred-egg incubators; incubator-cellar, twelve by twenty feet. All of which is paid for, too, and by our chickens. All from eight and one-fourth acres of land! H. D. WALKER.

No one can wire-pull himself to success on the farm.

Organ-ization is the music to which all prosperous communities keep step.

Testing the American Hen

[CONTINUED FROM PAGE 13]

The 655 hens in the Missouri contest laid an average of 134 eggs per hen. The 490 in the Connecticut contest laid an average of 153 eggs per hen. The contesting hens came from nearly every section of the country from the Atlantic to the Pacific, from the Great Lakes to the Gulf of Mexico, also several pens from Canada and one from England in the Connecticut contest.

Production of Breeds Contrasted

First, let us study the comparative average production for the year of these hens according to so-called breeds in the two contests where ten or more hens were entered. For example, "Leghorns" covers all standard varieties as regards color, type of comb, etc. The same rule holds good with other breeds.

CONNECTICUT CONTEST

		Eggs
175	Leghorns laid an average of	159.5
90	Plymouth Rocks laid an average of	154.5
70	Wyandottes laid an average of	153.6
60	Rhode Island Reds laid an average of	157.4
45	Orpingtons laid an average of	144.6
20	Minorcas laid an average of	144.6

MISSOURI CONTEST

		Eggs
95	Leghorns laid an average of	145.2
100	Plymouth Rocks laid an average of	123.5
60	Wyandottes laid an average of	142.7
90	Rhode Island Reds laid an average of	154
60	Orpingtons laid an average of	147.6
20	Minorcas laid an average of	145.7

There were two or more varieties of each of these breeds contesting, except the Minorcas.

Production of Pens

The best pen records in the Missouri and Connecticut contests respectively, and the State where owned, are as follows, five birds to a pen:

MISSOURI

	Eggs
R. C. Rhode Island Reds (Mo.)	1,042
White Wyandottes (Ark.)	1,015
S. C. W. Leghorns (Calif.)	991
Barred Rocks (Ill.)	967
Silver Wyandottes (Iowa)	947
Black Orpingtons (Ind.)	944
S. C. Rhode Island Reds (Iowa)	915
Buff Orpingtons (Mo.)	893
Anconas (Ohio)	835
S. C. Hamburgs (Mo.)	824
White Orpingtons (Kans.)	817
S. C. Black Minorcas (Mo.)	817
White Rocks (Ill.)	813
S. C. Brown Leghorns (Mo.)	720
R. C. White Leghorns (Kans.)	703
Buff Rocks (Mo.)	666
R. C. Black Minorcas (Iowa)	641
I. R. Ducks (N. Y.)	674

CONNECTICUT

	Eggs
R. C. Rhode Island Reds (Conn.)	865
White Wyandottes (Canada)	1,069
S. C. W. Leghorns (Penn.)	1,071
Barred Rocks (Md.)	925
Silver Wyandottes (none entered)	
Black Orpingtons (none entered)	
S. C. Rhode Island Reds (Conn.)	930
Buff Orpingtons (W. Va.)	860
Anconas (none entered)	
S. C. Hamburgs (none entered)	
White Orpingtons (Penn.)	857
S. C. Black Minorcas (none entered)	
White Rocks (Penn.)	901
S. C. Brown Leghorns (Canada)	907
R. C. White Leghorns (none entered)	
Buff Rocks (none entered)	
R. C. Black Minorcas (none entered)	
I. R. Ducks (none entered)	

Best Producers in the Various Months

In the Connecticut contest, individual pens of White Leghorns led in production all through the year; but, in general as a breed, the Leghorns did not hold first place till early summer. The Rhode Island Reds and Orpingtons see-sawed during the first half year of the contest, the Rocks being a good third. From July until the end of the contest the Leghorns and Wyandottes fought for first place.

The best layers in the different months of the year in the Missouri contest follow:

November	Black Orpingtons
December	S. C. Rhode Island Reds
January	Buff Orpingtons
February	Buff Orpingtons
March	R. C. Rhode Island Reds
April	Barred Rocks
May	S. C. Hamburgs
June	S. C. White Leghorns
July	S. C. White Leghorns
August	Barred Rocks
September	S. S. Hamburgs
October	Silver Wyandottes

Feed Consumed by Different Breeds

The average amount of feed consumed by each hen in the Missouri contest, of those varieties which had ten or more hens entered, and which averaged more than 120 eggs per hen for one year, follows:

Breed	Grain Pounds	Dry Mash Pounds
Wyandottes	35	34.1
Rhode Island Reds	35	35.6
Black Langshans	35	50
Orpingtons	35	37.8
S. C. Black Minorcas	35	44
Leghorns	34.8	28.9
Anconas	34.8	30.5
Indian Runner Ducks	none	121
Plymouth Rocks	34.5	44.6

The cost of the grain fed in the Missouri contest averaged about one and one-third cents per pound, and the cost of the dry mash was nearly two cents per pound.

Feeding Rations Used in Each Contest

The grain mixture fed in the Missouri contest was 200 pounds cracked corn, 200 pounds wheat, 200 pounds oats. The dry-mash mixture fed in hoppers was 100 pounds wheat bran, 200 pounds middlings, 200 pounds corn-meal, 200 pounds ground oats, 150 pounds dried beef-scrap, 75 pounds alfalfa meal, 50 pounds gluten meal, 25 pounds Old Process oil-meal, 8 pounds fine table salt, 25 pounds powdered charcoal.

In the Connecticut contest the scratch grain mixture was 60 pounds cracked corn, 60 pounds wheat, 40 pounds heavy white oats, 20 pounds barley, 10 pounds Kafir corn, 10 pounds buckwheat, 10 pounds coarse beef-scrap. The dry-mash mixture was 200 pounds coarse wheat bran, 100 pounds corn-meal, 100 pounds gluten feed, 100 pounds ground oats, 75 pounds standard middlings, 30 pounds fish-scrap, 30 pounds beef-scrap, 25 pounds low-grade flour.

A Good Showing but Room for Improvement

It can be seen that the Australians are in advance of the breeders of this country in breeding for egg-production. The leading pen in the Connecticut contest averaged 214 eggs per hen, and in the Missouri contest 208 eggs per hen, but the leading pen in the Australian contest which recently closed, averaged 250 eggs per hen. Also, in the same Australian contest, 360 hens gathered from 60 different breeders made an average of nearly 200 eggs per hen for the entire 360. But they have been conducting these contests in that country for ten years or longer, and the people have been educated to breed for egg production. The average farm hen does not lay more than 80 eggs per year at present. If we can raise the average to even 150 or 160 eggs per hen, we can double or treble the profit in poultry to those engaged in the business.

Hens on the Small Farm

"MY HEALTH having failed me to some extent, I feel that I must get off the 'big' farm and handle a smaller one, although I do not feel able to buy one at the present prices asked for land in this neighborhood," writes an Indiana farmer. "I went to look at a ten-acre piece of land, price $2,000, but learned at the same time that the owners would lease it for five years for $125 per year. Now do you think I could lease this land, build a suitable hen-house, equip the farm with five hundred hens and make it go, by raising eggs only?"

In my opinion it would be better for you to go farther east in your search for a suitable location for the poultry business. If I were starting in again, I would locate on a ten or fifteen acre tract as near to a large eastern city as I could get, and on a trolley line if possible. There are some good chances for building up a profitable business near to most of the popular summer resorts, but one would be surer of a good and steady business by locating near a city or large manufacturing town. When you find a suitable location, it would be far better for you to buy than to lease.

The Silver-Laced Wyandotte—a good utility bird

A few men have made the production of eggs exclusively a paying business, but all were backed by large capital at the start. It would be far better for you to have two strings to your bow by stocking up with some good utility breed, such as Plymouth Rocks, Rhode Island Reds or Wyandottes, and producing both eggs and meat.

In seeking a suitable location for the poultry business I would prefer not to go north of latitude forty, and I would go east. Tracts of land suitable for the purpose can be found near any of the large cities. Many are advertised in the Saturday or Sunday editions of some papers. Some of these farms have a nice outfit of buildings on them. I would rather buy one with the buildings necessary for starting in than to buy a bare tract and erect the buildings. If you should get one without the necessary houses, I can give you some pointers about building them economically, but I would advise you to get a farm with at least a fair outfit of poultry-houses on it, if you can. FRED GRUNDY.

The Market Outlook

Early-Maturing Sheep Are Most Profitable

By John Pickering Ross, Illinois

"ALL things do come to him who prays and waits." For want of reliable information we can only hope that sheepmen observe the first of these two means to success, but we know that they have patiently waited while cattle and hogs have enjoyed a good long inning; and now they are reaping their reward, for almost any specimen of the ovine race can find a market just now at a fair price.

But though almost anything with a fleece on its back and a decent leg of mutton to carry it around meets with a ready market, yet it is well to remember that the difference in value between the well-bred, well-fed and well-finished sheep or lamb and the one wanting in these qualities is all the time becoming wider.

And in this regard there is a special new and remarkable feature to be noted. It is that the popular taste in the matter of all kinds of animal food is very decidedly turning toward the consumption of the smaller and more tender joints of the younger animals, and this especially holds good with regard to sheep and lambs. Passing by what have been misnamed "hothouse" lambs, which often command fancy prices when but a few weeks old, at as low weights as fifty pounds, the lamb ordinarily marketed when nine or ten months old meets with the readiest sale at top prices, if fat and well finished, at from 75 to 85 pounds. Wethers should be from eighteen months to two years old and not to exceed 120 pounds. To meet this demand, buyers discriminate largely against the heavier weights. The practical lesson to be learned from this (as was made very evident at the recent International Show at Chicago) is that the smaller breeds of mutton and wool sheep which mature early at low weights are those which will pay best to breed and feed. This applies more especially to farmers in the corn belt, and to those with small holdings everywhere.

Just now the care and feeding of the pregnant ewes is of paramount importance. Not only does the condition of the lamb at birth depend on the manner in which its mother has been fed, but the very life of both of them may be endangered by mistakes made in this respect. In England and Scotland, where often one fourth of the arable land on a farm is devoted to turnips, it is comparatively easy so to balance the ewes' food as to guard against their being too fat, which is dangerous at lambing; or so poor as to cause them to drop small and weak lambs.

Ewes do Best on Oats

In this country, where for various reasons roots are not grown so extensively, it is of great importance to decide on the best and cheapest substitute for them. Corn-silage and alfalfa have not until recently been much used for this purpose, but I think the silo is going to meet this want. Among many experiments made recently as to this, one of the most complete was made under the direction of Prof. John M. Evvard, of the Iowa Experiment Station.

Forty-eight ewes as similar as possible in breeding and condition were divided into four equal lots and fed as follows: Lot 1, clover-hay; Lot 2, alfalfa-hay; Lot 3, clover-hay and corn-silage; Lot 4, corn-silage. Shelled corn was fed to all of them. The cost of the average daily ration per ewe was as follows:

Lot No.	Daily cost of feed per ewe, cents.
1	2.47
2	2.74
3	2.03
4	1.66

The character of the lambs at birth is tabulated below:

Lot No.	Av. No. lambs	Av. wt. per lamb, lbs.	Condition: Prime to medium, Per ct.	Condition: Medium to inferior, Per ct.
1	1.67	6.58	65	35
2	1.75	7.91	76	24
3	1.67	7.44	73	27
4	1.33	8.36	82	18

Mr. Evvard says that the addition of some oats and oil-meal would have been advantageous. My own experiences of long ago taught me to have a wholesome dread of corn for all pregnant farm animals. Ewes certainly do best on oats. The slightly laxative properties of linseed-meal, as well as its value as a fertilizing element in the manure, make its use in small quantities very desirable.

A Quiet Wool-Market

The marked superiority of the lambs from the silage-fed ewes quite makes up for their inferiority in numbers; and I have no doubt that as they grew older it would be more than maintained. The ewes gained very equally in weight up to lambing. No special change in the prices of mutton and wool has to be recorded. The demand is satisfactory.

An Unusual Hog Situation

By Lloyd K. Brown, South Dakota

THIS winter's hog-market has differed somewhat from the regular program. By the holidays the winter market is usually in full swing, and supply is at its high tide. Packers have begun cellaring pork in large quantities, and prices have taken their seasonal narrow limits. This season, however, conditions are not like this. The supply of hogs in feeders' hands is in fairly large numbers, and corn is plentiful; feeding is profitable, hence there is no inclination to hurry to market. The packers have placed only enough product in the cellars to maintain the current stock, and price limits are rather wide for midwinter.

When a large supply was in the yards just before the holidays, the packers were able to force the price dangerously close to the $7 line at Chicago. Immediately following, there was a sharp reaction, supply was cut down one fourth, and some of the decline was regained.

A Market Hard to Manipulate

Swine-raisers generally are in good financial circumstances, and so are rather independent about selling on a low market. They prefer to hold and convert some more cheap corn into pork. This has produced a market of moderate supply for midwinter—one which the packers cannot manipulate easily—but it means more and heavier hogs late in the winter.

Indications are that many sows will be kept for breeding purposes. Their being withheld from the market now will not have as great an effect as their presence on the market during the summer after their pigs are weaned. This supply is gradually increasing year by year, and the demand for meat that previously had to be stored in cellars from the time of the winter packing season till midsummer can now be supplied from the hogs on the market at that time, and consequently the packers are not forced to lay up such a large store during the winter, and can refuse to buy heavily at this season unless the prices are attractive.

The packers have already caused a $2 decline, but they declare they need more to make anything but fresh-meat trade profitable. It does not look as if their desires are to be satisfied to any great extent. Fresh-meat demand is above normal, and the future outlook is still larger.

Marketing Apples in Chicago

By W. A. Toole, Wisconsin

SOME time ago I was in Chicago, and as we were shipping apples to a commission firm on South Water Street at that time, and receiving rather low returns, I thought I would visit the place and look things over.

To a person whose previous idea of a crowd is formed from his knowledge of circus-day in a country town, South Water Street is a bewildering place. Each side of the street is lined with trucks, pedlers' wagons, and delivery-carts, and the center filled full of loaded wagons moving slowly along, with a blockade occasionally, and seemingly the narrowest escapes from accidents. These, with the sidewalks lined with produce and hand-truck loads constantly moving back and forth, make a busy scene.

Grocers and Pedlers

I hunted up the commission house to which we were consigning our apples and went in and nosed about till I found apples shipped from my home town, though none of our own growing. Then I watched the salesman as he showed apples to buyers. There was plainly an oversupply on the market, and buyers were extremely critical. I noticed one sale failed because the buyer found one or two small apples down toward the center of the barrel.

Then I found the manager and had quite a chat with him. Among other things, he said to me, "During years like the present, when it is hard to place the goods, the buyer practically sets his own price, but when there is a little scarcity of apples we can crowd the price up some. The trouble this year is that all the outside markets seem to be filled, so we must look to Chicago alone to dispose of a heavy surplus. About seventy-five per cent. of the Chicago sales are made to the Greek pedlers. If it were not for them, we would not be able to dispose of the enormous supply. One person will be selected to buy for a large number of Grecks. They meet at night and get their supply at a central place, and early in the morning start out on their rounds. They are content with a small margin of profit, ten or fifteen per cent., and so reduce the price to the consumer, as well as disposing of larger quantities of goods. The grocer asks a profit of fifty per cent. or more, and the higher price means less amount sold.

This visit brought out a few "thinks" on my part. Among them were: that part of the present high cost of living is due to the many costs of distribution; that a lower price to the consumer, together with a better price to the producer, may often be had by dealing directly with the grocer or even with the consumer direct; that this usually may best be done through local coöperative marketing associations, such as already exist in many places and are giving satisfaction.

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It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Garden and Orchard

Trees Too Near Tile-Drain

A TILE-DRAIN correctly laid, large enough for the amount of water to be carried off and doing efficient work for a period became more and more sluggish in doing its incumbent duty, refusing to work full capacity, carrying less and less water until at last it began to back water and would scarcely work at all. Knowing that the drainage system was all right, and the tile sufficiently large to do good work, the conclusion was arrived at that there was a clog somewhere, and an investigation was made.

The cause of the trouble was located at the base of a large cottonwood tree, whose roots had penetrated the tile and formed a mesh or a network of tiny rootlets inside, which, by and by, had caught all litter, such as straw, grass, leaves and small sticks, till the water was almost completely barred from passing through.

This experience has taught us the necessity of cutting down all trees, the nature of which is to seek water with their roots, such as cottonwoods, maples and willows, if a perfect drainage is desired.

Such trees, though they are often hard to give up, owing to their desirability for shade and the fact that they contain some sweet reminiscences of the past, should be removed or hindered from growing near cisterns, low wells, or springs, as instances are on record where such trees have drained cisterns of their water by sending their hairlike roots through the side walls, then forming branches on the inside and growing into a tree.

J. A. RAISER.

Growing Winter Lettuce in Cold-Frames

IN OUR section, middle Georgia, we have very little ice before Christmas, though we have a killing frost some time about the last of October. Often the first crop of lettuce is raised without covering of any kind and little difficulty is experienced.

Our hotbeds face the southeast and are dug out from one to two feet and filled with barn-yard manure. This is turned over several times, and then the bed is raised six inches by the addition of a mixture of two thirds good garden soil and one third well-rotted manure. This is well pulverized, no lumps or grass-roots being left to give trouble in subsequent operations.

Construction of the Frame

A wooden frame is put over the bed. On the northwest the weather-boarding is two feet high, and on the southeast, one foot above the ground level. This slant toward the southeast takes advantage of all the sunshine there is, and also lets the rain run off easily.

The cross-sections should be placed every five or six feet to hold the frame rigid, and also to prevent the cover from sagging too much.

The frame is made from three to six feet wide and any length. I prefer a four-foot width for lettuce, as I can plant four rows and work them easier than in wider beds. The cover is made of osnaburg and nailed closely to the high side. The other end is tacked to a one-by-two-inch strip of wood, so that the cover can be easily rolled back when it is not needed; and the weight helps to roll it down and keep it in place when it is needed, especially during cold weather.

It is made wide enough to fall over the lower edge, as this will prevent the cover from being raised by the wind. This cloth cover is made rain-proof by being painted with linseed-oil. A cover so painted and stored in the barn at the end of the season will last two years. The frame will last much longer, but the soil must be removed and renewed each year.

The Work is Not Heavy

If very cold in January or February, a thick cover of fine straw is put over the lettuce under the cover, and manure is banked up against the wooden sides. Very little glass is used, except for seed-beds where all the light possible must be given.

Lettuce-raising in cold-frames should appeal to southern women. After the frame is made and soil carefully prepared, the work is not heavy. I use only three implements: a watering-pot, a trowel and a three-pronged kitchen fork. This I find the greatest help in transplanting the tiny seedlings.

For an early crop we sow the lettuce-seed in August, in boxes, with a three-inch layer of good garden soil placed on top of oyster-shells or other coarse material for drainage. The seed is sown in rows two inches apart and then pressed in with a brick. The ground is in a moist condition before planting. Then water, sift a little soil on top, and cover with wet newspapers. As the air in August and September is not only hot but dry, the little plants must be sprayed twice a day or covered with wet newspapers.

Begin transplanting as soon as the second pair of leaves appear, not only because you want stocky plants, but because we have a little green caterpillar who is very fond of lettuce and a most voracious feeder. This little caterpillar is always found on the under side of the leaf, and if removed before he eats the heart of the lettuce, does little damage, as the first leaves are worthless. He is so exactly the color of the lettuce-leaf that he would escape detection except that he eats through, and the little punctures declare his presence.

Caterpillars and Cutworms

Set the little seedlings two by two inches in the next frame, and examine every day for caterpillars. I soon found I must watch for cutworms, too; they get in their work in the night. By looking over my bed before breakfast I could easily find the wilting plant and dig up the monster, so that his first meal also became his last.

A lost plant was replaced at once, and as soon as the leaves touched they were thinned again, leaving plants ten by ten inches in permanent quarters.

In transplanting, the soil being already prepared, I pushed the fork in and then forward a trifle, filled the hole with water, put in the little plant and pushed the dirt back with the fork, then firmed it with my fingers. In this way it was not necessary to shade the plants, except for the middle of the first two days; after spraying, they were covered with newspapers for an hour or two.

I continued to sow a few seed every week, as I wished to replace every plant as fast as the headed lettuce was cut. Later in the season, after the day of the green caterpillar was over, the plants were allowed to develop several leaves before transplanting.

Fertilizing and Transplanting

The lettuce grows very rapidly, and by the end of October the leaves touched in every direction and had begun to head. In November and December the crop was sold. As soon as a plant was sold, the ground was thoroughly loosened with a trowel, a pot of manure and a tablespoonful of nitrate of soda were worked into the soil and another little plant was growing there before night. That means that my plants were sold at the home market, and only as many were cut each day as there was a call for.

Varieties and Prices

I planted Golden Queen, which makes a small hard head and matures quickly, and Big Boston Market. Prices for the first averaged seventy-five cents per dozen and one dollar per dozen for the latter.

In this way I grew two crops of lettuce in the same beds. Some people grew three, but spring comes early, and my third crop was grown in the garden, though the little plants had been cared for in the hotbeds until they were quite large seedlings.

When the plants were small, the ground between was loosened once a week with a trowel, and all weeds picked out by hand. Lettuce requires a good deal of water, which is a fact to be considered in placing your beds. Once a week I added a spoonful of nitrate of soda to a watering-pot of water; this only for the large plants. I held the pot in the right hand and lifted up the lettuce-leaves with the left hand so that none of the nitrate of soda water fell on the leaves. It is better to do this just before a rain when it is possible, as the nitrate of soda scorches wherever it touches the lettuce.

With all your care you cannot get good hard heads unless the nights are cool. More lettuce is spoiled by heat than cold, as the heat makes it throw up a seed-stalk instead of heading.

MARY H. BOWERS.

"Er—good-morning, Brother Fox. You're up rather early this morning."
"Yes, I'm up before breakfast, Brother Rabbit."

Yellow-Striped Cucumber-Beetle

AN ILLINOIS reader complains that he is unable to raise squashes and cucumbers. The vines start off nicely, and when the fruit begins to set, a worm of some kind gets into the stem and bores a hole through the center; then the vine dies.

The culprit, no doubt, is the larva or caterpillar of the striped cucumber or squash beetle, usually called "cucumber-bug." The corrugated or roughened outer surface of the stem, just below the surface of the ground, and of the root is the work of this pest and a sure indication of its presence.

Kill the adult beetles when they first begin to feed on the foliage, by early applications of arsenate of lead, thus preventing their breeding. The application of tobacco-dust, by the handful, to and around the stems of cucumber, squash and similar vines, will

have a tendency to keep the young larvæ away from the stem and root of the vines.

Squash-vines in some localities are sometimes attacked by the squash-vine borer, a much larger whitish or pinkish worm or grub which bores into and tunnels through the center of the stem and often kills the plants. Tobacco-dust may be applied for this pest in the same way as for the other. The borers my also be hunted up and carefully dug out, and the first joints of the vines be well covered with moist soil so as to induce the vine to make new roots at these first joints.

What It Proved

By G. Henry

THE truck-gardener was unmercifully beating his old horse. It was early in the morning, and the truck-gardener was, of course, in a hurry to get to market so that he could sell his cabbages and carrots and berries and turnips and corn. If he did not get there very soon, some other truck-gardener would reach market ahead of him aud get THE MONEY, for which we all strive so earnestly and sometimes unscrupulously.

His old horse seemed to be tired, and he balked on a steep hill. The pavement was slippery, too; but the truck-farmer in his eager quest for money forgot the handicaps against which the old horse struggled, and beat him and beat him, until a woman called out of a window for him to stop it.

"Stop it!" she screamed at the top of her shrill voice, "or I'll call my big son who is just home from college, and he will beat YOU."

But the truck-farmer continued to belabor his co-worker, and when this failed to produce results the farmer got off his seat and seized a club and knocked down the old horse, but the horse got to his feet again. Still he remained as stubborn as some of us men and women, and instead of going ahead he actually began to back up, just as men and women sometimes press the breeching when they should press the collar.

"Mind your own business," the truck-gardener said to the woman, who was still calling to him.

And out came the young college man; and being young and strong, and anxious to please his mother (who furnished the dough whereby he went to college, and entertained chorus-girls, and drank a little wine, and belonged to numerous useless frats) by showing his love for dumb brutes, he picked up the truck-farmer—an old man, and thin and weak from excessive hard work—by the scruff of the neck, and slammed him on the cobblestones, and cuffed his ears, and smashed his nose, and kicked him where he sits down.

And then they had the truck-farmer arrested, and he was fined twenty dollars and sent to jail for thirty days—by a judge who owed the college young man's mother money.

And the truck-gardener was disgraced, and his wife suffered, as did also his children, for the little patch of ground they rented could not receive proper attention whilst the husband and father was in jail.

And the old horse was not cured of his tendency to balk.

And the young man was ashamed—after he thought over it.

And the mother of the young man loved her son less after she thought over it.

And it proves that we are pretty savage beasts after all.

Sowing Onion-Seed

FOR sets, onion-seed should be sown in early spring, at about the time when seed is sown in the open field for fall or dry onions. The soil should be sandy and of medium fertility, and the seed should be sown at the rate of fifty or sixty pounds per acre. The only onion-seed I sow in the summer (last of July or early in August, possibly l er would do further south) is White Portugal and Vaugirard for next spring's green or bunching onions. I usually sow about twenty pounds to the acre. But the land should be very clean, also very rich, and especially in early spring have an abundance of available nitrogen. It is best to make an application of nitrate of soda soon after the plants are up and another, heavier, one (say 250 to 400 pounds per acre) in early spring. No reason why you could not succeed in growing a good crop of green onions in this way for next spring; and if you do succeed, you will find this crop exceedingly profitable. T. Greiner.

Storing Poultry-Manure

AN EXCELLENT fertilizer for the garden or hotbed can be procured by spreading coal-ashes, road-dust, muck or sawdust under the hen-house roosts and storing the mixture of poultry-droppings and ashes in barrels.

The potash of the ashes and the nitrogen of the manure make an exceptionally strong fertilizer as well as affording a simple means of disposing of the droppings in a useful and convenient manner. D. S. Burch.

When some men get on the track of a dollar, they think of no other interest until they have tracked it to its lair.

Live Stock and Dairy

Suppressing of Milk

A VIRGINIA subscriber writes: "We had a cow come fresh about three weeks ago, and she is not giving as much milk now as she did before becoming fresh. We milked her up to the time she came fresh. She is in good order, eats heartily and seems all right in every way. Please tell me what the trouble is and what to do for her."

It was a mistake to milk the cow up to the time of calving. She should have been "dried off" for at least six weeks before calving. The following treatment is recommended under the present circumstances.

Three times a day thoroughly massage the udder and strip away the milk, and at night give the udder a good rubbing with brandy.

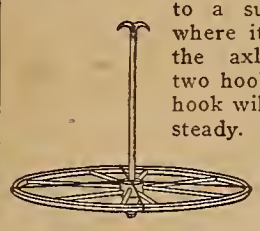
Feed milk-making feeds, which should be laxative in effect so that the bowels will be kept active. I would suggest mixed clover or alfalfa hay, silage or roots, and such grains and meals as corn-meal, dried brewers' grains, bran and cottonseed-meal or flaxseed-meal. Allow at least one pound of grain and meal mixture for each hundred pounds of body weight of cow.

If she does not quickly increase in milk-flow, give three times a day, in a quart or two of warm water well sweetened with blackstrap molasses, one heaping tablespoonful of a mixture of equal parts of ground fennel-seed and aniseed. This will have to be administered as a drench, and care will have to be taken to prevent choking from medicine "going the wrong way."

DR. A. S. ALEXANDER.

An Original Meat-Hanger

TO MAKE a good meat-hanger for use in smoking meat, take a buggy-wheel, with axle and nut, and have a blacksmith cut off to a suitable length, to fit where it is to hang, splitting the axle-iron and forming two hooks to hang by, as one hook will not hold the hanger steady. See the illustration.



The wheel should next be reinforced by passing double strands of wire from at least four places on the felly, crossing on the hub and about the axle, afterward twisting the wires up tight. If it is not wired, the wheel may collapse under a heavy load of meat. Braced thus, it should bear up without any danger about five hundred pounds of meat.

Having the fire a little to one side of the wheel, the meat may be readily rotated as needed, smoking it more or less as desired.

PAUL R. STRAIN.

Molasses and Chopped Straw, a Cheap Feed

A CHEAP substitute for dearer cattle-foods is good straw, chopped to about one-inch lengths. Any kind will do, but oat, pea or barley straw is preferable. Wheat-straw is also quite valuable. It should be well sprinkled over with cheap molasses the night before and used for early feed in the morning. At midday feed a grain ration and a little hay, and at night give silage or roots.

J. P. Ross.

Coöperation in Side-Lines

MR. DALLAS S. BURCH, recently State Dairy Commissioner of Kansas, offers some suggestions as to the reasons for the failure of coöperative enterprises in some localities, while the same sort of organizations achieve brilliant success elsewhere. His letter follows:

I have watched the success or failure of a score of coöperative organizations during the past five years and have come to definite conclusions as to why things don't always turn out as we think they should. I have found that many of the reasons for the success of coöperative enterprises are not as important as formerly thought, and in the debris of unsuccessful projects I invariably found something I had not been looking for.

Being something of a dairyman, I am interested in coöperative creameries and in breeders' associations. In Wisconsin about a fourth of the creameries are successfully conducted on the coöperative plan, while in Kansas not a single coöperative creamery has been able to make a go of it.

They Coöperate in Matters Affecting Their Main Source of Income

The Kansas farmer is fully as intelligent and industrious and wealthy as the Wisconsin farmer, but he can't make a coöperative creamery run profitably. Take breeders' associations as another example. Wisconsin is full of them, and Kansas can scarcely develop enough enthusiasm to keep alive the few that institute workers have started.

The natural conclusion is that Wisconsin farmers will coöperate and Kansas farmers will not, but that theory is wrong. Kansas farmers have their farmers' unions, their good-roads clubs, and their wheat and corn clubs, coöperative enterprises and good ones. Yet they can't, or won't, or don't, get together on dairying. This is the reason: People do not coöperate successfully on side-lines to their main business. In Wisconsin dairying is the chief source of income to the members of the coöperative creamery associations, while in Kansas wheat and corn are the mainstays of the farmers belonging to the wheat and corn organizations.

When a farmer gets over half his income from one source, you can't permanently sidetrack his interest to something else in which he is only casually interested—for example, dairying in Kansas. But as soon as he gets interested in his cows and the market for his dairy products he will spontaneously develop the coöperative spirit along the line of dairy associations.

Of course, good management and liberal support are necessary to the success of any enterprise, but they are the natural results of interest and enthusiasm along any line. Organizations follow every form of industry; they do not create the industry. The western fruit-growers' associations, the eastern milk-shippers' associations, breeders' organizations and all similar enterprises are a direct outgrowth of interest in a main source of income. Such organizations succeed. Those which are based on side-lines generally fail, regardless of the most favorable circumstances under which they are organized. My conclusion is, "Don't pin your faith to a coöperative project unless it represents the principal source of income of those interested. Coöperation in a side-line generally fails."

This sounds convincing, but will it stand examination? The truck-farmers of the Eastern Shore of Virginia have splendid organizations, but although trucking is the main and often the sole business of thousands, truck-farmers generally have no good coöperative societies.

The Coöperative Instinct is a Development

The Florida orange-growers do not compare with those of California in this respect. Raisin-growers in California do not appear to be able to stand together as the orange-growers do. Apple-growers in the Northwest have the best coöperative organizations in many respects in America, but the men engaged in the same business in the East will not coöperate, although their welfare is just as completely bound up in the king of all fruits as is that of their Oregon brethren.

The Danish farmers, on the other hand, belong to numerous coöperative societies. A man may belong to a dozen. As a bee-keeper he belongs to an apiarists' union, as a fruit-grower, to a horticultural society. Most of them belong to the coöperative organization which kills and packs the hogs of the kingdom, to the egg-handling society and the coöperative creamery. The coöperative instinct is a development. Those who have developed it have it. Those who are backward in this respect do not. We must all admit this, even though we are among the ones who have not yet seen the light.

Selecting a Collie

A MICHIGAN reader is having trouble in training a collie pup. The pup has developed a tendency to steal meat and chickens from the neighbors and suck eggs. Also, he will not drive cows properly, as he will not snap at them and will run if a cow turns on him.

I find it about as difficult a thing as I have undertaken, diagnosing other farmers' troubles with their dogs, at a distance. I can say, however, that you are up against a hard proposition, trying to make a good dog out

The collie is an excellent watch-dog

of the one you have. Everything is against him, and as he has already shown a tendency to betray your confidence even when well fed, full grown and matured I would advise that you give the dog away or quietly chloroform him. Then for the new dog I would advise that you study to get a strong, eager pup. If you can find a breeder who is offering strong, eager, nervy pups from courageous parents, use a pup from that strain. If not, get one of good, plain-bred shepherd stock. Select one of the general appearance of the pup on the extreme right of the picture of puppies on Page 5 of the July 20, 1912, FARM AND FIRESIDE. This little fellow shows the calm assurance, the courageous inquisitiveness, that stamps him as having such qualities that would make him a good "prospect." Then, with such a new start, if you will try to understand the general spirit of my directions, you may feel reasonably sure of growing a helpful farm dog. A good dog is worth all the time and trouble, but let no man underestimate the need of teaching and patience.

I Keep Him in Fine Spirits

With a pup I have now a new trouble is arising. Not new for dogs, but new for this present puppy. He wants to run at the head, *the most detestable fault of a farm dog.* This is a crisis that calls for an immediate remedy, or we have struck a rock. To cure him I will use him myself every time he is used. I will ask of him many things every day that will get his mind on me and get him to doing what I want. I will double on the times it is necessary to use the words "stop" and "that's right." More than this, I will keep him feeling in fine spirits and not in the least cowed. In this way he will be eager to work when I take him out, and yet accustomed to listen and obey the command to "stop" or "go ahead." The rest is sure and simple if I give him time and attention until I instil in him the habit to work at the heel. Then I must watch to prevent his backsliding into the old error. In training dogs, eternal vigilance is the price of success. He partly got into that habit because I grew slack with his mother and let others who would not hold her to her work use her, and in the joy of having her pup with her the mother grew wild and ran out with her puppy. This is characteristic of many little breaks an eager pup will make, and shows how training a dog takes thought and time.

Speaking of the collie's tendency to eat chickens and other fresh meat, I feel that there might be a hereditary tendency in this. Because of the mother's developing such an appetite for meat when carrying the puppy, I believe the pup might have inherited the appetite for meat to an unusual degree.

Both male and female collies have developed into good work dogs, but it is generally considered that a female will be more constant in her watching out in the field.

Yes, the collie makes an excellent watch-dog, and there are few better. Owing to their long, rough coats, they can endure weather that would send other dogs to cover, and because of that they lie out in the open where they can watch better. I feel confident that right now out at the front-yard gate my young dog is lying on the sand of the walk where all of the barn-yard and houses are in his sight. J. C. COURTER.

The Babcock Test

By W. D. Nicholls

THIS is the first of a series of short articles on scientific instruments of value to the farmer and which he can own and operate to advantage.—EDITOR.

The Babcock test is used to determine the amount of butter-fat in milk and cream. Its use in connection with a milk-scales furnishes the farmer a quick and simple means of finding out exactly how much butter-fat each cow in his herd is giving. Knowing this, he can then retain the high-producing cows in the herd and use their offspring to secure still further improvement in the herd yield.

The test was perfected by Dr. S. M. Babcock of the Wisconsin Experiment Station about twenty-two years ago. A complete testing outfit costs from $5 to $20, depending upon the capacity.

How to Make the Test

(1) Thoroughly mix the milk by pouring or stirring, and take out a small dipperful.

(2) Suck milk up into the measuring-pipette until it comes above the 17.6 c. c. mark. Close the upper end of the pipette with the finger. This will hold the milk in the pipette. By slightly releasing the pressure of the finger, allow the milk to drop out of the lower end until it comes exactly to the mark on the pipette, when it is stopped by pressing down firmly with the finger. Carefully transfer milk from pipette to test-bottle, holding the bottle in a slightly slanting position. Be careful not to lose a particle of milk in making the transfer. Milk adhering to the inside of the pipette is blown into the test-bottle as thoroughly as possible.

(3) Measure out acid into acid-measure, which is marked to indicate the proper quantity. Pour acid into test-bottle with milk. Thoroughly mix acid and milk by shaking gently with a circular motion. If more than one sample is to be tested, prepare in like manner.

(4) Place test-bottles containing mixture of milk and acid in whirling-machine, making certain that the machine is balanced. Turn the machine for five minutes at the speed indicated on the crank. Stop the machine, and add hot water (which should be perfectly clean and nearly at the boiling-point) until mixture reaches base of test-bottle neck. Whirl again for two minutes. Stop machine, and add hot water with pipette to about the eight per cent. mark on neck of bottle. Whirl again one minute.

This completes the test, and the butter-fat is shown as a clear or light straw-colored liquid in the upper part of the bottle neck. The sulphuric acid has acted on the constituents of the milk, setting free the butter-fat. The hot water added brings the liquid mixture up into the neck of the bottle, and the whirling causes the bottles to fly out into a horizontal position. The acid mixture being heavier flies toward the outside, the butter-fat being lighter is forced toward the center and into the neck of the bottle. This is divided into equal spaces, each representing per cents. and fractions of per cents.

Small Babcock tester for farm use

Apparatus Used in the Test

The test consists of (1) a whirling-machine, or centrifuge; (2) graduated test-bottles; (3) a glass measuring-pipette holding 17.6 cubic centimeters; (4) a 17.5 c. c. glass acid-measure; (5) a bottle of strong commercial sulphuric acid.

"Reading" the Test

Suppose the upper end of the fat column extends to the 7.2 mark and the lower end of the column to 3.6. Subtract 3.6 from 7.2. This gives 3.6, which is the percentage of butter-fat in the sample. This means that in 100 pounds of the milk there are 3.6 pounds of butter-fat.

Precautions to be Observed

(1) Acid-bottle must be kept tightly stoppered, else the acid will lose its strength. (2) The fat column must be measured at once before the fat hardens. Following the last whirling, it is best to set bottles in a pail in which is placed enough hot water (140° F.) to come nearly to the top of the neck of bottles.

Other Points

It is well to order a few extra test-bottles to replace bottles broken in use, and an extra pipette.

Cream is tested by the use of a special cream-bottle. An 18 c. c. pipette is needed. For very accurate work in cream-testing a small set of balances is required.

The FARMERS' LOBBY.

The Elgin Market Bugaboo

By Judson C. Welliver

SHOULD Santa Claus—the Lobby has just been out Christmas shopping with its wife, and has the Santa Claus idea on its mind—should Santa Claus, I repeat, be mentioned in a federal indictment as responsible for the high cost of living during the months of December and January, there would be about as much sense in it as naming the Elgin Board of Trade as responsible for the high cost of butter. The Elgin Board of Trade has just about as much to do with the value of butter as Santa Claus has to do with the distribution of Christmas gifts. No matter. We have skilfully propagated the superstition about Santa Claus, and Santa Claus "goes" with some millions of the kiddies.

Likewise, we have permitted other people to propagate the theory about the Elgin Board of Trade making the price of butter; and so the Elgin Board of Trade "goes" with sundry millions of adults. What's the difference between adults and children, anyhow? We accept the dictum of Elgin about butter prices just as cheerfully and unquestioningly as the kidlets accept the theory that Saint Nick and his reindeer make the distribution of Christmas presents.

Yet, if we may believe half of what the Government tells us in its bill of complaint against the Elgin Board, in which it is sought to have said board restrained and enjoined and put in jail and otherwise intimidated, the board has been for years playing on our innocence just as we play on the innocence of the infants. It appears that the board merely sits around and agrees that the price of butter shall be so-and-so as long as the sucker sellers shall stand for it, and as long as the sucker consumers shall be willing to pay it. For the doubtful service it thus renders us the board draws down the privilege of raking off a comfortable profit on butter transactions. The Government alleges that the prices thus fixed have no relationship whatever to the law of supply and demand; leastwise, not enough relationship to be discovered on careful investigation and analysis.

The Substance of the Charge

It is nothing less than astonishing that so small a percentage of transactions in actual, existent butter, could have been permitted for many years to influence so extensively the market prices of butter throughout the country. The attorney-general charges that the culprits are the Elgin Board of Trade and the American Association of Creamery Butter Manufacturers. Here is the substance of the charge:

The creamery concerns, gathering up great amounts of cream and controlling "strings" of creameries, are leagued with storage concerns. At one end of the line they skin the farmer by paying him an inadequate price for his milk, cream, or perchance his country butter. They discourage independent making and marketing of butter. Whenever an independent establishment gets big and important enough to influence the market in its locality, it is either put out of business or given inducements to come into the combination. The creamery people own brands which represent reputation; they advertise; they are able to supply their customers with large amounts of standard quality butter; they manipulate prices, by reason of this ability to execute large orders. There seems to be some difference of opinion whether independent producers have ever been systematically undersold in order to keep them out of the market; but in some localities this has been charged, and the trial of the Government's case will doubtless determine whether this practice has been used by the butter interests, as it has by the Standard Oil and scores of other combinations, to kill off the possibility of competition, and create a monopoly.

Country Butter—Good and Bad

At any rate, the inevitable outworking of this system of concentration in a few strong hands has been to discourage the farmer from making butter at the farm. The cream station and the creamery have taken the place of the churn on the back porch. "Fresh country butter" gets a quotation that is always low enough to make the farmer imagine that somehow he doesn't know the real art of butter-making. His butter may be just as good, it may be better, than that of the big creamery concern. No difference; he can't turn out enough of it to command a market and build a reputation; a good many farms, of course, don't turn out the best of butter; those that make the best necessarily suffer in the general market by reason of the shortcomings of those who make the worst; and as against the standardized quality—or, at least, reputation for quality—of the creamery goods the farm butter suffers. The rest is simple enough. The creamery people buy cream; the farmer gets what they will pay him; it's a very good arrangement, on the whole, so long as the creamery interest doesn't abuse its power. In the old days of coöperative creameries that really coöperated—and there are a good many of them yet, of course, in parts of the country—this plan was without doubt better for the farmer than making his own butter.

THE Elgin Board of Trade has just about as much to do with the ultimate cost of butter to the consumer as the mythical Santa Claus has to do with the distribution of our Christmas gifts.

Sales are Said to be Fictitious

But with concentration it brought power of price-fixing into the hands of the combination; and the combination is charged now with using that power at both ends: to discourage farm production of butter, to lower the prices paid to the farmer for his cream, and, on the other side, to boost the price charged the consumer.

The Elgin Board, it would appear, was a sort of nominal market in which quotations were made at the behest of the big creamery concerns and storage companies. The actual dealings at Elgin, I gather, had really about as much to do with fixing prices as a thermometer has to do with making the weather cold or hot. Striking a match and holding it near the bulb of your thermometer will make the mercury jump; and it seems that the Elgin Board was a price thermometer of that sort; the bulb was kept down cellar, and the price-fixers from time to time touched a match to it or packed it in ice, according as they wanted prices to go up or down. The innocent consumer, not seeing this by-play in the sub-basement, and supposing it was all on the level, bought at the prices that were passed out to him. That's the effect of the whole thing, as the Government's petition states it. "The price of butter fixed on the Elgin Exchange," it is stated, "is not the result of free and open competition, regulated by actual, bona fide sales under the law of supply and demand."

Merely a Puppet Show

Instead, the board has a price-fixing committee, which is charged with acting arbitrarily, without any reference whatever to the considerations that ought to weigh in making prices. "It has fixed prices," the petition baldly declares, "wholly in the interest of the conspirators."

This is the pleasant part that the Elgin Board is charged with playing: the part of a dishonest price thermometer. The American Association of Creamery Butter Manufacturers would seem to be the power behind the throne, pulling the strings on the puppet board at Elgin. This association is said to be composed of some forty-six firms and companies, all of whom accept the prices handed to them by the price-fixing committee, and operate accordingly, no matter whether the price is a reasonable and fair one or not. Getting the price fixed in this way, members make purchases and sales on that common basis. There is no competition at either end of the transaction.

The public, it will be observed—the consuming public—gets the worst of it all along. If there is a big production of good butter in June, the price naturally should come down. So it does—the price to the farmer; but when the storage and "centralizing" concerns get the butter into their possession, they hold it back for seasons of less production, and keep the price up.

GOVERNMENT authority is now exercised over warehousing, cleaning, grading and elevation of grain, and charges for the various services are in some cases, at least, fixed by the Government. Why not for storing a box of butter, just as reasonably as for the transferring and the storing of a million bushels of wheat?

This is the essence of the Government's charge. On the other hand, the Elgin Board insists that its business is legitimate, and that it has never been controlled by any save legitimate trade conditions. The same defense is presented by the Association of Creamery Butter Manufacturers.

"Our organization numbers manufacturers who turn out about one third of the country's total production of high-grade creamery butter," declares Secretary George L. McKay, of this association. "We have no connection whatever with the Elgin Board, have never controlled or tried to control it. Neither have we manipulated or tried to manipulate the price of butter." Only the trial of the case will decide who is right.

An investigation of the whole subject of cold storage, from many points of view, was conducted by the Senate Committee on Commerce, through a sub-committee, of which the late Senator Heyburn was chairman. This inquiry developed many facts that are likely to be important in their bearing on the forthcoming trial of the butter trust action. It seems to be pretty thoroughly established that cold storage for food products, in itself a good thing and a great factor for economy, has been perverted by various combinations to a means for establishing power over necessaries of life. In eggs, butter, poultry and fresh vegetables of many sorts, for example, as well as in some kinds of meats, especially game, it is alleged the people in control of storage have imposed upon both the seller and the buyer.

Broadly speaking, it is plain enough that the art of cold-storage preservation ought to be exceedingly useful to the people. The farmer should benefit by the fact that his eggs and butter no longer need be sold on the cheapest market, when there is excess of production. They can be kept till conditions are better; the year's supply can be distributed over the year with reasonable equity, even though the greater part of it may be actually produced in a few months.

Why Not Government Supervision?

That is the proper function of cold storage. We all know that function is perverted constantly by the powerful merchandising concerns that try to corner articles and force the public to pay excessive prices for them. The Heyburn committee reached the conclusion that in protection to all classes of people—the consumers and the producers alike—there ought to be some adequate regulation of the whole cold-storage business. Without doubt, that very thing will sooner or later be done. It may not go to the extent of actual price-fixing by any Government authority, though that even might be quite possible. Government authority is now exercised over warehousing, cleaning, grading and elevation of grain, and charges for the various services are in some cases, at least, fixed by the Government. Why not for storing a box of butter, just as reasonably as for transferring and storing a million bushels of wheat?

In Parcel-Post Circles

This Lobby is being written just as the parcel-post law is about to take effect. At the Post-Office Department it is stated that every effort has been made to supply ample facilities for handling the expected volume of business.

The Department has about $300,000 that it may use for parcel post. That amount is, nominally, supposed to do the business till June 30th next; but, as a matter of fact, it will all be used during January, and then Congress must give an emergency appropriation, immediately available, or something will drop.

Furthermore, Uncle Sam is likely to be urged to protect his interests very soon, for it develops that the express companies are on his trail. It is predicted that there will be slaughter of express rates, and an improvement of service, wherever it is needed to meet the Government competition.

Of course, this parcel business ought to be a Government monopoly, exactly as carriage of first-class mail is. Then the waste of competition would be avoided.

One advantage the farmers will reap from this service is that of parcel delivery among themselves which used to be permitted as an unofficial accommodation. Under the parcel-post system, everybody will be entitled to parcel service on the rural routes, and it will add greatly to the usefulness of the rural delivery that is now coming to its highest development.

WHILE THE MOTOR WAITED

By Crittenden Marriott—Illustrated by R. M. Brinkerhoff

Author of "Isle of Dead Ships," "Sally Castleton, Southerner," Etc.

WILTON crawled from between the wheels, slung a bag of tools into the tonneau and examined his hands and clothes ruefully. "I'm a pretty-looking bridegroom, ain't I?" he soliloquized. "I don't believe I've looked so disreputable since I put up the kitchen stove for Mother in the happy days down on the farm. Hands black, clothes ruined, and I'll bet my face hasn't escaped. Well, I haven't any time now to sweep and garnish myself, or Bessie will think I've failed her."

He climbed into the seat and sent the big car along at a forty-mile clip, slowing down only when the outskirts of a village told him that he was nearing his destination. At last, close beside a comfortable house, shining white in the moonlight, he stopped the motor.

Then he looked at his watch. "It's awfully late, according to village ideas," he muttered. "I hope Bessie hasn't gone to sleep."

Gingerly he approached the house, vainly trying to screen himself behind some bushes. "Confound that moon," he muttered. "It might just as well be broad daylight. This sure isn't the right sort of a night for prowling about other people's premises."

The village street lay white and silent in the frosty night. A light wind sent the leaves tumbling along the ground in rustling heaps and told prophetically of the coming winter. The trellises creaked slightly as the withered vines about them swayed in the draft. Here and there a dog barked or a hen stirred in a near-by chicken-house and settled herself to rest again with sleepy cluckings. But about the house itself there was no sign of life.

After a while Wilton bent down, scooped up a handful of gravel and flung it against the panes of a second-story window. Scarcely had it rattled back to earth, when the sash was cautiously raised, and a girl's head appeared. "Is that you, Tom?" she whispered.

Wilton nodded violently. "Surest thing, you know," he declared. "All ready? Come along, old girl."

"I can't."

"Oh! Yes, you can," returned Wilton, coaxingly. "Be brave, now, for just five minutes, and you'll be away from this old place for good and all."

The girl giggled. "Oh! It isn't courage I need," she explained. "It's a ladder."

"A ladder?"

"Yes. I'm locked in. Aunt Abigail caught me reading a novel to-night and locked me up without any supper. How I'm to get out I don't know. There isn't any ladder on the place, and I simply won't climb down a rope made of bedclothes—not even to get married. If you want me, you've got to get me out some other way."

Wilton balanced himself on a fence-paling and looked up at the girl. "Well," he said, "you know the place better than I do. Can't you suggest anything?"

"We—ll. If you could get into the house, you could come and unlock my door. The key's in the lock—I can see the end of it."

"Humph! Burglary! Well! I'm game. Where do I make my felonious entry?"

Bessie laughed. "It's just possible that the cellar door is unlocked," she said. "If it is, you can slip in that way. I know the door at the head of the inside steps isn't locked, because the key is lost. Be careful, or you may get some dust on your nice going-to-get-married clothes."

Wilton glanced down at the ravages his tussle with the motor had worked in his suit. "I don't think you need worry about that," he rejoined grimly. "Where do I do the disappearing act?"

"Right beside you there."

Wilton looked around him, and sure enough, close at hand, was an old-fashioned inclined cellar door, which a hasty investigation showed was unfastened. He lifted it and peered into the black depths. "Say," he questioned, looking up. "What do I find at the bottom?"

"Coal—and other things. Don't get into it."

"I'll try not. Well! Here goes!" Wilton took one or two steps downward, then paused and looked up at the window. "Oh!" he cried, "if Mother could only see her wandering boy to-night." Then he descended slowly into the hole, leaving Bessie to clasp her hands in delighted terror.

The cellar was very black. Two steps away from the stairs Wilton lost his bearings and blundered into a heap of coal which slid and rumbled under him, next he knocked down a shovel conveniently placed in his way, then he stumbled over a box and finally discovered the cellar stairs—with his shins. "Great Scott," he muttered. "I hope Miss Abigail is sound asleep."

Cautiously holding to the hand-rail, he climbed the stairs, pushed open the door at their head and slipped into the hall. It was too dark to see anything, and Wilton decided there was less danger in making a light than in stumbling around in chair and table peopled obscurity. "Next time I elope, I'll bring a dark lantern," he muttered, as he struck the match.

The next instant something (it was really a broom, though it felt like a besom of destruction) fell upon his head, knocking him sideways. A second mashed his hat over his eyes. A third was coming; he saw it and tried to dodge, tripped and fell headlong, the match going out as it dropped. Then the broom descended.

The blow was not a very heavy one, and Wilton soon came back to consciousness under the stimulus of a glass of cold water dashed into his face, where it added a touch all its own to the grime of the motor and of the coal-cellar. He opened his eyes and found Miss Abigail bending over him, lamp in hand. She had not been sleeping so soundly as he had hoped.

She had bound him firmly to an armchair before reviving him, and as he opened his eyes she set down the lamp and took her seat opposite him.

"Well, young man," she said deliberately. "Judgin' from your appearance, burglary is a lot dirtier trade than I ever supposed it could be."

It speaks volumes for Wilton's training that he rose instantly to the situation. He looked at himself as well as he could and was not surprised at Miss Abigail's mistake. His hands and clothes were black as coal could make them, and he guessed that his face was in the same condition. If it was, it was not wonderful that Miss Abigail, who had seen him only a few times, should fail to recognize him.

In the twinkling of an eye he had formed a plan.

"Yes, ma'am," he said deliberately, adopting Miss Abigail's vernacular. "Burglary is sort of dirty sometimes, and that's the main reason I've been thinking of givin' it up."

"Humph! I cal'late you'll give it up now for a while, anyways," returned Miss Abigail, meaningly. "I judge you ain't had much experience."

"No, ma'am, I ain't. I was brought up on a farm, but the Trust sold me out, an' I ain't been able to get another place yet. Times are hard, an' a man's got to live, you know. So when I saw your cellar open, I thought—

Miss Abigail stopped rocking. "For the land's sake," she ejaculated. "I've told Thomas about the cellar-door till I'm plumb wore out. Thomas is my hired man, you know, an' hired men is awful triflin' in this part of the country. It ain't like havin' a man of your own about the place, you know."

"That's what I always said," returned Wilton. "A man had ought to have an interest in what he's workin' at. Just plain hired men ain't no good 'cause they ain't got no interest. That's why I wouldn't hire out to work on no man's place. Give me a place of my own, says I, an' then I'll work. But nobody would give me one, an' so I took to burglary."

At about the middle of this speech Miss Abigail started and begun to study her prisoner with renewed interest. "You wouldn't be half bad looking if you was slicked up a bit," she said reflectively.

At that instant the transom over a door just behind Miss Abigail and directly opposite Wilton opened softly, and Bessie's face appeared. She caught the young man's eye, glanced expressively at her aunt and then deliberately winked. Wilton caught his breath. "No'm! Yes'm," he stammered, trying to avoid Bessie's eye.

"Well, young man . . . Judgin' from your appearance, burglary is a lot dirtier trade than I ever supposed it could be"

".An' you look strong," continued Miss Abigail musingly, "'s if you could do a good day's work. An' I don't see no signs of drinkin' about you. I never could abide a drinkin' man. You ain't married, be you?"

Wilton choked. "No, ma'am," he said, when he had recovered his breath. "Not exactly, ma'am!"

"Not exactly? Sakes alive, what you mean?"

"I was engaged once, ma'am—but she was taken from me, and I ain't forgot her, ma'am."

At the transom Bessie made wild signs of delight, smiling, nodding and pointing at herself. Wilton dropped his eyes in time to save himself from laughter.

Miss Abigail shrugged her shoulders. "Oh! well," she said, "if she's deceased it don't matter. Hum—uph! It kinder seems a pity to send a strong, good-lookin' young man like you to jail, 'specially when he wants to work. You do want to work, don't you young man?"

"Yes, ma'am—if I can get an interest in the business, ma'am."

"Humph! An' you was brought up on a farm?

"Yes, ma'am."

"Humph! As I was sayin' a moment ago, I've got near about one hundred acres of good land here an' make considerable at truck-gardenin'. I could make lots more if I had a real capable man to take hold and run things. You say you ain't married?"

"No, ma'am!"

"Well! Would you like to be?"

"Yes, ma'am." Wilton caught Bessie's eye and threw an added fervor into his words. "'Deed I would, ma'am. If I could find a real nice woman—someth like yourself, ma'am—I'd give up burglary and settle right down and work to beat the ba—that is, I'd work real hard, ma'am. But there ain't no such luck for I s'pose I've got to go to jail instead."

Miss Abigail went over to him and began to untie the ropes that bound him. "Well, seein' we're agreed, I guess there ain't no reason to keep you tied any longer. Seems like it's dreadful risk to take marryin' a man this way, but I dunno. Providence has got queer ways, an' who are we to hesitate. My sakes, what's that?"

From the cellar came a sudden uproar—a crashing of coal, a banging of tins and a splintering of wood, all inextricably blended. Miss Abigail sprang to her broom, then flashed a look at Wilton. "You got a confed'rite down there?" she demanded.

"No'm; I swear I ain't. Somebody must have followed me into the cellar, but I don't know him. Here! let me loose, and I'll deal with him."

He strove to free himself, but Miss Abigail sternly shook her head. "I ain't takin' no chances on you yet," she said. "You stay where you be. I'll attend to this fellow."

She strode across the floor, snatched up a screen and set it around Wilton and his chair. Then she picked up her broom, poised it and flung the cellar door open. "You come right up here and show yourself," she ordered.

Limpingly a man ascended the stairs. "It's only me, Miss Abigail," he said.

Miss Abigail peered at him. "Si Perkins!" she cried. "Whatever are you doing in my cellar?"

Si rubbed the bruise on his forehead. "Sh-ssh!" he said. "There's burglars in the house, Miss Abigail."

"Burglars, your grandmother!" Miss Abigail sniffed. "Ever since you paid ten dollars to that lot of Chicago swindlers and got a tin detective badge for it, you've been daft about burglars. This is a pretty time of night to come a-sneakin' into my house."

"It ain't so late, Miss Abigail," pleaded the man. "I was just a-comin' back from protracted meetin' when I saw your cellar door open and—

"From meetin'," interrupted Miss Abigail. "Did Brother Beasley hold forth?"

"Yes, ma'am! He did! He was a preachin' on race suicide and—

"Race suicide! That settles it. If that ain't a direct sign, I don't know one. You reckon he's gone to bed yet?"

"No, ma'am. I just come from meetin', and I know he was later than I be."

Miss Abigail opened the street door. "Now, Si Perkins," she said, "you go right to Brother Beasley's, and tell him I want him. You come back with him, an' maybe you'll have a chance yet to land that burglar you was a-lookin' for. I ain't a promisin' nothin', for I don't know how things is going to turn out yet, but I say maybe. Now you hurry."

"Yes ma'am, Miss Abigail. I will."

Si hurried out of the door, and Miss Abigail came back into the room, removed the screen from around Wilton and stood considering.

It was at this moment that Bessie, who had watched the proceedings breathlessly, decided to intervene and commenced a furious rat-a-tat on her door. "Aunt Abigail!" she called. "What's the matter? Oh! What's the matter? Please let me out?"

An expression of relief came over Miss Abigail's face, and she hastened to unlock the door. "Come in here, Elizabeth," she said. "I want you—"

Bessie entered. At sight of her full dressed condition, Miss Abigail's lips formed a question, but before she could ask it the girl pretended to spy Wilton. "Oh!" she screamed, catching her aunt in a vise-like grip. "Oh! Aunt Abigail, who's that?"

"Don't be a fool, Elizabeth," commanded the older woman, severely. "That is the gentleman I'm going to marry. I've just sent Si Perkins to bring Brother Beasley to tie the knot. But I've got to dress; I ain't a-goin' to get married in a red flannel wrapper; an' I want you to stay here and see that he don't escape."

"Oh! Aunt Abigail. I can't. I—I'm afraid."

"Nonsense. Don't you get on any of your high-strikes with me. You stay here. If you want something to do, you might get a towel and some water and wash his face for him. He needs it. But don't you untie him."

"Very well, Aunt Abigail. But hurry. I'm so scared."

"I'll hurry." With a last glance around her, Miss Abigail hurried from the room.

Instantly Bessie rushed over to Wilton. "Oh! you poor, dear boy," she cried.

[CONCLUDED ON PAGE 35]

SUNDAY READING

The Least of These

By Bishop McIntire

"DAGO" and "Sheeney" and "Chink,"
"Greaser" and "Nigger" and "Jap"—
The devil invented these terms, I think,
To hurl at each hopeful chap
Who comes so far from over the foam
To this land of his heart's desire
To rear his brood, to build his home,
And to kindle his hearthstone fire.
While the eyes with joy are blurred,
Lo! we make the strong man sink,
And stab the soul with a hateful word,
"Dago" and "Sheeney" and "Chink."

"Dago" and "Sheeney" and "Chink"—
These are the vipers that swarm
Up from the edge of Perdition's brink
To hurt and dishearten and harm.
O shame, when their Roman forebears walked
Where the first of the Cæsars trod!
O shame, when their Hebrew fathers talked
With Moses and with God!
The swarthy sons of Japheth and Shem
Gave the goblet of life's sweet drink
To the thirsty world which now gives them
"Dago" and "Sheeney" and "Chink."

"Dago" and "Sheeney" and "Chink,"
"Greaser" and "Nigger" and "Jap"—
From none of them doth Jehovah shrink;
He lifteth them all to His lap.
And the Christ in His kindly grace,
When their low, sad sob he hears,
Puts His tender embrace around our race
As He kisses away its tears,
Saying: "O least of these, I link
Thee to me for whatever may hap,
'Dago' and 'Sheeney' and 'Chink,'
'Greaser' and 'Nigger' and 'Jap.'"

—*Methodist Review.*

Entering a New Era

By G. Henry

WE ENTER a new year, a new era. The new year to which we are introduced smiles pleasantly; we should smile encouragingly surely.

We should greet the dawn with optimism, for pessimism belongs to the past, and we of this country belong to the present and the future wholly.

No man knows how long since God placed this continent here; no living man has a heart or soul or brain big enough to appreciate the blessing thus preserved especially for our benefit.

Perhaps no living man can build a picture in his mind of the possibilities lying in wait for this land.

We represent liberty if we appreciate it. We represent hope if we grasp and hold to hope. We represent happiness if we seek happiness. We represent success if we but learn the meaning of true success.

We are HOPE, SUCCESS, HAPPINESS, LIBERTY.

With each year, each new era, our hope must grow stronger, since with each year we see broader, think clearer, feel deeper.

We are the masters of our own destiny. We will surely recognize right destiny from wrong destiny if we are guided by the better part that is within us.

We are The People. If The People under God's guidance rule themselves, hypocrites shall perish, false gods shall vanish, physical and mental pestilence shall slink away, false prophets shall be vanquished, self-seekers shall go up in the froth of idle talk wrapped in black smoke which conducts to oblivion.

Welcome, New Year! We greet thee gladly, yet humbly; for we realize our proneness to weak effort and weaker accomplishment—even in this Land of Hope.

But welcome, thrice welcome. We take thee by the hand to walk by thy side toward the rising sun, toward the ideals which bespeak the welfare of the great majority.

Imaginary Troubles

By Orin Edson Crooker

IT IS stated that the engineers of limited trains find it far more nerve-trying to run their engines at top speed on bright moonlight nights than to drive them seventy miles an hour through the blackest midnight. The reason, as expressed by one who speaks from experience, is that on moonlight nights one is always fighting shadows. Every telegraph pole, boulder or tree along the right of way which throws its shadow across the track suggests a possible obstruction with consequent wreck and loss of life. An engineer comes to dread such nights and much prefers to drive his iron steed through storm and fog and inky blackness than through the deceptive light of a full moon.

It is not alone engineers who are distressed by the hopeless task of fighting shadows. Most of us spend much precious energy and sacrifice considerable peace of mind over imaginary troubles that never materialize. We worry over a thousand things that seem to foretell evil consequences. We magnify every possible shadow into a catastrophe. In every passing cloud we see a thunderbolt. Our happiness is crowded to one side by the gaunt specter of impending disaster. The things that *may* happen are of so much concern to us that we cannot fully enjoy the things that do happen. The satisfactions of to-day are never entered into wholeheartedly because of the trouble that is visible upon the horizon of to-morrow.

It is well and good to "take thought of the morrow." It is wise and prudent to anticipate certain disagreeable situations, for by so doing we may overcome them instead of being overcome by them. But he who purposely "borrows trouble" is making himself a slave to pessimism and an easy victim of the blues. There is trouble enough in the world that materializes without need of imagining a lot that never develops into anything more tangible than thin air. If one gets in the habit of looking at things through blue goggles, one finds after a time that even the sun has turned to indigo and that genuine happiness has become a thing of the past.

"Sufficient unto the day is the evil thereof." It is a wise man who learns how to find his happiness and his contentment in each day as it comes to him, and who, without allowing to-morrow's cloud to obscure to-day's sun, learns how to extract from each day the best that it holds. Only in this way does one ever learn the secret of true happiness. He who constantly combats imaginary evils gains not even the satisfaction that comes from brushing down cobwebs, for his imaginary foes have neither substance nor form.

Treat a venerable wise man with respect, but correct thine equal when he maintains a wrong opinion.

The Wages of Sin

By W. J. Burtscher

ALL the world is interested in the subject of wages. We all want what is coming to us for something we have done for somebody—our wages. The man who does right anticipates receiving his wages with pleasure. The man who does wrong tries to forget that there is a pay-day coming.

The Bible has a number of things to say about wages. First of all, we are to understand that the laborer is entitled to his wages. The ox is not to be muzzled while thrashing the corn, because the wages of the ox consist of what he eats, and he is entitled to that while he is working—and more while he is resting.

The laborer is worthy of his wages. Jesus said that. It is true to-day that a man is worth what he gets. If he gets a dollar a day, it must be because he is worth but that; if he gets ten, you may be sure it is because he is worth that much to the man or corporation that pays it.

Now, it is also true that the sin-worker—the man who does wrong—is entitled to his wages. He is worthy of what he gets. What he does to society and to the Kingdom of God makes him worthy of the wages that are his—Death!

We further read in the Book that wages must be paid promptly. They are not to be withheld even overnight. The wages of sin are paid that very way. Death is universal to mankind. The saint dies as well as the sinner. But the death referred to in the text is more than mere separation of spirit from body. It is the death of something now—the continual dying of some virtue the sin-worker possesses.

The man who works for the wages of sin is paid promptly in death of conscience. His conscience gradually dies off. He is paid promptly in death of reason. He is paid promptly, each day, week, month, year, decade, in death of virtue, contentment, godliness, love, purity—indeed, all of the Christian graces. They die and drop off like dead leaves on a tree. After a while there is nothing left but the bare trunk—a truly dead man.

The Bible goes even so far as to enjoin us to be content with our wages. The sin-worker has no kick coming. He knows what he is working for. Let him be content. But if he is not satisfied with the wages, ah, he can at any moment resign, quit on the spot, and go to work where the wages will be the very opposite—life—and he will then be happy and content.

The ADVENTURES of a BENEFICIARY

by W. J. Nichols

Illustrated by W. C. Nims

Characters of the Story

EMERY WRIGHT, a young city man whose claim to his Uncle Nathan's fortune depends upon his successfully managing a Revolutionary relic in the shape of a man-propelled river ferry in New Hampshire. In his ignorance he is persuaded by "Chicken Smithers" to buy six "mated pairs" of chickens. They are "Alderneys" and "Holsteins." A large Shanghai rooster has a bantam hen as an affinity.

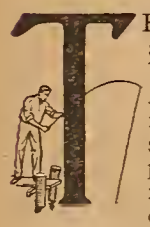
PETE, a half-witted youth, who seems to "come with the ferry."

MISS LANSING, a young lady whose parents have a summer residence close to the hereditary ferry. She meets Mr. Wright on his first trip across the ferry. He falls at the same time into love and the river. He rescues himself and the ferry and determines to learn to swim.

MR. DODD, the attorney, who makes known to Mr. Wright the terms of his uncle's will and who is to give the nephew any necessary legal advice.

When Emery Wright arrives at the ferry, his adventures begin.

Chapter IX.—What Came with the Storm



THOUGH Wright's knowledge of the country and its ways was very limited, there could be no doubt of his willingness to learn. Among other things, he must learn to cook; in order to cook, he must have material; to secure material and at the same time to practice the economy which appeared to be imperative, he must produce whatever he could by his own labor. The river should yield fish; it was not too late in the season to hope for returns from developing a garden-patch. Meat and groceries Wright would have to buy; milk, doubtless, could be procured from some farmer, and this matter was entrusted to Pete, to whom also the care of the poultry was delegated. There had been no definite determination of the boy's status in the establishment, but, so far as Wright could discover, Pete was still entirely satisfied to cast his lot with that of the new ferryman.

Wright, on his part, rather avoided discussion of the subject of poultry. Whatever misgivings may have forced themselves upon him, he had made his investment, and there were other things a-plenty to think about. However, he throve after a fashion, ate with an appetite which rose superior to the strange messes which resulted from his culinary ventures and slept dreamlessly. At least, such was his sleep on two nights. On the third his rest was broken, but not by dreams.

The day had been cloudy, and as the evening advanced rain began to fall, not heavily but fitfully and with accompanying gusts. By nine o'clock the storm had increased to a degree that gave comforting assurance no belated travelers were likely to present themselves, and Wright drew his blanket about him with a sigh of relief and promptly fell asleep. How long he was lost to earthly cares was something he never knew, for, when he was awakened, the hour was a question of no interest compared with more urgent issues. Somebody had caught his arm and was clinging to it desperately; there was a sobbing moan in his ear that made him ignore the circumstances that a young gale was blowing, that the rain was dashing against the panes and that the old house was rocking like a ship at anchor in an exposed roadstead.

Wright started up and threw off the hand on his arm. He peered into the darkness beside the bed and made out dimly the outlines of a huddled figure.

"Pete?" he said anxiously. "Pete, is that you? What in the world is the matter?" Wright sprang from the bed and took the boy in his arms.

"Come, come, old fellow! Tell me what's the trouble!" he urged.

An arm thrown wildly about his neck almost choked him. Pete seemed to be in a paroxysm. From his lips came a cry, tremulous but understandable.

"It's there! It's walking! Listen!"

Wright gently freed himself from the arm and listened—listened and heard that which sent cold thrills along his spine. Above the tumult of the storm rose another sound, a footfall, even, measured, slow. One, two, three, four; then a pause; then one, two, three, four. He counted the steps. One, two, three, four. He counted them again, but this time the pause was filled by a long and blood-curdling groan. Pete clutched at him, and, to tell the truth, he clutched at Pete. Whatever the cause might be, the effect was undeniable. If he could trust his ears, somebody, something, was moving about the attic overhead, somebody or something in deep distress.

One, two, three, four! The heavy steps were heard again. Pete moaned in piteous terror, and Wright was stirred by a sudden sense of shame. Whatever was moving about the attic was of flesh and blood and—well, there was a gun down-stairs that he had cleaned and oiled and loaded the afternoon before.

Wright set his jaw determinedly, but his hand was not quite steady as he felt his way to the kitchen. He lighted a lantern and took the gun from its corner, Pete watching him with awe-stricken eyes. To his surprise, the boy was at his heels, while he mounted the stairs which led to the second floor, and even while he cautiously climbed the steeper flight leading to the attic.

This part of the house was one which the ferryman had barely explored, and the light of the lantern but faintly penetrated the shadowy borders.

"Who's—who's there?" Wright demanded. His voice may not have been steady, but the hand that grasped his weapon no longer shook. "Who's there?" he repeated, but there was no answer.

The young man looked about him. The attic, as he saw, covered the entire main part of the house. There were windows at the two ends, but none on the sides. The great chimney rose through the middle of the floor. And, except himself and Pete pressing close to him, there was nobody in the attic!

It was a good quarter-hour later when Wright and his companion made their way down-stairs, the one thoughtful, the other gulping now and then, but beyond the acute stage of his panic. The attic had been overhauled and searched without result. The wind had rattled the windows; fierce gusts had swept through loose casing or broken pane; the swaying of the ancient structure had been even more marked than in the rooms below—but that was all. The thing—the mysterious presence—was wanting.

"Pete," he said gravely, "what was it you meant by something walking? Was it some story you'd been told? Don't hurry! Don't get excited! I'd particularly like to have a clearer idea what It might be. Somebody must know. Can't you suggest, Pete, who does know about It?"

The boy nodded violently. "Yes, yes! Ev—everybody!"

"Everybody about here?"

"It—it walks!" he declared stoutly. "Ev—everybody knows it does!"

Chapter X.—The Tale of the Tory Lady

WRIGHT was of two minds as to the fortunate character of the meeting. He had made a modest purchase of butter at a farmhouse a mile from the ferry and was journeying homeward, when a bend in the road brought him in sight of Miss Lansing seated in the shade by the wayside. Perhaps, had he had chance for choice, he would have bolted across the fields, but she saw him and smiled pleasantly. He was quite sure that the smile was of good intent and not of amusement. He pulled off his old hat and deftly dropped the greasy package of butter, close to the melting stage, in its inverted crown.

"Last night's storm has made the whole country delightful," she said. "I don't wonder you've improved the chance for a stroll. Of course, you must have been dreadfully busy at the ferry-house."

"Busy beyond the imagining of man. It's the simple life; but, believe me, I never realized how complicated the simplest life might be." Wright laughed. "I'm a good deal of a joke, Miss Lansing, even to myself, while as for the neighborhood—why, I don't doubt I keep it on a broad grin. You see, I'm such an accident! But, for the present, I'm content to entertain."

"I hope you've had no disagreeable experiences," the girl said with a touch of earnestness.

"Oh, nothing of the slightest consequence."

"People here are rather—rather settled in their ideas. Unless one is ready to make allowances, there is always the chance of unnecessary misunderstanding."

Wright felt that here was counsel offered in a friendly spirit. "I'd be only too glad to get the local point of view," he told her. "One ought to have some notion of the history of the region, though I can't think there's been much history made in this township."

"More than you suspect, perhaps. Remember, this valley was settled long before the Revolution, and when the war came it sent a great many men to Washington's army."

"That was in the days when the ferry was something of importance. It was worth confiscating from a Tory, anyway. You see I've a few historical facts."

"But have you heard the whole story? How the house came to be haunted?" [CONTINUED ON PAGE 34]

"If there's a law in the land, you'll pay for this kidnapin'!"

Cheer Up

THERE is a certain big bird whose well-known whistle repeats: "Boys! Boys! Cheer up! Cheer up!" I have sat at tables where the fault-finding and angry quarreling during the meal took away all appetite and caused eating to be merely a mechanical act, quite without pleasure or profit; and again I have eaten at farmers' tables where jokes, anecdotes and plans for the future kept everyone laughing and in a merry humor. Each one arose from the table in a peaceful, rested frame of mind. Here is what one woman does, says an exchange:

"A woman in Harlem has hit upon an idea for keeping her family happy during the evening meal. She makes each of the several members tell of some funny incident which has come to their notice during the day, and so creates plenty of laughter, as well as training the children's powers of observation." But there is never a joke or story at the expense of another. Try it at your own table if cheerful conversation lags. C. E. DAVIS.

Nicholas Vachel Lindsay

THERE is a thinker and a poet living out in Springfield, Illinois. Herbert Quick has introduced him to you. His name is Nicholas Vachel Lindsay.

Nicholas Vachel Lindsay is different from a great many American citizens, yet strangely like a vast number of them, too. He believes in farms and farm homes. He believes that lives that are started and reared amidst rural surroundings are most likely to be started off in life under the best conditions. He believes in beauty and loveliness, such natural, homely beauty and loveliness as the farm only can provide. He thinks its loveliness as much worth while as all the art objects of all the art museums of the world.

So much you have known, or have been told of this man by our Editor. And now the man himself, Nicholas Vachel Lindsay, comes to you and tells you what he believes and hopes and wishes. His Six Hopes, almost prophecies they are, he has written into Six Proclamations. These will be published in a series in FARM AND FIRESIDE.

You will be glad at the good things Nicholas Vachel Lindsay proclaims, for they're the things that we all want, just as much as Nicholas Vachel Lindsay wants them—only none of us has ever wanted them in quite such a poetic fashion before.

A Proclamation of Balm in Gilead

GO TO the fields, oh city laborers, till your wounds are healed. Forget the street-cars, the skyscrapers, the slums, the Marseillaise song.

We proclaim to the broken-hearted, still able to labor, the glories of the plowed land. The harvests are wonderful. And there is a spiritual harvest appearing. A great agricultural flowering of art and song is destined soon to appear. Where corn and wheat are growing, men are singing the psalms of David, not the Marseillaise.

You to whom the universe has become a blast-furnace, a coke-oven, a cinder-strewn freight-yard, to whom the history of all ages is a tragedy with the climax now, to whom our democracy and our flag are but playthings of the hypocrite, turn to the soil, turn to the earth, your mother, and she will comfort you. Rest, be it ever so little, from your black broodings. Think with the farmer once more, as your fathers did. Revere with the farmer our centuries-old rural civilization, however little it meets the city's trouble. Revere the rural customs that have their roots in the immemorial benefits of nature.

With the farmer look again upon the Constitution as something brought by Providence, prepared for by the ages. Go to church, the cross-roads church, and say the Lord's prayer again. Help them with their temperance crusade. It is a deeper matter than you think. Listen to the laughter of the farmer's children. Know that not all the world is a-weeping. Know that so long as there is black soil deep on the prairie, so long as grass will grow on it, we have a vast green haven.

The roots of some of our trees are still in the earth. Our mountains need not to be moved from their places. Wherever there is tillable land, there is a budding and blooming of old-fashioned Americanism, which the farmer is making splendid for us against the better day.

There is perpetual balm in Gilead, and many city workmen shall turn to it and be healed. This by faith, and a study of the signs, we proclaim! **Nicholas Vachel Lindsay.**

Why He Quit His Engine

By R. B. Hoover

MANY locomotive engineers have, at least to some extent, a certain vein of superstition in their make-up. Whether this is true or not, certain it is that once an engineer has lost his nerve he seldom regains it. The steady strain of watching constantly the track ahead, of rushing blindly along in the darkness, with nothing to guide him but the blinking green and red lights of stations, towers and switches, with the thoughts of the lives in his care behind him, all dependent upon the nerve of the hand upon the throttle, and the vision of his own wife and little ones sleeping away the hours until he shall return to them in the morning; all these things have a tendency to wear upon the nerve force of the engineer. If with all of this comes some serious accident, whether of his own fault or not, sooner or later he loses that steadiness of hand and eye to hold his own, which means that he must step down from his engine and seek a new employment. This can be more fully exemplified by an incident which happened in the early 70's, and of which the writer had personal knowledge.

At the time referred to I was a train-despatcher on the old Marietta, Pittsburg and Cleveland Railway, now a part of the Pennsylvania system. Near a station on that line, between Marietta and Cambridge, there lived a handsome young woman, the daughter of a wealthy farmer. She often went to Marietta on our trains, and was a general favorite with the trainmen, and admired and respected by all who knew her. Finally she became acquainted with a traveling-man, and in due time they were married. The husband took his bride to his home in Iowa. It was the custom of the wife to visit her parents at the Ohio home each summer. After a few years, she brought to the old homestead two beautiful little children, a boy and girl, to gladden the hearts of the grandparents. They were general favorites with all who met them, and the mother taught them to wave a greeting to the trainmen as they passed. Every favorable morning the three of them walked to the post-office at the station, and the children always looked forward to this trip with pleasure, as they often received letters from the absent father, and it gave the little ones a chance to romp and chase the butterflies and ground-squirrels along the shady country road.

One early summer morning the three of them started for the station. At this point the country road paralleled the railroad, but about half-way the railroad crossed a ravine on a trestle probably one hundred and fifty feet long. There was a wide plank on the ties between the rails, and the little boy urged his mother to take them across the trestle instead of going down into the ravine and up the other side by the country road. The mother had often crossed the trestle in her youth, but she hesitated to take chances with the children. But the boy insisted, and finally the mother yielded, and they started across. Picking their way carefully along the plank walk, and listening to the childish delight of the little ones, when about the middle of the trestle the mother heard the road-crossing whistle of a locomotive, and the next moment was horrified to see a passenger-train swing around the curve and bear down upon the helpless party. The trestle was too high to jump off, and safety only lay in being able to reach one end or the other of the trestle ahead of the engine. Grasping the hands of the children tightly the frantic mother turned and fled away from the train. The locomotive was in charge of one of our best engineers, but the track was wet with the morning dew, and although the emergency brakes were applied the train steadily gained upon its victims. The mother made a final mad rush, dragging the children after her and at last reached the end of the woodwork and sprang out upon the ground between the rails. With a quick push she shoved the little girl to the left over the bank and down out of harm's way. She then whirled to the right and jumped down the fill on that side, expecting to drag the boy with her. But the cruel iron monster was too quick for her, and as she felt the little hand torn from hers the pilot slid over the boy and he rolled under the wheels. The engineer with white face and fast-beating heart was making frantic efforts to stop the train, and as he leaned far out of the cab-window he caught sight of the mother with uplifted hands and heard her agonizing cries to save the child. As if to complete the horror of the scene, the little body was thrown into such a shape that the last moving wheel of the engine completely severed the head of the child, and it rolled almost to her feet. With a shriek the mother fainted and was mercifully spared the rest of the scene.

The company did all they could to soften the blow. They sent a fine casket and the trainmen covered it with choicest flowers for its journey to the Iowa home.

At the end of the trip the engineer came into my office and wept like a child as he told me the story. He handed me his switch-keys and said, "If I live to be a hundred years old, I will never forget the look on that mother's face. I will never turn a wheel of a locomotive again." And he never did.

Some Cross-Stitch Patterns

Of Our Grandmothers' Times

Arranged by the Fancy-Work Editor

A bouquet of roses such as our grandmothers worked with patient fingers, in silk, worsted or cotton

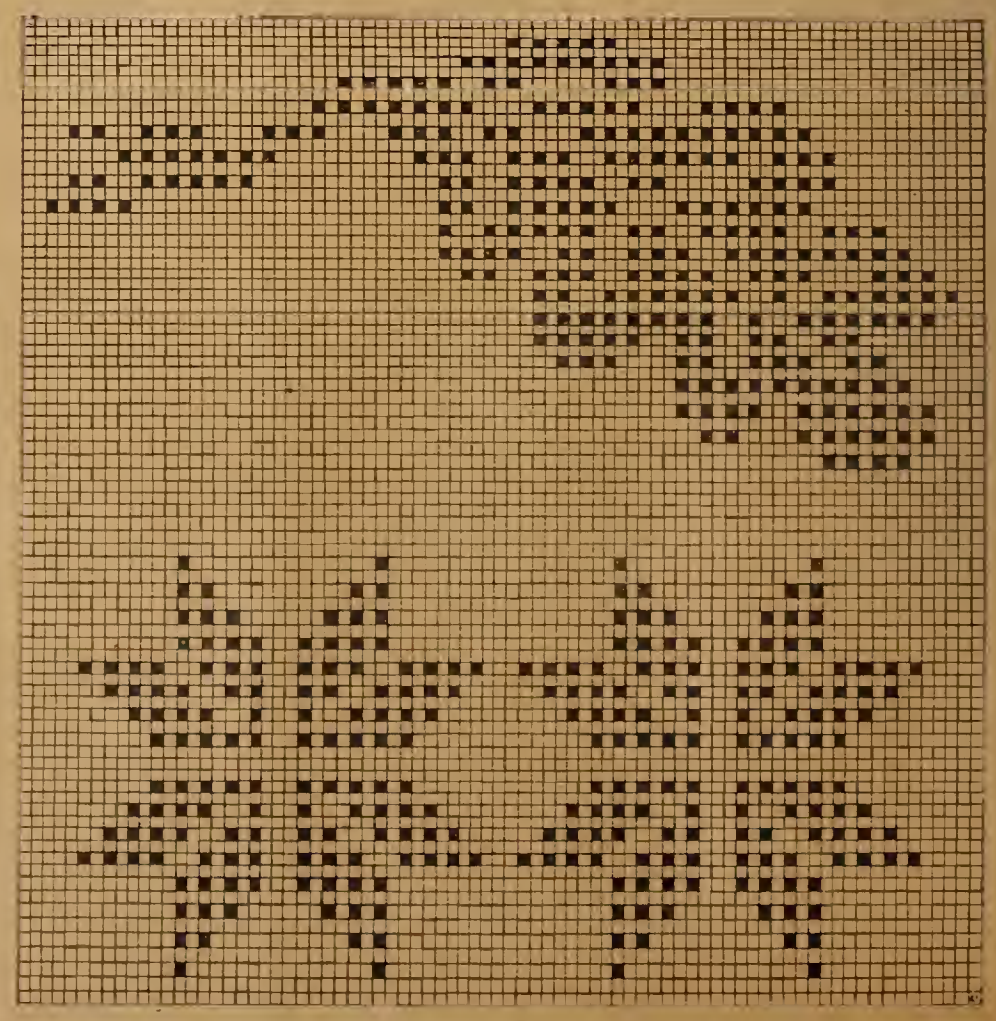
IN A department of Farm and Fireside known as The Housewife's Letter-Box, three subscribers of Farm and Fireside asked for three old-fashioned cross-stitch patterns.

One request was for a bouquet of roses, one was an oak-leaf, and one was a star. All three of these designs were sent in to us by the kindly contributors to The Housewife's Letter-Box.

But, in subsequent mails, the Editor of The Housewife's Letter-Box was besieged by requests for these patterns. Subscribers had noted the requests in the Letter-Box, and, for a while, the Editor of The Housewife's Letter-Box came to the conclusion that every other woman reader of Farm and Fireside wanted those identical patterns.

Now the particular aim of Farm and Fireside is to please its readers in as far as that is possible, and the only thing to do in this case was to publish the requested patterns where every woman might have them.

So here they are! And it is with the hope that many other women, along with those who wrote for the patterns, may be pleased with these dainty designs of grandmothers' days!



The old-fashioned oak-leaf and the star, used over sixty years ago

The City Not Heaven, Either

By Alice M. Ashton

WHENEVER I read one of the articles so prevalent just now about the downtrodden wife of our American farmer, I invariably think of the dear old lady who always says to her young friends if she chances to hear them complaining:

"Don't expect perfection in this life, for you will never find it! If you have troubles, just remember that everyone else has his share—and smile!"

Does the country woman have any greater troubles to cover with resolute smiles than does her town sister? Certainly the person is rare who has found ideal conditions under which to live. There is, truly, much discontent among the country women, but neither do we find universal happiness and contentment among the home-makers in our villages and cities!

When my husband and I decided to leave the farm and go to the town to live, there was a feeling of envy and resentment among some of my old friends—a feeling that was purposely made very evident. At first I endeavored to explain that, while we hoped eventually to better our conditions, we should for several years at least have to practise great economy.

"But think," they always replied incredulously, "just think of—mentioning my husband's salary-to-be—every month, and no hired men to pay or hoard, and no horses or machinery to buy! I should think we were rich to have that much!"

They entirely failed to understand that the heaviest items in our new expenses of living—rent, meat, butter, eggs, vegetables and fuel—were wholly or largely supplied by the farm. So we went away to what they believed a life of ease and luxury.

About a year later one of the old friends made me a visit, a dear, bright little woman with the one great fault that she made herself and her family miserable because she was a country woman. She came fully prepared to see the rosy side of everything.

The house in which we lived was not beautiful to look upon; it did not look nearly as well as the one in which my country friend lived, but it was in a good neighhorhood, and contained large, pleasant rooms and many inconveniences.

"What a lovely dining-room," she cried with a queer little laugh. "How long would those chairs keep nice in *my* dining-room, do you suppose?"

I understood her meaning, and I meant to open her eyes, if I could, during her stay with me.

"This furniture is all new," I answered, "because you remember we had no dining-room on the farm. I did think it was simply heautiful until I saw some of the dining-rooms of the ladies who called on me! I still like it, because my affection always grows for my possessions, but I know it is only very ordinary."

"How is it that you associate with people who have so much more than you do?" she asked suspiciously.

"Because of Jack's position in the business life of the town, because some of them chance to be old acquaintances and principally because, while many of them have no better prospects, they nearly all live fully up to, or beyond, their incomes!"

To this she wisely made no answer.

After I had shown her about the house, she inquired as if suddenly remembering: "And do you have no hathroom or electric lights?"

"This is such an old house, it was built before either the water system or the lights were introduced."

"But they are such great conveniences! I should never live in town without them!"

"They certainly do mean a great deal to a housewife, but, you see, an up-to-date house commands twice the rent this one does, and then many of them are undesirably located. Here we are well located, have pleasant rooms and make up with inconveniences for the cheapness in rent."

She began to look puzzled.

"You do not send your washing out?" she observed, seeing my lines of clothes in the back yard.

"Oh, no! I could not afford a first-class laundress, and the others are impossible. Jack turns the washer before he goes to work, and I do the rest."

"But do you always have so many things every week?" she asked, surprised.

"Yes, indeed; you see, Jack gets so many shirts and cuffs soiled, as he wears very light ones, and I send only the collars to the laundry. Then I wear white waists and gowns afternoons, and that necessitates white petticoats. It makes a big difference with the laundry work."

In my room that afternoon she looked at my four light summer frocks in silence. I knew she felt envious about them, but I did not tell her of the contrivings necessary to get the materials or of the tiresome stitches I took in the making. The gowns were necessary to make me presentable through the summer, but I took no pleasure in them beyond the fact that I was neatly dressed; they represented the giving up of too many real pleasures to bring much joy with their possession.

"We supposed you would have all the modern inventions for household labor," she remarked next morning, as she peeped into my stuffy kitchen where ironing literally enveloped me.

"I have," I told her, "the oil-stove, washer, carpet-sweeper and sewing-machine we brought from the farm. We talk about the other things, but they come slowly."

She stayed with me a week, and went home a wiser and a happier woman. There was not so much difference as she had supposed between my life and her own.

It is the man and the woman in the case, not their occupation, that make or mar the happiness of the wife. My husband is no kinder or more considerate to me as a business man than he was as a farmer; indeed, our home life lacks something of the interest which was ours when we worked and planned together. Always we have endeavored to do our best by each other.

"We supposed you would have all the modern inventions for household labor"

Is the farmer's wife the only one who gives her strength and thought, and surrenders her rights to the all-important business? The wives of innumerable struggling young business and professional men are putting forth every effort of mind and body to make the best possible showing with a scanty allowance, to make a good impression, to do the little social acts that react beneficially upon the husband's business interests. This constant putting forward of "the hest foot" is hy no means an easy matter; personally, I find the tranquil washing of the milk-cans in the fresh morning air a much easier and simpler thing to do.

The good wife, everywhere, is constantly "giving up" to the business, and so long as she does not injure her health thereby is not this means of livelihood for the whole family really an important affair?

"I have given up my trip this summer," said the wife of a young merchant to me not long ago, "because Fred has just put in a new and expensive system of hookkeeping and because collections are so difficult just now."

"No, we are not going to repair the house this year, because there have to be new boilers in the mill and some other improvements," said another wife quite cheerfully.

"I am not going to have anything new to wear this spring," remarked a pretty, young country wife to me a few weeks ago, "because we have been huying some very high-priced blooded stock!"

What is the essential difference in these women? Each is laying aside her personal interests in hehalf of the business that is to feed herself and her little ones. Yet there is this difference in favor of the farmer's wife: while the wife of the man in business can see no immediate or personal gain by her sacrifice, it often happens that the new milking-machine or the hay-loader which the country wife has helped to purchase does away with the hiring of one or two men, and there is immediate lessening of the housework thereby. This is not true of all wives—some do not give up! I know many a husiness man struggling against great odds to keep the wife in luxury he can ill afford, and I know of farmers' wives with beautiful gowns and expensive furniture, while the farm machinery and horses are a sorry array. In the words of the old charwoman, "It's all along o' the lady!"—and the man! Occupation seems to have nothing to do with it.

Is the farmer unwilling to give his wife money? If he is, it is because it is the nature of the man, not because he is a farmer. When we were on the farm, I always had the custody of the family funds, because my husband did not like to carry much money about with him. This was also true of many of my neighbors whom I knew intimately. Such men would never make their wives trouble over money matters. On the other hand, some country women are obliged to sell butter and eggs secretly to get what money they need, and how thankful some of their town sisters would be for a like chance to get money, however covertly, for their actual necessities! I have had the wives of a doctor, a lawyer and a politician tell me with tears in their eyes that they would give anything they possessed if they could be able to earn some money unquestionably their own!

We are told that our farmers' wives are becoming insane from monotony and overwork, and that a farmer wears out three wives in his lifetime! I have lived my whole life in or very near rural districts and have a personal acquaintance with hundreds of country women in various parts of the country. I know personally of but two country women who have become insane; I also know the wife of a doctor, of a machinist, of a barber and of an undertaker and three unmarried women afflicted with the same malady, all residents of towns or cities. I know very few farmers having a third wife, and surely second wives are not unknown among business and professional men!

There are cases of deplorahle isolation on farms, just as there are of terrible destitution in cities. But the greater part of our farm homes have neighbors or daily mail or the telephone, or all three. There is not the opportunity for intercourse that is necessary to some natures having no possibilities in themselves, but a woman of such nature will repine anywhere.

"But my husband is not a success; he is not fitted for a farmer!" is the wail of many discontented wives. Too true, but he is not the only round peg that is inadequately placed in a square hole; there are failures in every profession and trade, men who cannot furnish their families with the necessities of life. And are you sure that he would be a success anywhere?

It comes as a shock to many women accustomed to the free and equal rights of country communities to learn by bitter experience the fine social lines drawn in the towns; it seems incomprehensible to her that the use of an adjective or the handling of a fork or the occupation of her husband must gage her social worth. The city, no more than the country, spells heaven.

Our Young Folks' Department

Conducted by Cousin Sally

Going to the Drawing

By I. R. Armstrong

FOR several months Garry Barton's health had not been good, so, in hopes that a change might make it better, his father had sent him out of the city up into the country to spend the few weeks of sugaring with Uncle Sidney Carr, his mother's brother. Here he had been for nearly a month, having a great time and gaining strength daily. Now, however, sugar-making seemed to be past, and he told Uncle Sid and Aunt Martha that he had better go home when the sugar they had caked for market was taken to the station for shipment.

"Well," said Uncle Sid, "do what is right, what your folks will wish you to do. Of course, we would like to have you stay longer, and you can't get away before Thursday when the sugar-car goes. If you wait for me, let's have a little fun, something new, by going to the drawing to-morrow, if sap don't start."

"'Drawing'? What do you mean?" asked Garry eagerly.

"Why," replied his uncle, speaking partly to Aunt Martha, "Mr. Steadman has bought the house on the old Ray farm that the Cory boys own now and is going to move it on to the cellar where his own house was burned down last spring."

"Move it? Draw it? How, I'd like to know; it's pretty near a mile," said Garry.

"With oxen, he expects over forty yokes," answered Uncle Sidney, "and if I take both of ours over you'll have to drive one pair, I reckon."

This was enough to send Garry to bed happy, and after early chores in the morning he and Uncle Sidney, with two yokes of oxen and a wooden sled, started for the "drawing." The roads were icy most of the way, and snow lay in frequent patches in the ditches and fields.

"All the better for business," Uncle Sid said. "Sap won't start a mite to-day, and everybody invited will be there," he continued, and when they came in sight of the house Garry thought they must be the last to arrive. He could see thirty pairs of oxen, and even more than that number of men and boys, and still more coming. Finally the oxen numbered forty-three yokes.

Some of the men stayed with the cattle to keep them quiet, while others helped the carpenters who had not quite finished their part of the work, the placing of the "shoes" under the building.

These shoes were really great runners, beech logs, longer than the house, hewn flat on the upper side and with the ends rounded up like sled-runners, which, together with the huge cross-sticks, were chained to the sills, forming an immense sled; upon this the house rested.

The chimney had been taken down, the windows removed, and upon going inside with the other boys Garry found the rooms empty and the doors all packed in a small closet.

As he returned to Uncle Sid and the teams, the "boss," a large, red-faced, gruff-voiced man posted at an upper window, called out loudly, "How many teams on the ground?"

"Forty-three," several voices replied.

"Good! Enough to draw the building over the mountain. Mr. Bond, hitch fourteen of them to the east corner; Mr. Campbell, the same number on the other side, and the rest of them put into the middle string."

These orders were promptly obeyed, Garry going with his oxen the same as the others, while those without teams carried "skids" (round sticks from four to eight feet long), which were strung along under the oxen and ahead of them for the house to roll upon.

"All ready!" shouted the big man at the window. "Straighten up that off string! Now, the other two!" The building creaked and trembled, and a swarm of boys poured out of it. "Altogether now, pull to that spot of snow, and halt the house on it. Go ahead!" and amid the cracking of many whips, the clattering of the oxen's horns and the urgent voices of their drivers the house again groaned and shivered as if dreading the journey, then suddenly started, rolling across the dooryard, the highway and through a gap in the road fence into the meadow beyond.

A loud "Hold on!" stopped them on the snow, the skids were hastily brought to the front, and again they started, only to run immediately upon a rock, when snap! went two chains, the oxen nearest the building pitched forward on their knees, and the house slid sideways off the smoking skids.

This caused a long delay, for it had to be pried up with long levers in order to get the skids under it again; but when this had been done they crossed two brooks, another road and several stone walls with very little hindrance, reaching the cellar in time for a late dinner, and Garry, while getting some hay for his oxen, was very glad indeed to hear Mr. Steadman say, "Come right in here, every one of you, and get a bite."

A room in the back kitchen, which had escaped the fire, contained a table, some chairs and temporary seats made by placing rough boards on inverted butter-tubs.

On the table were two piles of pies—dried apple and mince—packed together like saucers, cake, doughnuts and cheese, several piles of plates with knives, and a great variety of cups and saucers. Each man helped himself to a plate, knife and food, and took a seat somewhere while he disposed of his "bite," and Mrs. Steadman and two daughters from a small room adjoining supplied cold milk or hot tea to all.

When all had finished the meal and gone out, the "boss" said, "Gentlemen, Mr. Steadman says leave all the broken chains and tools; he'll see to getting them repaired, and will return them."

After riding a little way, Uncle Sid inquired, "Well, boy, how did you like it?"

"I think it was the best I ever tasted," was the reply.

"The drawing was what I referred to," explained Uncle Sid with a smile.

"Oh," said Garry, "I thought you meant the mince pie. I've had a splendid time!"

Some New Puzzles

By G. W. Kells

Subtract a letter, not the same each time,
To make the changes noted in this rime.

Change the ruler of a nation grand
Into an inhabitant of the selfsame land.

Change a song-bird with notes melodious
Into a boat that is always commodious.

Change an animal with habits tainted
To that upon which a great artist painted.

Change a serpent full of deadly malice
To a girl's name, neither Mary nor Alice.

Change a flower both beautiful and sweet
To an animal very wild and fleet.

Change an animal cunning, wild and sly
Into a large beast neither fierce nor shy.

Change a monarch that on a throne doth be
Into a sailor of the deep blue sea.

Change an animal who's friendly and quite tame
Into a giant king of Bible fame.

The answers will be published shortly.

The Indian Noah

By Crittenden Marriott

ACCORDING to Zuni Indians, there are three worlds, the upper, middle and lower; thousands of people still live in the lower world, which is down below the surface of the earth somewhere. Those in the middle world, which is on the surface, are all descended from a very few men and women whom Kanoke, the Indian Noah, led up from the under world ages ago.

The people of the under world knew nothing of the middle and upper worlds, and though their homes were gloomy they were more or less content, feeling sure there was nothing better to be had. Kanoke, on the other hand, insisted that there was something better, and would not stop even when the chiefs told him that the place where he lived had been good enough for his fathers, and that it was presumptuous of him to wish for anything else. Kanoke was evidently a sad radical.

Kanoke had proof that there was something better, for on several occasions he had seen and heard the silvery bells of the daughters of the stars. These daughters—nine in number—used to come down once in a while to the under world to dance. They wore feather garments, and swung down a great woven basket moved by the enchantment of silver chimes and mystic songs.

When Kanoke cited them as an argument, however, the chiefs told him he was a fool. They declared there were no stars and no daughters of the stars.

Nevertheless, Kanoke watched for the girls and saw them quite frequently. In fact, after a good deal of trouble he captured one of them, took away and hid her silver bells and feather cloak and wands, and made her his wife.

The girl, whose name was Istara, forgot all about the stars in her love for her husband. But one day, after two years in the under world, she chanced upon her silver bells and feather cloak and wand. Instantly, she remembered the stars, and springing into a basket sang the magic song and chimed the silver bells and soared away. Kanoke came back just in time to see her vanish.

Of course, he thought that he would never see her again. But, as it turned out, the girl was not happy without him, and at last she went to her father and told him that either Kanoke must be brought to her, or she must go to him. She refused to stay in the heavens without him.

Her father did not want to lose his daughter, yet he knew that nobody from the under world could possibly live in the star world. He thought for a while and then proposed that Kanoke and the girl should live in the middle world. Said he: "The middle world is a pleasant place where I can watch you all night long. At present it has no plants nor animals, and you would starve to death. But if your husband, Kanoke, can capture two each of everything living in the under world, plants and animals, and put them in a basket that you can make, he can bring them to the middle world, and then you can live there."

Istara went down and told Kanoke all about it, and he believed it at once. So he went to hunting, and Istara went to weaving the great basket, and both continually urged the other people to join them in the great move.

But few would listen, and when they did listen, they went away and made fun

Istara's wand

of that foolish Kanoke, who really believed that there was another and better world than the one they all knew.

So at last Istara and Kanoke had to sail away to the music of the silver bells, waving the feather wand, leaving all but a very few of the people down in the darkness. But they took all the animals and the plants with them, and the descendants of these populate the earth to-day. As for Istara, she never regretted leaving her place in the heavens, though her eight sisters (the Pleiades) still keep her place vacant for her.

MRS. DINGBAT—"Aren't you wasting a good deal of that steak in trimming it?"

THE BUTCHER—"No, ma'am; I weighed it first."—*McCall's.*

Another Contest

DEAR COUSINS: One of the nicest things about being a girl or boy is being able to pretend, or "supposin'," as a certain little girl I know calls it.

The grown-ups who can most successfully close their eyes and actually *see* what they desire, and then wake up and hustle toward making it *real*, are the happiest and most apt to get what they want.

The contest this month is for all girls and boys. I write *all*, because every boy and every girl ought to find it one of the easiest kinds of a contest, for all you have to do is to "supposin'."

I want the little girls to think about what they would do if they were having a party on St. Valentine's Day.

How they would decorate the rooms, the refreshments they would have, the games they would play.

Write as though you were describing *your* party; and to each of the five little girls who best describes the make-believe happy time they and their little playmates had will go a nice prize, something they will really like.

If you're a boy, "suppose" you were George Washington, faced by a cherry-tree when you were holding a brand-new sharp hatchet in your hand, one you felt you had to find out if it was *sharp;* and write out just how you felt, and why you didn't cut down something else, or why you cut down anything, and whether you 'fessed because you were afraid not to, or because it was right to "own up." To each of the five boys who best describes this make-believe George Washington experience will go a dandy prize.

With love from COUSIN SALLY.

The Third-Reader Class

"Written So You Can Understand It"

Knots and Rope Work

For Boys and Girls

By A. A. Burger

THERE is no form of handiwork more interesting to the boys and girls than the making of knots, hitches and splices. Indeed, it is not only interesting, but intensely practicable. Already the teachers in the rural and city schools have recognized its value in stimulating the mind and training the hand. On the farm scarcely a day passes when some of the more common knots, hitches and splices could not be used. It is with the thought of interesting the boys and girls, the teacher, the farmer and workman in the city in an interesting and practical work that these lessons have been prepared. They will not be difficult. In fact, every boy and girl can learn all of the different knots, hitches and splices with a little practice so that they can be readily made and used.

Explanation of Terms—In order that we may understand the names of the different parts of the rope referred to in the description, they will be given first. The end of the rope used in tying the knot or hitch is called the "end"; the opposite end, usually the longer portion of the rope, the "standing part," and the portion between these parts, the "bight."

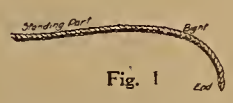


Fig. 1

Simple, or Overhand, Knot—In order that we may make all the knots, it will be necessary to first make some of the simpler knots. For this reason the overhand knot, though simple, is very important. It is made by simply making a loop in the rope and passing one end (*b*) through the loop. If the loop at *x* is made to pass behind *a*, the end (*b*) will pass through the loop from the front side and will form the left-handed loop. The overhand knot should not be used alone, as it pulls tight at once.

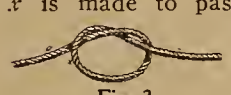


Fig. 2

Square and Granny Knots—These knots are usually called the hard knots and are nearly alike. The granny knot is made by tying two right-hand simple knots or two left-hand simple knots, one on top of the other (Fig. 3). Notice that in the granny knot the ends *a* and *b* leave the loop *x* from opposite sides.

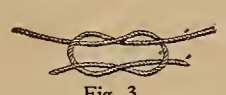


Fig. 3

The square, or reef, knot is made by tying one right-hand and one left-hand simple knot. In this both strands (*a* and *b*) leave on the same side of the loop *x*. The square knot is more useful than the granny knot because it will not slip or draw tight. Both these knots are used in tying together ropes or strings and also in fancy-work.

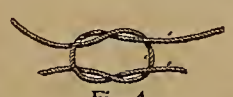


Fig. 4

Granny Knot with Ends Whipped—In tying the granny knot in large ropes the ends are often whipped to the standing part, as shown in Fig. 5; *a* is whipped to *b*. This prevents the knot from slipping or drawing tight. Large ropes upon which there is a heavy pull are often tied in this way.

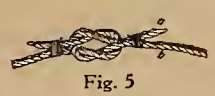


Fig. 5


Fig. 6

Sheet Bend and Sheet Bend with Toggle—The sheet bend is used to fasten two ropes together and is very useful because it is easily untied. The farmer uses it to tie his lines together, and the women use it to tie together clothes-lines, string, etc. The knot is made by first making a loop in the end of the rope *a*. Hold the loop firmly in the left hand, then with the right hand bring the end of the rope *b* through the loop from the underside. Next pass it (*b*) beneath both strands of *a* (Fig. 6) and back again between these strands and the strand *b* as shown in Fig. 7, the completed knot.


Fig. 7

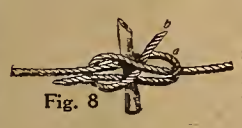


Fig. 8

The toggle is a short stick inserted between the two ropes, as in Fig. 8. The toggle is used to prevent the knot from drawing tight.

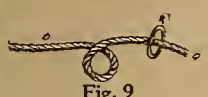


Fig. 9

The Bowline—The bowline knot is without question the most useful and important of the different knots. It is easily tied, will not slip or draw tight and may be easily untied. It is used in fastening animals, in the hay-field, on stacking outfits, in tying hay-ropes and, in fact, in any place where a permanent knot that is easily untied is wanted.

The knot is made by passing the end of the rope (*a*) through a ring or around a post. A loop or half-hitch is then made in the standing part of the rope about two feet from the end (*a*, Fig. 9). The end (*a*) is then brought through the loop (*b*) from the underside, as shown in Fig. 10. Next, the end (*a*) is passed around beneath the standing part of the rope at *b*, as in Fig. 11, and is then passed back through the loop from the top, which completes the knot (Fig. 12). Every farmer and every boy and girl should learn to make this knot.


Fig. 10


Fig. 11


Fig. 12

Running Hitch—The running hitch, or bull-snubber, as it is sometimes called, is used in snubbing and holding animals and also as a means of fastening tent-ropes to stakes. An animal may be easily held if the rope is snubbed around a post and a loop or half-hitch made in the rope, as in Fig. 13. The person snubbing the animal draws on the end (*a*). In order to hold the animal, the end (*a*) is wrapped three times around the rope (*b*), wrapping toward the ring (Fig. 14). Wrapping in the same direction, the end is brought outside of the loop and around the rope at *c*. The end (*a*) is brought through the loop formed, thus making a second half-hitch. The loops should all be wrapped tightly and the end (*a*) pulled down firmly. A strong pull on the rope (*c*) should not slip the hitch. However, by placing one hand on the hitch and the other on the standing part (*c*), it will slide quite readily, and the slack in the rope (*c*) may be taken up. This hitch is very useful.

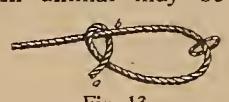


Fig. 13


Fig. 14

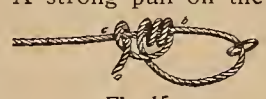


Fig. 15

Half-Hitch—For temporarily fastening ropes where there is a steady pull the half-hitch is often used. Its chief use, however, is in connection with other knots and hitches. Having placed the rope around the log or other object, pass the end around the standing part and back between the rope and the object to which it is attached, as shown in Fig 16.


Fig. 16

Timber-Hitch—This hitch is often used by lumbermen and foresters in moving heavy timbers. It is more secure than the half-hitch. The end of the rope is passed around the object to be tied, and after being wrapped around the standing part, as shown in Fig. 17, is tucked under the rope twice as the cut shows.

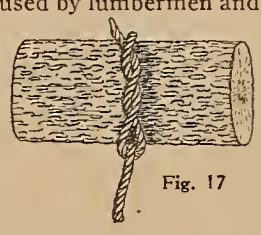


Fig. 17

Timber-Hitch and Half-Hitch—The timber-hitch and half-hitch, as the name implies, is a combination of these two hitches. It is very useful in lifting pumps or pipes where a straight end pull is desired. The half-hitch is made first, then the rope is passed back to form the timber-hitch (Fig. 18).

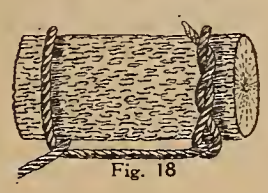


Fig. 18

Fisherman's Bend—The fisherman's bend is used wherever there is great wear on the rope, in such places as fastenings for boats, hammocks, anchors, etc. It is made by wrapping the rope twice around the ring or hook to which it is to be fastened, then making a half-hitch through both loops, as shown in Fig. 19. The end should be whipped fast to the standing part. A lighter twine or string will do for this.

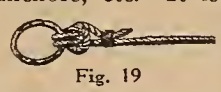


Fig. 19

Round Turn and Half-Hitch—This is used for the same purpose as the fisherman's bend and is made similar to it. The rope is passed around the ring twice and a half-hitch is made in the standing part. It is necessary to whip the end fast with a string (Fig. 20), using the same kind as in Fig. 19.

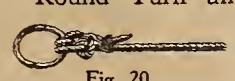


Fig. 20

Clove Hitch or Miller's Knot—The clove hitch is the most useful of all the hitches and is very convenient in fastening tent or guy ropes, or in tying sacks. One method of making the hitch is that of passing the rope around the object, over the short end, then around the object again and under the loop, as shown in Fig. 21. The clove hitch is secure, and either end of the rope may be used as the standing part. It is easily and quickly made, too.

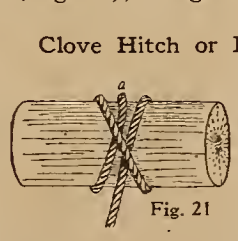


Fig. 21

Figure Eight—This is a simple knot that can be used on the end of a rope to prevent it from slipping. A loop is first made in the standing part of the rope, as at *a* in Fig. 22. The end (*b*) is next passed around the standing part of the rope and slips back through the loop first formed.


Fig. 22

Stevedore—The stevedore is similar to the figure-eight knot and is used for about the same purpose. However, it makes a much larger knot on the end of the rope.

It is made by making a loop (*x*), then wrapping the end (*a*) twice around the standing part (*b*, Fig. 23). The end (*a*) is next passed back through the first loop, as in Fig. 24, and the knot is tightened by pulling on the end (*a*). In making the knot, the wraps should be kept firmly together.

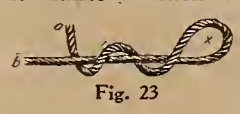


Fig. 23

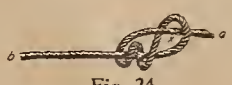


Fig. 24

DREADED TO EAT

A Quaker Couple's Experience

How many persons dread to eat their meals, although actually hungry nearly all the time!

Nature never intended this should be so, for we are given a thing called appetite that should guide us as to what the system needs at any time and can digest.

But we get in a hurry, swallow our food very much as we shovel coal into the furnace, and our sense of appetite becomes unnatural and perverted. Then we eat the wrong kind of food or eat too much, and there you are—indigestion and its accompanying miseries.

A Phila. lady said:

"My husband and I have been sick and nervous for 15 or 20 years from drinking coffee—feverish, indigestion, totally unfit, a good part of the time, for work or pleasure. We actually dreaded to eat our meals. (Tea is just as injurious, because it contains caffeine, the same drug found in coffee.)

"We tried doctors and patent medicines that counted up into hundreds of dollars, with little if any benefit.

"Accidentally, a small package of Postum came into my hands. I made some according to directions, with surprising results. We both liked it and have not used any coffee since.

"The dull feeling after meals has left us and we feel better every way. We are so well satisfied with Postum that we recommend it to our friends who have been made sick and nervous and miserable by coffee." Name given upon request. Read the little book, "The Road to Wellville," in pkgs.

Postum now comes in concentrated, powder form, called Instant Postum. It is prepared by stirring a level teaspoonful in a cup of hot water, adding sugar to taste, and enough cream to bring the color to golden brown.

Instant Postum is convenient; there's no waste; and the flavour is always uniform. Sold by grocers—50-cup tin 30 cts., 100-cup tin 50 cts.

A 5-cup trial tin mailed for grocer's name and 2-cent stamp for postage. Postum Cereal Co., Ltd., Battle Creek, Mich.

SIX LOVELY ROSE-BUSHES

And Other Beautiful Flower Collections as Special Gifts to FARM AND FIRESIDE Subscribers

This is a part view of the Climbing Meteor Rose in full bloom

THE remarkable popularity of the Rose-Bushes and other Flower Collections that we have been offering our subscribers during past years induced us to make another Flower Offer this year. We have made arrangements with one of the largest florists in America by which we can offer FARM AND FIRESIDE subscribers four different Flower Collections,—each collection an unrivaled assortment of beautiful plants. We guarantee that every collection will consist of quality sets, healthy and will develop into strong, vigorous, hardy plants especially adaptable to your locality, and

They Will All Bloom This Season of 1913

One of these magnificent collections will make your garden a perpetual bower of beauty, at once the admiration and envy of all your friends. All the plants in the collection we have for you are distinguished for size, beauty, fragrance and excellence in color. They will bloom freely, flowering not only once, but all summer long.

A single one of the plants in your collection is alone worth more than the cost of a year's subscription to FARM AND FIRESIDE. Our offer will permit you to have flowers in your yard that florists sell for the very highest prices. Everyone loves beautiful flowers, and this gives you a rare opportunity to get an unrivaled collection.

Guarantee

All 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 refunded.**

Our Best Offer

This is FARM AND FIRESIDE's biggest and best subscription bargain. You have four wonderful bargains to choose from. But hurry your order along. We cannot promise to send any more of these Flower Collections out after January 30th, because our supply will then be exhausted. Delays are dangerous. Order to-day.

How to Order

Simply write your order on any piece of paper and accompany the same by proper remittance. Here is an example:

FARM AND FIRESIDE, Springfield, Ohio.

GENTLEMEN: I accept Offer No. 1 and enclose $1.00, for which send me FARM AND FIRESIDE for three full years, also send me Rose-Bush Collection No. 101.

Yours truly,

Your Name.....

Your Post-Office.....

Your State.....

If there is an order blank enclosed with this issue, it means that your subscription has already expired or expires with this issue, and that you must renew at once, or you will miss the next issue.

All Six Rose-Bushes

In Collection No. 101 are Described Below:

Climbing Meteor Rose

This is the ideal of all red climbing roses. In brightness of color it has no equal. It is a full and persistent bloomer, and will make a growth of ten to fifteen feet in a season. It blooms all the time—a real ever-bloomer.

New Irish Ever-Blooming Rose—Killarney

This is a very beautiful hybrid tea rose. The color is an exquisite shade of deep shell pink. The base of the petals is silvery white, the buds are long and beautifully formed. It is free in growth, has strong, heavy shoots, which are covered with buds, and is extremely beautiful.

Four Other Famous Roses

Rhea Reid. This rose is of the American Beauty type, but of the easiest culture. It never mildews or black spots, and opens its large flowers perfectly under all weather conditions.

Maman Cochet. The queen of all garden roses, with color of rich clear tint. The flowers are extra large and perfectly double.

Famous German Rose. Pure citron yellow, outer petals edged with a pale rose. It is unusually vigorous in growth.

Clothilde Soupert. A French white, deepening to a rosy-blue in the center. It is vigorous in habit, and has a wonderful profusion of bloom. The form and coloring of this rose is perfect.

Our Offers are Explained in Below Box

Six Fine Chrysanthemums

Order as Collection No. 102

This collection contains six large-flowering Japanese chrysanthemums.
Silver Wedding, purest white, forming a flower seven inches in diameter.
Dr. Enguehard, Japanese incurved. Color, true pink.
Millicent Richardson, a beautiful rose violet.
Golden Eagle, a beautiful shade of clear yellow.
Admiral Sampson, a handsome deep crimson.
Colonel D. Appleton, soft, creamy, amber yellow.

Four Magnificent Ferns

Order as Collection No. 104

Of all plants for interior decorations, ferns are the favorite. You will receive the following four lovely plants in your collection:

Boston Sword Fern
Nephrolepis Compact
Plumosus Nanus **Sprengeri**

Five Elegant Carnations

Order as Collection No. 109

The carnation is unrivaled for rich, refreshing fragrance, diversity of color and beauty of outline. Here is a list of the varieties you will receive:

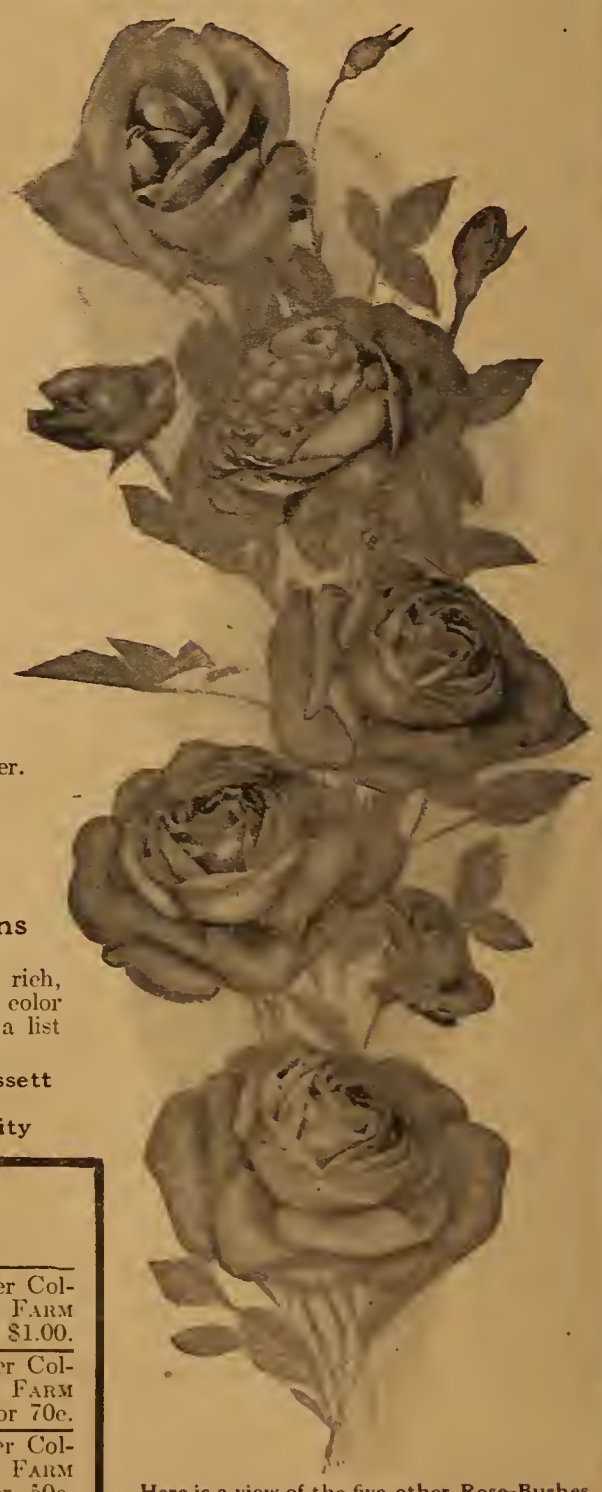
White Perfection **O. P. Bassett**
President Roosevelt
May Day **Prosperity**

BIG FLOWER OFFER

Good Until January 30th

Offer No. 1	We will send this Rose-Bush Collection, or any Flower Collection described on this page, all charges prepaid, and FARM AND FIRESIDE for three full years (78 numbers), all for $1.00.
Offer No. 2	We will send this Rose-Bush Collection, or any Flower Collection described on this page, all charges prepaid, and FARM AND FIRESIDE for two full years (52 numbers), all for 70c.
Offer No. 3	We will send this Rose-Bush Collection, or any Flower Collection described on this page, all charges prepaid, and FARM AND FIRESIDE for one full year (26 numbers), all for 50c.
Club-Raiser Special	Any club-raiser who secures only two yearly subscriptions to FARM AND FIRESIDE at 40 cents each will be rewarded with this Rose-Bush Collection, or any Flower Collection described on this page. An additional Collection will be awarded for each additional subscription at 40 cents each. One of the subscriptions in club may belong to the sender.

Send Your Order Before January 30th



Here is a view of the five other Rose-Bushes in our big Rose-Bush Collection

Directions

Collections must be ordered entire. Accompanying each lot of plants are full directions for planting, care, etc. Please state **in what month** you prefer to have your collection reach you. Unless you indicate otherwise, our florist will hold your order until it is the right season in your climate for the flowers to be planted. It is best to leave this to the judgment of the florist.

This Offer Expires January 30th, FARM AND FIRESIDE, Springfield, Ohio

Fashion Suggestions for Midwinter Sewing

Designs by Grace Margaret Gould

Drawings by Marguerite D. Savage

No. 2189—Peplum Blouse with Insets

32 to 42 inch bust. Material for 36-inch bust, two and one-fourth yards of thirty-six-inch material, with five eighths of a yard of contrasting material, one fourth of a yard of velvet, and one eighth of a yard of lace. The price of this pattern is ten cents

A SMART-LOOKING one-piece dress is always a most comfortable costume to own. If made of serge, Bedford cord, broadcloth or a soft mixture and trimmed with satin or silk, it is suitable for a number of different occasions. Illustrated on this page are two especially modish dresses. In one the waist is made in the fashionable peplum style, and the skirt is a plain straight model.

The other dress has the Robespierre collar and frill on the waist, and the skirt is made with side plaits.

This design may be most effectively developed in brown ratine and trimmed with collar and buttons of brown velvet. The side frills should be of cream colored lace.

No. 2184—Yoke Dress with Short Sleeves

6 months, 1, 2, and 4 years. Material required for 2 years, one and three-fourths yards of thirty-six-inch material, with one eighth of a yard of embroidery for yoke. Price of this pattern is ten cents

IF YOU want to make any of the garments illustrated on this page, send to us for the pattern. We have three pattern depots where you may send your order, and to insure your having the pattern when you need it, send to-day to the pattern depot nearest your home. The pattern depots are: Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City; Pattern Department, FARM AND FIRESIDE, Springfield, Ohio; Pattern Department, FARM AND FIRESIDE, 203 McClintock Building, Denver, Colorado.

On the pattern envelopes careful instructions are given telling the correct way of putting the garments together.

No. 2192—Waist with Robespierre Collar

32 to 42 inch bust. Material for 36-inch bust, two and seven-eighths yards of thirty-six-inch material, five-eighths yard of net for vest, three-eighths yard for collar, one and one-half yards of lace, five inches wide, for frill. Pattern is ten cents

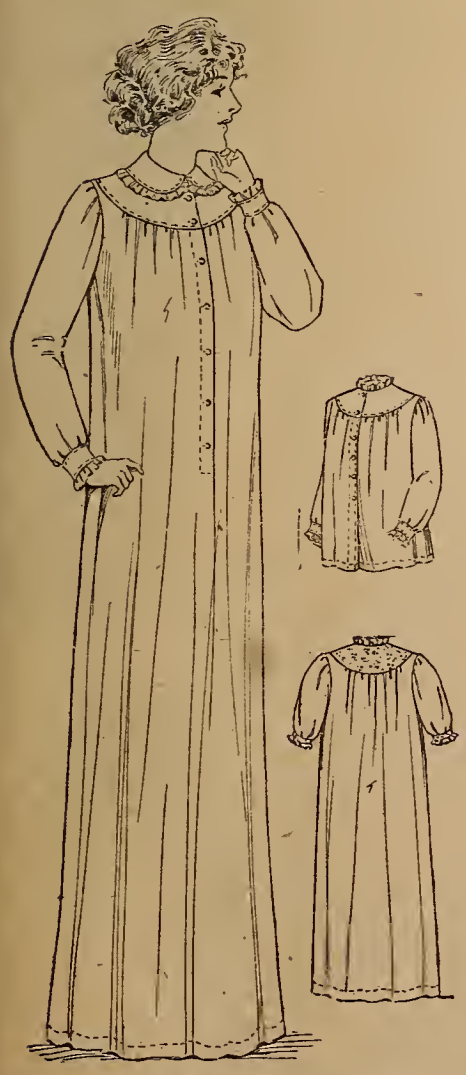
No. 2180—Tucked Wrapper in Two Styles

32 to 44 inch bust. Quantity of material required for medium size, or 36-inch bust, nine and one-half yards of twenty-seven-inch material, or seven and three-fourths yards of thirty-six-inch material, with three fourths of a yard of contrasting material for collar and cuffs. The price of this pattern is ten cents

Be sure and try this very adaptable wrapper pattern

No. 1826—Six-Gored Skirt

22 to 34 inch waist. Length of skirt, 41 inches. Material required for 26-inch waist, six and three-fourths yards of twenty-seven-inch material, or four and one-eighth yards of thirty-six-inch material. The price of this useful skirt pattern is ten cents



No. 1447—Nightgown with Round Yoke—Perforated for Sacque

Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36-inch bust, four and three-fourths yards of thirty-six-inch material, with one fourth of a yard of all-over embroidery for the yoke. Pattern, ten cents

IF YOU are looking for a practical wrapper pattern, examine carefully the illustration on this page of pattern No. 2180. This adaptable pattern may be used in either of the two ways illustrated. For cold winter days the high-necked wrapper with long sleeves will prove most comfortable, especially if it is made of heavy flannel or eiderdown. The straight belt is a decided addition to it, as it holds the wrapper close to the figure, making it seem almost like a dress.

For a best wrapper, one that is simply used in the bedroom, the other style is dainty. It may be made of cashmere, Henrietta or flannel and trimmed with silk in the same color with a polka-dot or flower design.

Another adaptable pattern is shown on this page. It is pattern No. 1447, from which a dressing-sacque as well as a high-necked and long-sleeved nightgown may be made. These garments in pale blue or pink flannellet, are dainty and practical.

No. 2189
No. 1826

No. 2181

No. 2192
No. 2193

No. 1930—Combination Princesse Corset-Cover and Petticoat

32 to 48 inch bust. Quantity of material required for medium size, or 36-inch bust, five yards of twenty-two-inch material, or two and one-half yards of thirty-six-inch material, with two and three-fourths yards of lace or embroidery for frills. Price of pattern, ten cents

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FARM AND FIRESIDE has made special arrangements with the publishers of the various papers listed below, by which we can give our readers the biggest bargain in reading matter ever offered. If you buy these various periodicals separately, you will be obliged to pay twice as much as we ask for them in connection with your subscription to FARM AND FIRESIDE.

It will be necessary for you to accept one of these offers before January 30th, as our arrangement with the other publishers expires after that date. The rates apply alike to renewal or new subscriptions.

Here is an opportunity to order your whole year's reading and cut your subscription investment in half.

Our Biggest Offer

The Whole Family Club

FARM AND FIRESIDE
one year, 26 numbers, the leading farm and family paper in America if not in the world, containing the latest and most up-to-date information on farming, fine stories and special articles of interest to all the family. **Regular subscription price 50 cents a year.**

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This is a standard home magazine. It is not a luxury, but a necessity. Some of the contributors to Home Life are Elbert Hubbard, Jane Addams, Dr. W. A. Evans, Bruce Barton, Edwin L. Sabin, Dr. Frank Crane, the world's greatest evangelist, Rev. J. Wilbur Chapman. **Regular subscription price 50 cents a year.**

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This is one of the best poultry papers published. It is a standard of the poultry world. A single issue is often worth more than the entire subscription price. It furnishes readers with carefully selected, reliable and original matter by the best known poultry experts and specialists in America. **Regular subscription price 50 cents a year.**

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To the farmer who wishes to keep up-to-date and in close touch with the progress of the dairy industry, Kimball's Dairy Farmer will prove a most responsible friend. It is published twice a month. The "know-how" has a lot to do with the success of every farmer, and the editors of this paper are recognized authorities on the various phases of dairying and dairy husbandry. **Regular subscription price 50 cents a year.**

All For Only $1.00

Subscriptions may be sent to different addresses if desired. A one-dollar bill or money-order will be perfectly satisfactory. This offer will be withdrawn after January 30th.

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FARM AND FIRESIDE, 1 year, regular price 50 cts.
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Both for only **60 cents**

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McCall's Pattern (your choice) 15 cts.
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All Offers Withdrawn January 30th

Send All Orders to FARM AND FIRESIDE, Springfield, Ohio

A "Stay-at-Home" Girl and Her Ambition

By Jean St. Maur

LEARNING to read at a very early age, by the time I was seven years old I was, as my mother expressed it, "reading everything I could get my hands on," and, as I was allowed to choose my own reading, my mind soon became filled with most unworthy ambitions and ideals, and the simple home duties became daily more distasteful. With my perverted ideas, I pictured the life of everyone, from that of a bejeweled actress to a black-robed nun, as being more desirable than my own. I realize now that those must have been trying times for my parents, for once I said something to my father about my ambition to be an actress, and I have not forgotten that then and there he gave me one of the very rare lectures I ever received from him.

Possibly the actress in me died from the effect of that lecture, at any rate that ambition gradually left me, but there still remained the dislike for the household tasks and the determination to get away from them at the first opportunity. I envied the neat shopgirls their financial independence, their fresh white waists, their shining hair in perfect order, their white hands, their opportunities for pleasure or study after work-hours. Glad of an opportunity of learning something of their real life, I sat and listened one day to the chatter of several in a millinery-store, as with their deft, white fingers they fashioned a hat for me while I waited.

They chattered away, unmindful of my presence; but as I listened I was surprised and shocked to hear, instead of the refined conversation of girls having and using all opportunities for mental culture, talk so filled with slang words and phrases that sometimes I hardly knew what they meant. Only one of the girls seemed ladylike and refined. The others seemed to have no idea of a joke or fun unless it could be made "smutty" or vulgar. I told myself angrily as I went away that if I were in the ladylike girl's place I would not stay—I would hunt some other place of employment. A friend of mine who worked in another millinery-store in the same city told me that the talk of the girls there was "just awful." There were only three shops of the kind in the city. *One* chance out of three to find employment where the employees were fit associates—and that *one* a chance only by giving it the benefit of the doubt and *supposing* that the girls there were refined! The realization came to me then that if a girl leaves home to enter a business or profession, unless she is well enough equipped to enter one of the highest, she cannot, to any very great extent, choose her associates. I realized, too, how "elevating" the influence of such companions would be, and how very, very hard it would be for even the most refined person to preserve purity of thought or speech with such environment.

That disagreeable hour spent in the shop was one of the turning-points in my life, and I am deeply grateful to those slangy shopgirls who would be surprised if they knew that "an ignorant country girl" had gone home more contented with her lot because of them.

Shortly after that my father fell seriously ill, and during the anxious days which followed, when we knew that the old home would slip away from us with the passing of his life, I learned that deep in my heart I had always loved it; that in the background of my thoughts there had always been the comfort of knowing the home would be there to come back to if life in the business world proved disappointing. Face to face with the probability of having to go out into

Simple home duties become distasteful

the world to fight my own battles, I was filled with a terror I would have been ashamed to acknowledge. But a merciful Providence allowed my father finally to take up his duties again, and I cannot tell how thankfully I took up mine. Someway I felt that I had been so ungrateful for my home that if the worst had come I would have been to blame.

Having given but half-hearted service in the home for so long, I felt my incompetence keenly now; and when my sister married, leaving to me the entire care of the household, I was blankly dismayed. Our mother had been unable to attend to the household duties for several years, and my sister, who is older than I, had been general manager and housekeeper. Things which I would have felt no hesitation in undertaking if my sister had been at home I now felt that I did not even know how to begin.

Although my father and mother were too considerate to *say* so, I knew they missed my sister sadly, and the knowledge hurt. *She* was a gracious hostess, a neat housekeeper and a good cook. I was none of it, but I summoned my pride to my aid and determined I would fill her place. As the years go by and I feel that my parents depend upon me more and more for their creature comforts and their pleasure, I hope that I have in a small degree succeeded. I do all the housework and cooking, write the letters, help father with his accounts, and with the chores, too, when he will let me. I even read up on politics so I can be more of a companion for him. If I had no other compensation, the few words a friend told me lately would be enough. My father does not ordinarily discuss our family relations with anyone, but this friend said: "Anything you do is all right with your father." I shall always treasure those words.

The spare time left from household duties I have endeavored to turn to good account by helpful reading, and after all those unhappy years I have found that to be the greatest factor in mental and moral culture. The girl who stays at home has a better chance for health and genuine happiness than one who takes up a profession, for there are courses of home study embracing almost every subject, and if it is really necessary for a girl to earn her own living, it does not follow that she is necessarily compelled to leave home to do it. A course of home study in newspaper work has opened up a way to home money-making for me. Although I have not been studying long, I have already earned a few dollars. Courses in music, photography and nature-study are all in my plans for the future.

We are not wealthy, yet my friends speak of me as "a girl who has everything she wants." Yes; I was seeking contentment, and having found that there are few other things I want. There is only one cloud on my happiness—my parents are old. Some day in the not far distant future our home will be broken up. As I am not an only child, the others must have their part, and the home will have to be sold. My friends would call me foolish if they knew, but I have set myself the task of buying it. I cannot bear to think of losing it now, yet I feel that I have set myself an almost impossible task and that I shall yet pay dearly for those years of idle discontent.

If I fail and finally have to accept the life which now seems so undesirable, I shall always feel that I am a stronger and better woman by having had the protection of a home, while I learned to know myself better and gained a clearer insight into the ways of the world. I honor and respect the girl who is brave enough and strong enough to face the world if it is necessary, but I have only pity for those who leave home in search of happiness.

I have not signed my real name to this little story, but it is none the less a true one of how one girl slowly but surely learned that "home-keeping hearts are happiest."

The Modern Oracle

By Zoe Hartman

HOW'S a girl to know about the very latest thrills?
Where's the chap that's wise enough to tell her
How to trim old passions with the newest psychic frills,
If she doesn't read the sixth best seller?

What's my cue when John and I achieve a lover's spat?
Current fiction says we best were parted!
George O'Dimple Tommyrot's authority for that:
"How to raise the deuce when broken-hearted!"

What's the latest formula for tweaking scandal's tail?
Robert W. Mush tells how to do it:
Out-Boheme Bohemia and still keep out of jail,
Paralyze the town and never rue it.

How shall I behave when by a charming scoundrel wooed?
How, to save his soul, by beauty barter?
For each anguished gesture and the proper tragic mood,
See "Confessions of a Half-Baked Martyr."

Life without best sellers would be naught but dreary waste,
They've divine authority about 'em;
I could never learn to pose, or suffer in good taste,
Love, or fight, or shuffle off, without 'em!

While the Motor Waited

[CONTINUED FROM PAGE 22]

Wilton grinned ecstatically. "Say," he cried. "Ain't this the greatest ever? But we haven't any time to lose. Untie me, quick!"

With deft fingers the girl unloosed the knots. As the last fell away, Wilton jumped up.

"Quick!" he said. "Where is her room? Show me!"

"This way." Bessie darted through the door. "Oh! Tom! What are you doing?"

"Nothing much. You'll see! Ss-sh!" He put his fingers to his lips.

⁂

The key was in the lock. Wilton softly turned it till the faintest of clicks told him it was fast. Then he jabbed a lead-pencil deep into the keyhole just beneath the key and with a sudden wrench broke it short off, close to the door. No sound of alarm came from Miss Abigail, and silently Wilton led the way down the steps.

"When she calls, go and try to open the door," he ordered swiftly. "You won't be able to do it. Tell her so. Say you'll get Brother Beasley to try when he comes. Say anything to keep her quiet till after we're married."

"Married?"

"Sure! Miss Abigail has sent for the preacher, and it would be a shame to disappoint the good man—there she is now!"

Miss Abigail it was. She had discovered that she was locked in and was calling for help. Bessie raced up the stairs. Wilton could hear her voice explaining and promising.

Soon the girl came down. "It's all right for the moment," she whispered. "But how long she'll keep quiet I don't know."

"Five minutes will be enough. Ss-sh! There comes somebody! Brother Beasley and Si for a guess!" Wilton strode to the door and threw it open.

"Ah! Brother Beasley, I presume," he said blandly. "Walk in, please, Brother Beasley. Miss Abigail will be back soon. You know Miss Bessie, of course. And this is Mr. Perkins, I suppose. I've heard of you in Chicago, Mr. Perkins. You've got quite a reputation there, you know. Brother Beasley, Mr. Perkins noticed a little while ago that Miss Abigail's cellar door was open, and with his usual wonderful acuteness at once suspected burglars. He came in and warned Miss Abigail. She did not see how any burglars would dare to enter on such an auspicious night as this. (You know, Brother Beasley, I had just arrived to marry her niece; an accident to my motor made me late.) But she sent Mr. Perkins for you, and after he had gone we found the burglar."

"What!"

"Yes! We caught him and locked him up. He's up-stairs."

Brother Beasley and Si started and stared at the ceiling.

"Let him be for the present," exclaimed Wilton. "He—that is, we don't want him interrupting the proceedings. Miss Abigail ran across the street to telephone for the police, you know, and when they come Mr. Perkins here can turn his prisoner over to them. Of course, the honor of the arrest goes to him, because he first suspected the crime."

Wilton looked at his watch. "What in the world can have become of Miss Abigail?" he asked wonderingly. Then, shutting the case with a snap, he went on. "I dislike to hurry you, Brother Beasley, and I'd like to wait for Miss Abigail, but Bessie and I've got to catch the midnight train, and even my motor won't get us to the station if we wait any longer. Here's the license. Please marry us at once?"

Brother Beasley hesitated. "It's a little irregular," he murmured, "but if you wish—" He took the license, inspected it, drew out his book, and in a moment the ceremony was over.

Tom drew out a banknote and handed it to him.

"Thank you very much, Brother Beasley," he said. "Now, sweetheart, if you are ready—"

Together the little party moved to the door, Si carrying Bessie's valise. "Come and see us start, gentlemen," said Wilton. "I left the motor a few feet down the street. You probably noticed it."

⁂

Soon the two were in the car, and Tom laid his hands on the lever. "Would you mind cranking up, Mr. Perkins?" he asked blandly. "Ah! thank you. Good-by, Brother Beasley! Thank you, Mr. Perkins. I'd take that burglar to the station-house at once if I were you. Good-by."

As the throbbing of the motor died away in the distance, Brother Beasley and Si went back to release Miss Abigail.

Scholarships for Girl Winners

THE Girls' Tomato Clubs of Tennessee, in addition to the regular prizes that have been arranged for, are offered scholarships in Webb's School of Bell Buckle, Tennessee.

Prof. W. R. Webb has written the following letter to the State Organizer of the tomato clubs:

"I want some of your girls who take first prizes in tomato clubs in my school. I wish their spirit and attitude to life among the girls in my school. I wish my girls to catch the spirit of self-help and joy in the ideal country life. I will give you one or more scholarships in Webb's School if you will honor us with the patronage of one of your prize girls. This scholarship includes all school fees, no expenses to the one to whom you award it."

An offer like this is sure to stimulate the members of such clubs to still greater efforts. Last year one girl realized $100 from the cultivation of one tenth of an acre of tomatoes. Another, $78.

It is to be hoped that other educators over the country will follow the example of Professor Webb.

The Adventures of a Beneficiary

[CONTINUED FROM PAGE 24]

"Haunted! The house haunted? Then that explains—that explains everything."

Wright pulled himself up abruptly. He attempted a smile, which he felt did not pass the stage of a shamefaced grin. "Haunted?" he repeated with weak levity. "Why, you don't believe in such romances, do you?"

She clapped her hands; her eyes were very bright. "Mr. Wright, I believe the house *is* haunted! I believe you've seen something. Oh, isn't it jolly!"

"Oh, tremendously!"

"But aren't you going to tell me?"

Wright took a step nearer and lowered his voice. "I will tell you," he said. "I'll make a bargain. There was a—a—well, a queer incident last night. Tell me the tradition, and I'll explain about it. It's not much of a tale," Wright protested. Then he told her a conservative version of his adventure.

Miss Lansing heard him through without interruption.

"It was the Tory Lady beyond doubt," she said with decision.

"I don't know, but I hope to," Wright answered. "That's your part of the bargain, you remember."

"And I'll keep it," she said quickly, but paused, as the red-faced young man whom Wright did not love hove in sight at the bend in the road.

"Why didn't you wait for me, Nettie?" he demanded petulantly. "You knew I was coming around this morning, didn't you?"

The girl held her head straighter. "I don't recall any engagement with you, Mr. Lomond," she said coldly. "And you've interrupted Mr. Wright and me in a very interesting conversation."

"Oh, that's the way of it, eh?" the ruddy youth observed. "Mean you want to have me trot along?"

"That's entirely as you please."

"Then I'll stay!" Lomond said with decision. "But don't let me stop the talk. Maybe I'll be interested, too."

Miss Lansing turned to Wright. "Our story runs this way," she said, not only genially, but also with an adorable emphasis on the first word. "As you know, the ferry was confiscated in the Revolutionary days, and your ancestors obtained the franchise. It was taken away from the old owner because he was a Tory."

"All the best folks were!" Lomond put in. "Read about it in a book the other day."

Neither of the others appeared to hear.

"The old owner fled to Halifax," the girl went on. "He died there. After the war, his widow came back. A good deal of her money, she insisted, had been invested in the ferry, and she demanded that she be repaid. The claim was resisted by the—"

"Grafters!" Lomond suggested amiably.

"By the new owners," Miss Lansing said with great distinctness. "Their legal rights were unquestionable."

"Wouldn't be too sure about that!" Lomond growled. "Talk about predatory wealth! Poverty's just as predatory, when it gets a chance. Say, you want to read that book!"

"The woman's claim had no validity in law, but the new owners took compassion on her. She was practically destitute. They offered her a home at the ferry-house. There she lived for many years. She went insane toward the last, and the story runs that she used to walk up and down, always looking for the British troops who were to come and restore her to ownership of the ferry. And, after she died, she was believed to haunt the house. People said that she could be heard in the night, walking back and forth and groaning because the redcoats didn't come. So far as anyone knows, though, Mr. Wright, your ancestors were very kind to her."

"Then I bet they'd short-eared her some way!" cried Lomond.

Wright wheeled to face him. "It's a mistake always to try to account for the actions of others by imagining oneself in their places," he remarked.

"Bravo!" Miss Lansing said under her breath. She beamed upon Wright, then turned to Lomond with a look of severity. That youth, however, was not thus to be suppressed.

"Course there was crooked work in those days," he insisted.

The girl rose, still eying Lomond with disapproval. "I am going home," she said. "You, Mr. Lomond, are going the other way, I believe."

"No, I ain't. I'll walk back with you."

There was an instant when a wild hope held Wright. If only she would request him to relieve her of the malignant presence of the red-faced young man!

"You're at liberty to go where you please, of course. I don't control your actions."

"Course I am!" Lomond retorted. "But, I say, Nettie, that's a pretty interesting story, for all the extra touches. Glad I came along in time to hear it. How did you happen to be telling it, though?"

"Mr. Wright and I had been discussing—some interesting historical subjects."

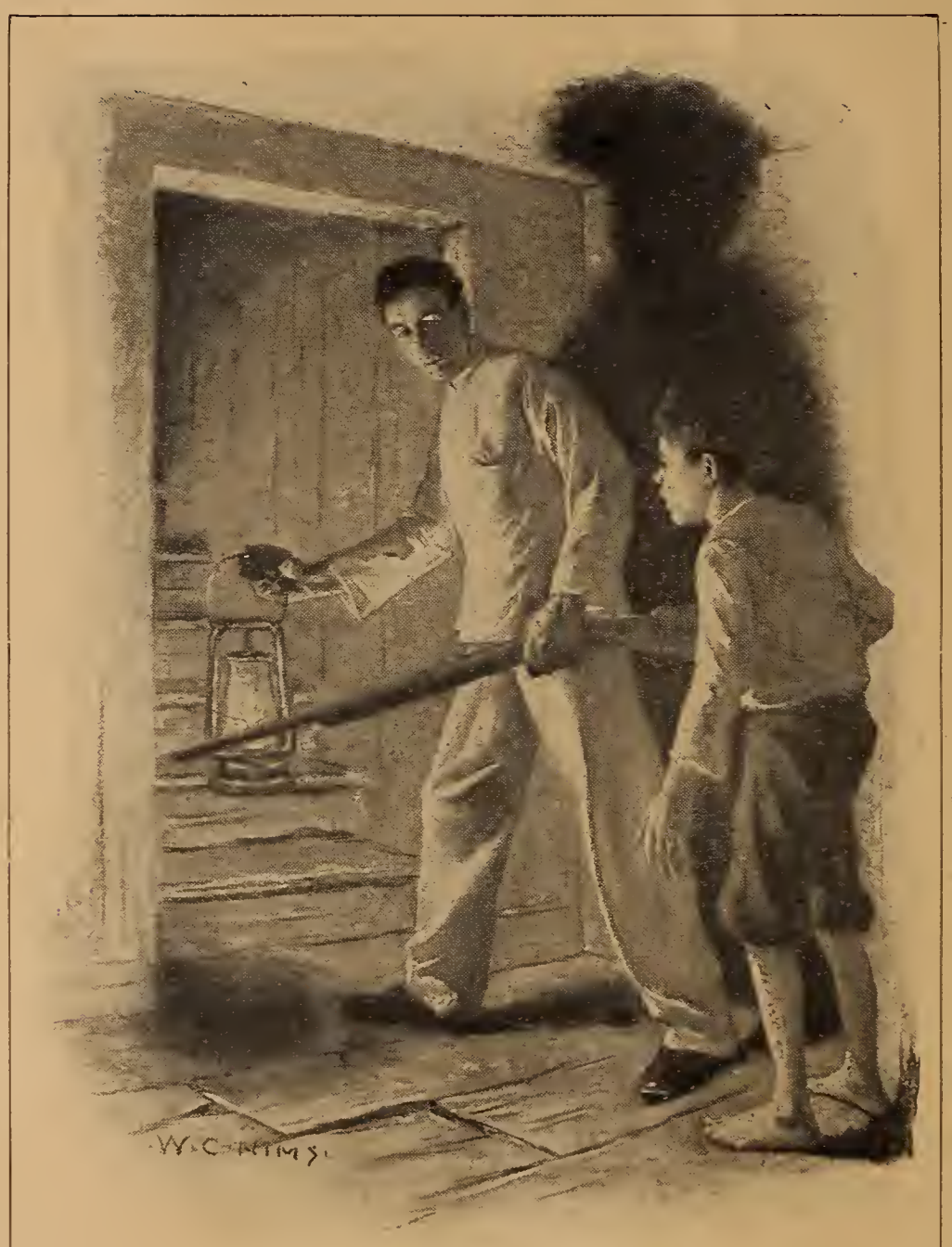
Lomond caught the little pause. He glanced shrewdly at Wright and chuckled.

"Been seeing the Tory Lady, eh?" he inquired vivaciously.

Chapter XI.—The Turning of the Worm

IT IS a rare good joke that will bear frequent repetition, and Wright was tiring of sly looks, grins, chuckles and giggles, unquestionably at his expense. There was a period of a couple of days when visitors were frequent, visitors who might, or might not, desire to cross the river, but who, one and all, displayed a lively curiosity as to his personality and doings. With the earlier comers Wright was affable; with the next to arrive, guarded; with the laggards, abrupt. Nevertheless, if they found amusement in what they saw and heard, he on his part derived more or less information from their conduct and discourse. One of the points first established, to his certainty if not to his satisfaction, was that some misgivings of his had a basis in fact, and that something must be amiss with his poultry.

One afternoon he thought he was about to receive the longed-for illumination. There rattled up to his door an old-fashioned wagon, which in all its appointments, even to the worn buffalo robe spread over the seat in utter disregard of the season, bespoke an ownership conservative and, presumably, of serious mind. There were two men in the conveyance.



To his surprise, the boy was at his heels

"There's a deacon, at least," Wright said to himself, as he caught sight of them.

"Afternoon," he said with a drawl. "Passin' this way, I thought I'd have a look at them fowl of your'n."

"Indeed!" Wright said politely. "I didn't know they were remarkable in any way, but you're quite at liberty to look them over. There they are—in the yard."

"Um!" said the elderly man. "U—m! Let's see. One, two, three, four, five, six—yes, that's the tally. All there, ain't they?"

"The roosters are all there," Wright explained. "Two of the hens are gone."

"Then Chicken Smithers ain't the liar I allers thought him," the elderly man observed. "That's what he said—six roosters, and there they be! So I got to believe him for once, anyway. But it do beat my time!"

"Would you mind telling me why?" Wright put the query with all the persuasiveness he could muster.

"Well, now," the other said deliberately, "I dunno as I can put it all in one lump of information. I might begin by sayin' it's the fust time I ever seen anybody try to start a—a—rooster monastery."

"Haw, haw!" The fat youth, who had seemed stolid as a graven image, laughed with the suddenness of an explosion.

Wright felt his face flush, but persisted in his quest. "You mean there's an unusual—er—er—preponderance of the males? That is due, you know, to the losses among the females. One died and one disappeared."

The elderly man leaned back in his seat. "Smithers must have told the truth, and nothin' but the truth, for once in his life," said he. "'Mated pairs' was what he was talkin' about. And Holsteins—yes, there they be! And there's that giraffe in feathers, that had the affinity! Alderney, wan't she? Should 'a thought you'd hated to let such a scandalous couple into the high and lofty circles you was maintainin'!"

Again the fat youth exploded with laughter. Wright, his face aflame, kept control of his voice.

"Would you mind explaining how many hens you would ordinarily expect to find in a flock with six roosters?" he asked.

"Oh, a few hundred, more or less."

"Oh!" said Wright. "Oh, indeed! So that's the orthodox proportion, is it? I am deeply indebted for the knowledge."

The elderly man bent down and picked up an object from the bottom of the wagon.

"Here's something you ought to be able to use in your business," said he. "Course you know what it is?"

Wright studied the object, and a new light came into his eye.

"Speaking, subject to correction," he said, "I should describe it as a particularly green and immature melon or pumpkin."

"Would you hear that now!" The elderly man turned to his plump companion. "He don't know a real curiosity when he sees it. But, then, maybe he never saw a green-ostrich egg before."

"Haw, haw, haw!" roared the fat youth.

"I assure you I never did," quoth Wright.

The elderly man's air grew argumentative. "If I took the trouble to drive three miles to give you a chance at a bargain, you oughter be ready to do your part. Any man that'd let Chicken Smithers unload a dozen boardin'-house iron-necks on him oughter be able and willin' to try a flyer in green ostriches. What say, now? Give me a dollar, and the egg's your'n."

"Haw, haw, haw, haw!" boomed the appreciative youth, and his bulk shook.

Wright folded his arms. "Call again some time, gentlemen," said he. "On the whole, I suspect I've got as much from you as you've got from me."

The visitors drove away laughing.

A day or two after this encounter appeared to Wright, toiling in his garden-patch, a small man, soft of speech and of an ingratiating air, which did not quite carry conviction of excellence of intent.

"I'm Mr. Putson, and I've come to have a little talk with you, Mr. Wright," the stranger announced. "Friendly talk, you understand. That's the way I allers like to see things done—smooth-like, you know, and genteel. Ain't no use havin' rows and hard feelin's, just because one gentleman's got a rightful claim against another. Ain't that how you feel about it yourself, sir?"

"That depends," Wright answered. "You'll have to be more definite."

"It's about the boy, our boy," the man said with an oily smile. "Kind of an unusual case, you know. Wouldn't have happened at all very likely, if we hadn't allers give him a lot of liberty."

Wright leaned on his hoe and surveyed the caller with no marked approval.

"If you're talking about Pete, I dare say you're correct," he remarked dryly.

"Now I'm real glad to hear you say that. I told the folks there wouldn't be no trouble. I said to 'em you was a gentleman and you'd behave like one; and all we'd have to do'd be to go over things a while and settle on the proper figger."

"For what?"

"Why, the damages—no, I won't use that word, not as between friends," the man said, rubbing his hands. "Of course, as you see, we're entitled to pay for his services, we bein' the only kin he's got and havin' give him food and shelter and lovin' care, and him bein' a minor. Oh, yes; as you say, we're entitled clear enough."

"Not quite so fast, if you please. I don't recall that I've said anything except to agree that it was because you turned Pete loose that he came to me."

"But you're harborin' him."

"'Harbor' is a good word. It means a place to put in, if you're in distress."

Mr. Putson's smile lost some of its warmth. "I don't think you're takin' this quite in a brotherly spirit, Mr. Wright," he complained.

"You've not been so brotherly yourself."

"Why, ain't I come to you like one brother comin' to another?"

"I had more reference to what you've done—or haven't done—for the boy."

"But I ain't his brother. I'm his uncle—that is, I'm sort of an uncle."

"I fancy that's an accurate description," Wright said coldly. "You're a sort of an uncle, and a pretty poor sort. If you gave the boy a home, it's the sort of a home he's glad to stay away from. He came to me of his own free will and choice. He came without invitation, but he's welcome to stay as long as he desires to stay."

"Then you'll settle for his services!" The smile was wholly vanished now, and there was a snarl in the voice.

"Settle!" Wright exclaimed hotly; but then his tone changed swiftly. "Come now! What's your idea of the proper thing?"

"Pete's able-bodied, and he can do a lot of work about a place like this. Say you agree to feed and clothe him, and get what you can out of him. You oughter be willin' to fork over two dollars a week to them as has a legal right to his time. Two dollars a week is a hundred and four dollars a year, but I'll tell you what I'll do. I ain't mean: I'll throw off the odd dollars. Call it an even hundred a year, pay in advance for the first year, and let it go at that!"

Wright checked the speech that rose to his lips. "But suppose Pete should change his mind," he suggested. "What warrant can you give me that he won't?"

Mr. Putson showed his teeth. "He'll stay! If he tries to run away, I'll break every bone in his body!"

The ferryman took a step forward. "No, I don't think you'll break anybody's bones," he said sternly. "You've told me what you think is the proper thing, and now I'll tell you I know what's the proper thing for you—and the safe thing. And that is to get off this place as fast as your legs will carry you. You've done less for the boy than you'd do for a stray cat, and you've cared less for him. Somebody told you I was an easy mark, and you've come here to-day to get a share of the good thing while it lasts. But you're too late. The free distribution's over. Here! I'm not through. I've got something more to say to you. Can't stop? Well, suit yourself!"

Now, as it happened that Wright had been advancing while he delivered his address, and the caller had been retiring with even greater speed, the pair by this time were in the road, and Pete's sort of uncle had attained a considerable lead. The ferryman pulled up, but Mr. Putson chose to widen the space before he halted for a final shot.

"If there's a law in the land, you'll pay for this kidnapin'!" he shrieked. "Kidnapin's State's prison, and that's where you're headin' for!" [CONTINUED IN NEXT ISSUE]

A Flower-Garden on Paper

TO-DAY, January 1, 1913, in N. Lat. 45°, two old people have been making a flower-garden, on paper.

Seated at a table with last year's chart and a new sheet, we have been placing marks for shrubs, trees, walks, fences, and plants of various kinds, as they are or as we intend to have them.

We have two sets of charts, one for the building, lawn, ornamental trees and flower-garden; the other for the small fruit and vegetable ground. Both are on a scale that gives us a chance to make notes and use a sheet of Bristol-board or other paper. It is pleasant and thoughtful work, there being so many things to be considered.

In the vegetable-garden there is much more to be considered than in the flower-garden, and it needs a chapter by itself.

In consulting the 1912 chart we find notes entered with a pencil here and there at many different dates calling attention to matters one is apt to forget. Here were breaks in continuous bloom, there the bloom was not only of a wrong color, but tattered or dull. Again, we both go to different windows and state our opinions on the winter appearance as a picture to be considered also.

Is it in proportion—white, green, spray-twigs, etc.?· Can a new elm or some other plant be introduced to improve the winter scene and not disarrange the summer plan?

There are two views, one from the highway and one from the house. We cannot expect both to be perfect with frame and background. A choice must be made as to which shall be the "right side" to which preference shall be given.

Every year we find notes telling of spots which need grass-seed and others now filled with improper or exhausted plants. The changes needed are noted and the new chart shows the name of other plants. Entries are also made in the "nudge book" that will be kept hanging in a handy place.

A few of the questions considered January 1, 1912, were:

1. What new shrub plants and trees were to be bought?

2. Is the summer color-scheme harmonious? If not, what changes are to be made?

3. What plants must be divided this spring, or specially fed?

4. Are there not some annuals that can be used with the peonies to prolong the bloom and color at that point?

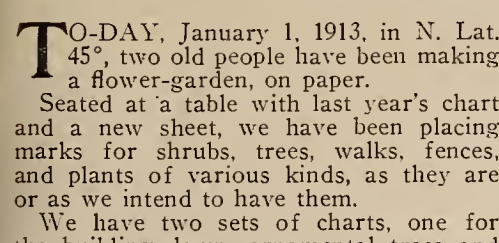
5. Can we use the same thought with the iris and lilies?

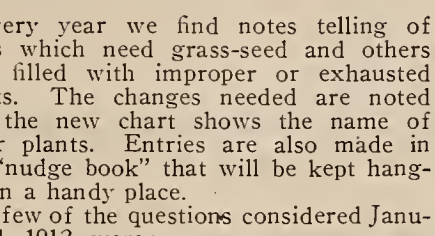
The peonies and iris blossoms soon drop out and leave breaks in the color-scheme. The problem is to prolong that color and preserve the picture without a blot.

Here is where the winter planning helps. Height, color and methods of growth must be considered in both the perennial and annual plant. If choice is left to spring, a long summer heartache may be the result, for no matter how well the remainder is planned and grown this blot has ruined the picture.

Old-fashioned and long-tried plants have given me the most pleasing results, as one knows just what they will do.

Since having several disappointments, I try all new things in a border to the vegetable-garden. ANONYMOUS.





New Books for the Farm Library

What Children Should Eat is a very interesting booklet published by Edith Greer and prepared in the interest of child welfare for parents, teachers, nurses and social workers, according to a short paragraph on the cover. Such interesting pages as "What Children Should Eat," "How Much Children Should Eat," "How to Choose Food for Children," "How to Combine Food for Children," "How to Prepare Food for Children," "How to Choose Suitable Food for Illness" make this a very complete little book, although there are but twenty-two long, narrow pages in it all. There is no mother in the land who is interested in the welfare of her children who would not be delighted to peruse this book and to use some of the tables, if not all of them, given in it. It is published by the Human Welfare Publication, Southwest Harbor, Maine.

Poems of Country Life, arranged by George S. Bryan and edited by Ernest Ingersoll, contains an astonishingly large number of the best and most worthwhile poems written concerning life on the farm. It is the sort of book that is equally at home on the living-room table or the library shelf. It contains all of the old favorites, and a great number of new ones. There are four illustrations from well-known painters of farm scenes, the first one being a particularly good reproduction of a painting of autumn oaks by George Inness. The book is published by Sturgis & Walton Company, 31-33 East 27th Street, New York, and sells for $1 net.

A Working Erosion Model for Schools, by Don Carlos Elliott, who is in charge of the Educational Coöperation Forest Service, will be appreciated by every school-teacher who has tried to teach a geography lesson in which the effect of rainfall on the earth's surface has been a part of the lesson. The necessary implements and the component parts for making this model, as well as description and enlightening illustration make it a very necessary bulletin for any school. The United States Department of Agriculture will send it upon request. Address A. C. True, Director, Office of Experiment Stations, and ask for Circular 111.

Nature's Way, by Arthur G. Symonds, gives in this book of fifty-five pages practical poultry experiences which ought to be of value to any poultry-keeper. Illustrated; price, 30 cents; The Rumford Press, Concord, New Hampshire.

Crops and Methods for Soil Improvement, by Alva Agee, M. S., is written by an authority upon the subjects it treats. The book is exceptionally meaty for every farmer who is interested in having every acre yield its full quota of crops. It is well illustrated and contains 240 pages. The Macmillan Company, New York City. Price $1.50 net.

Injurious Insects: How to Recognize and Control Them, by Walter C. O'Kane, is a thoroughly valuable and interestingly written volume; one from which even the most experienced will glean hints which can be used to marked advantage in fighting the various insect scourges. It contains 414 well illustrated pages. The Macmillan Company, New York City. Price $2 net.

The Most Popular Songs for Every Occasion is the title of a collection of songs for the home, the school and the club; for children and grown-ups to sing at all times and places. The book contains 176 pages and sells for 50 cents. Hinds, Noble & Eldredge, publishers, New York City.

The Beginner in Poultry, by C. S. Valentine, is a more comprehensive and complete book than the title would indicate. Its 430 well illustrated pages cover every important branch of poultry-raising. The Macmillan Company, New York City. Price $1.50 net.

Dairy Farming, by D. S. Burch, is primarily a guide to the person about to go into the dairy business, but also contains information of value to veterans in the business. It directs the reader to the best means of marketing dairy products as well as producing them. The value of dairymen's organizations is also emphasized. The book is one of a series of practical hand-books published by Penn Publishing Company, Philadelphia, Pennsylvania. It sells for fifty cents.

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65% go to Farmers

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For a postal card you may have our big automobile instruction book—*absolutely free.* It contains over 100 pages; each page is illustrated with simple diagrams. The language is not technical; the young people will read it with interest and can understand every word. It tells you how to purchase, operate and care for an automobile.

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110-inch Wheel Base
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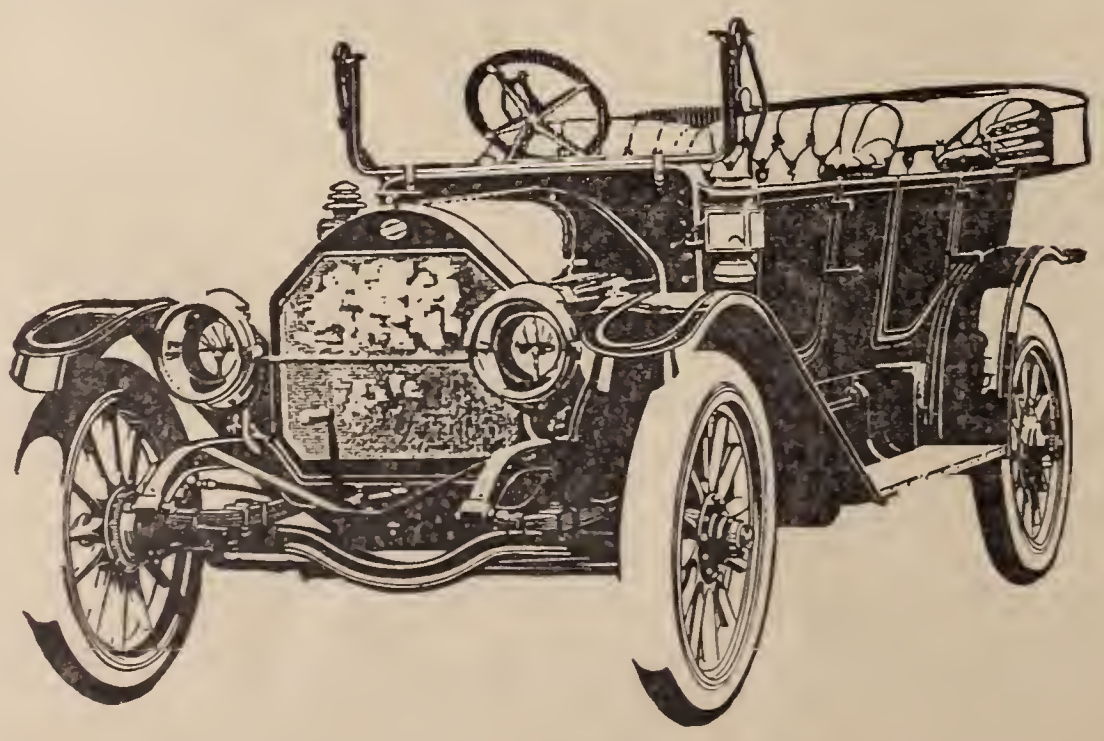
Center Control



$985
Completely Equipped

Remy Magneto
Warner Speedometer
Mohair Top and Boot
Clear Vision, Rain Vision Wind Shield
Prest-O-Lite Tank

Eastern Edition

FARM AND FIRESIDE

EVERY OTHER WEEK — THE NATIONAL FARM PAPER

ESTABLISHED 1877 — SATURDAY, FEBRUARY 1, 1913

The Faithful Few

THE EDITOR'S BILLBOARD OF COMING ATTRACTIONS

With the Editor

The story of a new hybrid bird, a cross between a guinea-fowl and a Brown Legborn rooster, will be announced to the poultry world. The hybrid is the property of FARM AND FIRESIDE, and photographs of the remarkable family will convince the most skeptical.

Fighting Hog-Cholera

This article will tell what bog-cholera serum is and bow it is used. A directory of state officials from whom personal advice and serum may be obtained will be given.

The Elgin Butter-Market—The Basic Butter-Price Maker

Our readers who have been picking up bits of information here and there about the butter trust and tbe Elgin situation will want to read this comprebensive and accurately written article.

Farm Notes

The gas-engine does not go to town every pay-day, neither does it sleep late in the morning if there is work to do. It is enabling tbousands of farmers to be independent of bired belp. The next issue will contain tbe first of a series of practical articles on the gas-engine and how to run it most economically. Coming soon: "How to Make Concrete Lumber."

Garden and Orchard

Among tbe articles whicb Mr. Greiner will write for bis department are: "Sweet Peas for Money," "Dry Onions from Seed," "Blanching Celery in tbe Cellar" and "The Slug Nuisance in Garden and Frames."

Crops and Soils

In the coming issue a Georgia contributor will tell about tbe Japanese Kudzu, a promising forage crop. An excellent discussion of the requisites for clover culture will also appear, togetber witb short articles on practical subjects.

The Market Outlook

We don't know wbat tbe markets will be, but we do know tbe sound judgment of our market correspondents wbose views will be published regularly.

Poultry

"Selecting Eggs for Hatching" will be a timely article, appropriately illustrated. Others will be: "Poultry Houses of Solid Concrete," "Experiences with a Fireless Brooder" and "Scales in the Poultry-House."

Live Stock and Dairy

Veterinary matters wil be given prominence in early spring issues. "Bulls as Draft-Animals" is a most readable discussion to appear shortly.

The Farmers' Lobby

No announcement can be made. Mr. Welliver never warns the game tbat he's going to shoot at.

The Adventures of a Beneficiary

Wright continues to find pleasure and interest in Miss Lansing, very much to the displeasure of Lomond, who warns him to "stay out."

Sunday Reading

Doctor Bemies' Sunday-School Lessons offer you something worth while for your Sunday hours.

Household Department

Especially adapted to the needs of the busy mothers. Suggestions for birthday parties, luncheon-pails, good taste in home-decorations and hints about canned fruits and vegetables make this department invaluable.

Special Articles

How your congressman can serve you with seeds and plants which may or may not grow. Why a great majority of the eighteen million out of a possible twenty-five million children do not attend school.

Children

The children will have a treat in the form of a "Walking Pincushion," something that will be sure to amuse them. Other stories of interest.

Fancy-Work

The popular Angora baby-cap for late winter, with full directions, will interest mothers.

Fashions

Designs and suggestions for clothes for many needs, with particular reference to what is seasonable and in good taste.

WITH THE EDITOR

The Parable of the Spouts

There was once a woman who had three kinds of ducks in pens, two sorts of geese—besides her husband,—a pen of little pigs, some motherless lambs, a colt that had reached the hay-and-oats stage of feeding, some pigeons, a few cows, a lot of fatting hogs, twenty-five different strains of fowls in separate runs and much other live stock to feed.

A lot of wise men fixed up an automatic system of spouts through which to feed all these. All she had to do was to shovel feed into a main spout, and the automatic machinery was supposed to convey the feed to the proper pens.

Oddly enough, it didn't work. The machinery didn't seem to have sense enough to look in the pens to see if there was anything left over from the last feeding. The inventor seemed to have overlooked that. Then it was annoying to have the hay conveyed to the hogs, and the swill to the cows. There didn't seem to be any way to prevent this in view of the fact that the inventor had omitted to give the machine brains. The whole aggregation of birds and animals fell away in flesh. Some of them were buried in feed which they couldn't eat for one reason or another, some were cloyed by too much and some starved by not having any at all.

The poor woman was sold out by her creditors, and wrote a piece for the papers which proved conclusively that farming doesn't pay.

Pittsburgh and the Parable

Now I have as good a right to teach in parables as anyone, haven't I? That's what I'm doing now. I'm led to this remark by a letter I have received from Mr. H. N. Bartlett, of Wilkinsburg, Pennsylvania, enclosing a clipping from a Pittsburgh paper describing the state of affairs when one hundred and twenty-five car-loads of cabbages reached the Pittsburgh market on the same day. Cabbage sold for a dollar a wagon-load. In fact, it was offered with no takers for the cost of the freight—as low as eight dollars a car!

About the same time onions sold on the same market for the freight—about ten dollars a car-load. And the consumers of onions and cabbages were paying at the rate of sixty cents a peck for the former, and eight cents a head for the latter!

And here is what Mr. Bartlett says about this matter:

A Remedy For the Evil

Editor, Farm and Fireside—Pittsburgh has no use for one hundred and twenty-five car-loads of cabbage in one day, although its capacity for sauer kraut is considerable. The lack of a National Farmers' Organization to control large shipments to the cities would go far to remedy the evil. To continually preach better methods of planting and growing will not avail much unless better methods of distribution of the product are also put before your readers in a way that will show the farming class the need of organizing for its own benefits.

This, of course, touches only one side of the question, but if you outline a program for the producer, the consumer is bound to feel in the end the effect of your good efforts. This is nothing new, but to have such conditions reiterated and the cause of such loss pounded into an apathetic public may some time have an effect that will be beneficial. The farmer, as an individual, is the principal loser, but the public, too, is losing every day through inefficient methods in distribution.

Very truly,
H. N. BARTLETT.

Wanted: More Brains

Well, we've been "outlining programs" for a long time, and we feel sure that our efforts, and those of others in the same field, have done some good. The first phase of any reform is to point out evils—point them out strongly, remorselessly and unsparingly. When the evil is once generally recognized, the reform will take care of itself.

The idea to get through our respective hairs at this moment is that the farmers of the land are just like the woman who went bankrupt by using the automatic feeding-machine—which had no brains, but was otherwise a very good machine.

Our machine for feeding the world is a very good machine—save that it hasn't a lick of brains. It sends a hundred and twenty-five car-loads of cabbage to Pittsburgh, and brings tears to the eyes of Pittsburgh with onions, when maybe New York wanted cabbages, and Philadelphia onions.

Some day we must have some brains in this matter of distribution. Instead of trusting to our brainless automatic machine, we must have brains of some sort and take a peek into the trough before we spout feed into it. We must have some agency acting in the interests of all, which will know where any given kind of produce is needed. We mustn't feed silage to the pigeons, nor ear-corn to the pet lambs—but must ship things where they are needed, and when.

You don't catch the California orange-growers sending oranges to a glutted market—not they! Their feeding-machine has brains. It peeks into the troughs all over the United States for oranges left over from the last feed, and it makes us eat every last orange up.

Stop the Waste

Or take the lumber business for an example. Why do shingles and lath and all sorts of wood products sell for nearly the same in the prairie States as they do in the heart of the timber-lands?

It's because of the careful distribution of lumber all over the country under the direction of brainy men who know what the different sections need and will buy. But fresh food products being perishable should be handled with the greatest pains of all. But they are not, and that's what keeps making my hand itch to write these things so that some of the fearful waste will be stopped. And some time it will be—not this year nor next year perhaps, but some time—it depends on how serious we are in trying to stop it.

Herbert Quick

ADVERTISEMENTS ALL ADVERTISERS GUARANTEED

[CONCLUDED ON PAGE 12]

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 381 Fourth Avenue, New York City; Tribune Building, Chicago, Illinois

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter

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SUBSCRIPTION PRICE

One Year (26 numbers) 50 cents
Canadian, 1 Year . . 75 cents

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper so as not to wear a hole through the envelope.

Vol. XXXVI. No. 9 Springfield, Ohio, February 1, 1913 PUBLISHED BI-WEEKLY

Wanted—A Painless Trap

ANYONE taking interest in the development of big business can easily become convinced that fur may now be spelled appropriately with capital letters. A moment's computation, taking as a basis of reckoning the furs worn by women of one's acquaintance in city, town, and country, easily shows that the money now invested in fur garments in our country alone aggregates hundreds of millions of dollars. Men's fur wear,—caps, gloves, ear-muffs and trimmings, swell the total many millions more.

A generation has put any animal wearing fur into the class that commands high consideration. The furrier has become an artist. It now requires a connoisseur to know what little creature gave its life and overcoat to furnish a given garment that perhaps masquerades under the name of an aristocrat among fur-bearers.

This enhancement of fur values has brought the trappers' craft into renewed prominence and a mooted question has arisen as to the right of man in our age to cause pain to these fur-bearers which results from catching them in traps. Can these animals be taken effectively and more humanely than by present methods employed? Here's a chance for the inventor. The animals will be caught in any case, but there should be a painless trap even though most of the fur-bearers seem to delight in harrying and causing needless suffering to their own prey.

Coming years will find many fur-bearing animals raised in confinement, and their killing can be made at least as humane as of farm live stock.

The encouraging news has just come from B. Diaz-Ossa, of Chile, South America, who speaks for the Chile Government, that there is still enough nitrate-of-soda fertilizer in sight in Chile to supply the agricultural needs of the world for the rest of this century. He modestly omits the price-list and the expected revenue to the owners of the nitrate deposits.

Grandfather, Son, Grandson

BEFORE a roaring fire these midwinter days what can be more appropriate than that we should reason together? And what is more pertinent to the farmer than the study of his most indispensable asset, the soil?

Our grandfathers considered the soil a medium for supplying physical support and nourishment to the growing plant. Cultivation of the soil was simply a process of destroying weeds which would otherwise rob the plant of food, moisture and space required for its normal development.

Our fathers went farther and believed that stirring the soil had some beneficial influence other than killing the weeds. A somewhat hazy impression was held that the freshly stirred soil became vitalized by the atmosphere, dew and sunshine.

We of the present generation have been inclined to feel something like pity for the restricted views of our forebears, who, unfortunately, lived too soon to get the benefit of the advanced farm knowledge since unlocked in the realm of science.

The grandson has said with something like finality that the purpose of cultivating corn is quite complex. Weed-killing is only an incident, necessary, of course; but conserving the soil moisture and aërating the soil, and thus assisting the beneficial bacteria to multiply much more rapidly, constitute the real function of corn-cultivation. In proof of his position, the grandson explains that early and repeated spring cultivation enables these beneficial soil bacteria to liberate more plant-food than would otherwise be ready for that particular crop. Of course, this enlightened generation has found other and less obvious reasons for corn-cultivation, but those mentioned are most prominent.

Now, is it not fine to have the real influence of corn-cultivation discovered? But what is this we hear about the grandson being mistaken? It is this: a series of over one hundred practical tests have been carried on during the past six years to determine whether cultivation of corn during its period of growth does increase the yield of the crop. Some of these tests have been made by the experiment stations and some by practical, genuine farmers in over half the States and in all sections of the country. In each test corn was grown with no cultivation or other stirring of the soil, the weeds being killed by shaving them off just at the surface of the soil.

Under exactly the same conditions of soil and fertility, corn was grown for comparative tests, using the present prevalent intensive cultivation. The result of the six years' tests overturns the grandson, sets father askew, but grandfather comes up smiling. Otherwise expressed, the average production of both grain and fodder in all these tests are so nearly equal that all our fine-spun conclusions as to the value of corn-cultivation, except to kill the weeds, seems to be evaporating. The weeded corn, all tests averaged, produced 95 per cent. as much fodder and 99 per cent. as much grain as the cultivated corn.

Stated differently, corn that yielded 60 bushels of grain per acre under cultivation produced 59.4 bushels per acre when no stirring of the soil was done after the seed was planted, and only slightly less proportionately for the fodder yield. What will this mean to the corn-growing industry? Wait a little and see. In the meantime experiment in a small way, and learn if your soil and other conditions are exceptional. Keep in mind as did grandfather that weeds are the arch enemy of good and profitable corn crops, in fact of all crops.

MR. FRANK KLEINHEINZ, whom we here present, and whose writings appear regularly in FARM AND FIRESIDE, is one of the best sheepmen in the country. He is the shepherd of the Wisconsin Experiment Station, a position which he has held for a long period of years, notwithstanding many flattering offers and most remunerative inducements to go into commercial lines of the sheep business.

At the International Live-Stock Exposition recently held in Chicago the Wisconsin sheep shown by Mr. Kleinheinz made an extraordinary showing. In the dressed-carcass competition his sheep won six out of seven prizes offered, losing only one third prize. His champion carcass lamb sold for the record-breaking price of sixty cents per pound. He has won the championship carcass prize nine times out of thirteen times showing at the International. All of the prize-winners were bred and raised by Mr. Kleinheinz or under his direction.

Hard Water and Rheumatism

GERMAN scientists have for the past two years been arguing the question, "Is hard water injurious to health?" Dr. Wagner, a German physician and chemist, asserts that drinking-water with a high degree of hardness may be used with impunity and in large quantities without injury to health.

To bolster up his claims, he presents analyses of many common foods that contain more lime and other mineral elements than does the hardest water. As such foods are recognized universally as harmless, he insists that hard water is also harmless.

Other reputable scientists maintain, on the other hand, that a high degree of lime in drinking-water favors goiter, rheumatism and indigestion. Both factions are agreed that pure soft water or water only slightly hard is above criticism from a health standpoint.

Fertility Lost in Floods

OBSERVATIONS made on the flood-waters of two rivers in Australia show that the transported mud, dried, carried 1.16 per cent. of lime, .2 per cent. potash, .36 per cent. phosphorus and .36 per cent. nitrogen. There can be no doubt that the washings from the hills of the reader's farm carry off at least as much of the precious plant-food as this. Ideal farming would prevent any muddy water from flowing from any field.

The Japanese and Chinese attain this ideal by throwing their fields into level tracts with rims around the edges to hold water. The water is thus taken off by drainage only, and never by flowage. Much the same results may be accomplished by plowing the hillsides very deeply so that the water will sink in, and by making the furrows around the hills, according to the contour of the land. Thus the furrows and rows of crops would always run on the level, no matter how steep the land.

This may seem impracticable to many farmers, but it is actually practised on thousands of American farms. It takes more work, but it saves what cannot be bought—the soil. Strips of grass around the hill, alternating with the cultivated crops, will also save much of this valuable fertility. These things will make a great difference in the course of ten years' farming.

Birds and Earthworms

EVERY thinking farmer has become convinced that, with the exception of a few varieties, birds are his friends and are treated accordingly for the most part.

The farmer has also another friend, the humble earthworm. Investigations lately completed by the British Government in the Sudan prove that the remarkable fertility of the valley of the White Nile is largely due to the work of earthworms.

The castings—the earth which passes through the digestive system—of the earthworms on one acre of ground was found to be 239,580 pounds in the six months' active growing season that the farmers of that country enjoy. This means that a lot of the subsoil has been brought to the surface and also that the land has been put in excellent condition by the thorough aëration of the soil made possible through the runways of the worms.

The British investigation seems to prove that every farmer boy who digs a few worms for fishing is depriving the farm of many useful denizens of the soil. And how are we to become reconciled to the eating of the useful worms by the useful birds? But being reasoning and reasonable creatures ourselves, let's not worry about either the birds or the worms, except to make our farms good homes for them and give them protection. Nature provided ways for them to take care of themselves. The "birdies" look after the bugs in the trees, and the "wormies" are busy under the ground most of the time. If we look after our own duties on the surface as we should, we will all get along very nicely together.

Successful Methods for Trapping

Telling How the Best Trappers Capture the Fur

THE SKUNK

How to Make Tempting Sets

By Harvey Blair

ALTHOUGH the common skunk is not considered a very shrewd animal, I have found a few that were trap-shy. In the first place, one wants good traps. No. 1 is the best size. The style of trap depends on the trapper's personal choice. For a cheap trap the Victor is a good one, though probably not so durable as others. The Stop Thief is also liked by many. But the Newhouse is considered the best by most professionals. But now to set the trap and catch our skunk. Well, son, are you ready to start? Have you got everything? Let us see.

You need a light hatchet or good strong knife, a small bag of bait and some traps. As we may see some game on our tramp, we will take the .22-caliber rifle along. Well then, we will start for our trapping-grounds. Around old pastures, in the edge of the woods and along old fence-rows are the best places to look for skunk signs, as they usually "den up" in old woodchuck-holes around these places. As for bait, the carcass of a skunk is about the best, but as you have not caught any skunk yet we will have to use something else; the kidneys of hogs and beeves are a second choice. Red squirrels, mice and chipmunks are also good.

Now, down there by that old birch is a good place to set our first trap. You see how those two large roots spread out from the tree just about a foot apart and about a foot deep back under the tree. Place your bait back as far as you can in the hollow between the roots. Now cut a stick about four feet long and one inch thick. Trim it, leaving the limbs three or four inches long. Take your trap-chain, and loop it around the middle of the stick by doubling the chain back through the ring.

Set the trap in front of the bait, with the spring back toward the bait and the jaws facing you. Next cover it with leaves. If you have a good stiff trap, you may find a wild cat or a weasel some morning as well as a skunk.

Other good places to set your traps are at the end of hollow logs and under stumps. Always set your trap so the animal has to step in it from the opposite side from the spring.

Visit your trap as early as possible every morning. Use your .22 to kill him. Shoot at the base of the skull, and you will break his neck.

* * *

Stormy Nights are Best for Skunks

By S. N. Strickler

The skunk has become quite famous because of its powerful scent, which is found in two glands near the root of the tail, and which the animal can eject at will. This scent is perhaps the most powerful and offensive of all living animal odors.

A good set is to make a small pen of old rotten wood, stones or stakes, setting the trap in the entrance and placing the bait in the pen beyond the trap. Skunks may also be taken in box traps, deadfalls and snares. For bait I prefer rotten eggs.

In winter one may trail them to their dens, and, if the den is a good one, may find as many as two dozen in one hole. Dark, stormy nights are best for skunk-hunting.

* * *

How to Tell Skunk-Dens

By Ben Liehr

When you find a den that you think is inhabited by skunk, if you are not sure, get a handful of dust from the hole. If a skunk uses the den, you will find some of the long hair in the dirt.

After a den is found, set a trap directly at the entrance, so that no skunk can enter or leave the den without crossing the trap. It is not necessary to cover the trap, though it is well to do so, as you may catch a mink or fox. To cover the trap properly, dig a few inches below the surface of the entrance of the den and exactly where the trap is to be placed. Cover the trap very lightly with leaves or dust.

Be sure there are no rocks or sticks under the pan of the trap. Set so the trap will spring easily. Do not wire the trap to a root or tree. Get a light pole about six feet long, slip ring of trap-chain over one end of pole about two inches, and wire or fasten with a staple to keep from pulling off the pole.

THE MUSKRAT

Where the Muskrat Lives and How to Trap Him

By Warren Depuy

THE muskrat is a water-animal, therefore his fur is best in February, March and April, but it is prime from the middle of November to the middle of May. He seems to dislike swift water, and is found mostly in pools. You never find him in a stream that has a rock bank, as there is no place for dens. He likes still water at least six inches deep, with a grass or reed bank, but you will sometimes find his den in a bank covered with trees. He lives on reeds, tall grass, watercress, small fish and such fruit and vegetables as apples, parsnips and carrots. He generally feeds at night, especially on moonlight ones. If the night has been stormy, muskrats will be out the next day more than usual.

A No. 1 trap is the right size. Go along a stream and watch for flat-surface rocks sticking out of the water from two to six inches. On these rocks you will find their droppings if there are any muskrats near. You will also find cut reeds in back waters.

Next find a burrow from two to eighteen inches under water leading under the bank. Place a No. 1 trap in this burrow, and fasten it to a stake, put the stake as far out in the water as you can so that the trapped muskrat will drown. If the water is shallow, take an iron that will weigh about two pounds, and tie a wire to it. Slip the ring of chain over wire, tie wire to stake on bank, and throw the iron out into the water full length. If you can't get an iron, use a stone.

When I catch a muskrat, I take him by the tail and crack him like you would a whip so as to get the water out of the fur. It is always best to skin him as soon as possible, and if the fur is wet after it is skinned dry it before stretching.

Explanation of the Twelve Trap

For the sake of clearness, the traps are shown without any covering.

1. *For the Mink*—Find where mink travel. Dig a hole in the bank about five inches in diameter and about eighteen inches long, on a level with the water. Stake a piece of muskrat in the back part of the hole, and set the trap at the entrance. Cover trap with dirt, leaves, rotten wood or feathers. Have the stake in the water.

2. *For the Mink*—Find where a log projects over the water. Cut a notch at the end of the log, and set the trap in it covered well. Put a piece of bait on the log near the trap. Some scent can be used.

3. *For the Mink*—Take a string of live fish, and fasten them in a U-shaped enclosure, and set a trap in the front of the open end.

4. *For the Mink*—Find a muskrat-house. Set a trap at the top of the house, and then put some bait over the trap about a foot high. Set several traps around the bottom of the house. The mink will come there to feed on the muskrats.

5. *For the Mink*—Where a mink jumps or steps over a log or stone, set a trap where he alights. Cover it well, and make the place look as natural as possible.

6. *For the Mink*—Set traps in the holes you will find in the banks of streams, putting bait outside the hole about five feet from trap, and cover the bait with a stone, so he will have to work hard to get it.

THE OTTER

Patience Wins in Otter-Trapping

By Thomas L. Elliott

MANY beginners fail to catch otter because they take up their traps too soon, as otters are great travelers. They are gone on their rambles for many days. Some say they make regular rounds once in every seven to nine days, but my experience is that he will be back when he gets back, and you need lots of patience and perseverance to be a successful otter-trapper. I once had a trap down for forty-two days before one returned, but I landed him when he did come.

The otter is one of the hardest animals for the amateur to trap. The trap should be the No. 3½ single-spring Newhouse with teeth.

Look carefully along the streams and lake-shores for their slides or tumbling-grounds. Try and find out where they come out of the water to climb up, as this is the best place to set your trap. But if you cannot do any better, set at the foot of the slide in three or four inches of water, covering with old water-soaked leaves. Take a piece of wire from ten to twenty feet long, and fasten to the ring of your chain to lengthen the chain. Make the other end fast to a root, tree or stump, or, if these are lacking, use a stake.

THE MINK

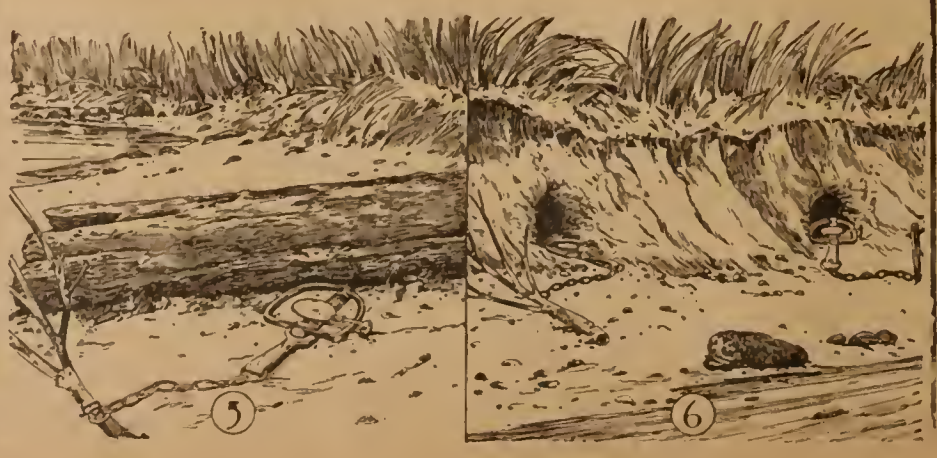
Use a Bait with a Strong Odor

By S. N. Strickler

FIRST of all, select a No. 1½ Oneida Jump trap, and be sure that the traps are clean of rust, dirt and odor of any kind. Mink get prime about the first of December and go out about the first of May in the North, and in the South not so late. The mink has a long, slender body, a small head and short legs. They are found around ponds, small lakes, creeks and springy places, but especially around places where muskrats are found.

Where minks travel around a lake, go to the outlet, and lay a hollow log across the stream just where the water leaves the lake. Set a trap in this log, covering it with fine rotten wood, and every mink that travels around the lake will attempt to run through the log and will be caught.

Here's another good set; place trap in cavity, three sides of which should be surrounded by stones, sticks or bark. Place the bait beyond the trap so that the trap is



ır Common Fur-Bearing Animals

l Animals Whose Hides We So Highly Prize

between the bait and the entrance. Bait with muskrat or fish. Bait should be smoked in cold weather to give it a strong scent.

A dark, rainy night is the best time to catch minks. When you catch a mink, leave the trap there for a few days, for you can probably make several catches.

* * *

Some Good Sets for the Wary Mink

By W. J. Williams

There is an old stump just on the edge of the water, and there are mink tracks in the mud; he has just come out of the water. A little below there are a good many tracks. Now let us set our first trap here. Let me set the trap, and you watch me.

I first dig a pocket under this old stump, making it about a foot in depth and about six inches in diameter. Now give me the head and one fore leg of that rabbit. See, I have dug the hole just so it will have a little water in it. I'll put the bait in the back of the hole. See, I have placed the bloody end of the bait toward the mouth of the hole so that the mink can smell it better. Now watch me dig this trap-bed. We must dig it just so it will fit the jaws of our trap, and we must dig a trench to just fit the spring of the trap. We must have our trap-bed right in the mouth of the hole. Watch me set this trap. I have oiled the working parts of these traps, and I now place one in the trap-bed just so the jaws are a little under the water; I now cover the trap with old leaves that I found in the water. I am placing those leaves smoothly over this trap, also the chain which we must wire to a stone about the size of a rabbit. I place this stone on that steep bank just at the water's edge so that when Mr. Mink gets his foot in trap he will jump into the water, which is deep enough to drown him.

Now that the trap is set, go, pard, and cut me a pine-top with a handle to it as long as you can find. I now stand 'way up here on the bank dipping the top of this brush in the water and wash out all sign and scent of us, thus leaving our trap setting in first-class order.

Sets Illustrated on These Pages

7. *For the Mink*—Find mink-tracks along the stream. Take a piece of fresh meat, and sprinkle with scent. Then drag the meat from the water to where the mink-tracks are seen. Set several traps on this trail, and cover well.

8. *For the Mink*—Find a place in the woods where mink play near some roots. Set a trap there and make a V-shaped enclosure over it. Cover the trap with rotten wood.

9. *For the Muskrat*—See that steep bank at the end of the pond? There are muskrat signs around. Cut into the bank till close to the surface of the water, thus forming a shelf. Set a trap in there and another in the water. Cover with wet leaves or grass. Put a little trail of corn from the trap to the edge of the shelf.

10. *For the Muskrat*—If two shallow pools of water can be found which are connected by muskrat runways, set traps in these trails.

11. *For the Beaver*—Make a hole in a bank about six inches long and fifteen inches wide so that one half will be under water. Dip a small stick in beaver-castor, and place at the back part of the hole. In the hole put some bait, as the bark of poplar, or cottonwood, twig or calamus-root. Set one trap in the hole and another in the water in front of it.

12. *For the Beaver*—Find a log lying partly in the water and partly out. Set trap at end of log in two or three inches of water. Nail a stick on the log directly over the trap, with bait on top.

THE COON

Eleven Sets to Coax the Coon

By Fred Stamer

THE best scent for coon is fish-oil. The No. 1½ Newhouse or No. 2 Jump traps are good for coon. Here are some good sets:

1. Raccoons can be taken in the paths they make in cornfields. Set the trap in the path, and cover well. Bait or scent can be used.

2. Get a piece of bright tin, and cut it into the shape of a fish. Set trap in two or three inches of water, and fasten the fish to the pan of the trap, which should be done before setting the trap. Use some scent. The coon will slap the fish and get caught.

3. A small fish fastened to a piece of wood and set in the water beyond your trap makes a good set.

4. Find a place where coons travel along the water. Set a trap there, and hang a fish about two feet high just over it. The coon will jump for the bait and get caught. The trap should be fastened to a heavy drag.

5. Where coons go on a sandbar, set a trap fastened to a heavy drag. Cover trap well. Use some bait or scent.

6. Where coon-tracks are along the edge of the water, build a pen. Leave the top and front of the pen open. Set a trap at the entrance of this pen, and put some bait in the back part of the pen on a small stick.

7. When you find signs of coon, set some traps on logs or hollow trees. Some scent should be used. Cover the traps well, and fasten to drag.

8. If you find a shallow stream, put stakes or brush all the way across, except for an opening near the middle, placing trap in the opening.

9. When trapping in a wooded country, set a trap at the base of a small tree, and cover well. Then take a fish, and nail it on the tree about two feet above the trap. Sprinkle some scent around.

10. Find a place where a tree has fallen across a stream. Cut a notch in the center of the tree, and set the trap in it. Fasten a chain to the tree. Sprinkle some scent around, and hang some bait on a stick about two feet above the trap.

11. If you come across a den in the woods, cut a pole six inches thick and six feet long, and lean it up against this tree. Set your trap on top of this pole, and cover with leaves.

* * *

Fifteen Coon in Twenty-Two Traps

By J. R. Bowling

For the coon, set your trap out in the water far enough for the water to cover it, then cut a bush and lay in the water beyond your trap, also one on the bank, bringing the two near enough together to leave an open space about eight inches wide. In this set your trap; then lay a small stick across the opening six inches from your trap so that when the coon passes through the opening he will step over the stick into the trap.

I often put brush clear across a shallow stream, leaving an opening in the center of the stream. Place stepping-stick the same as those near the bank, and you will catch nearly every one that passes along that stream, as the brush will force him to go over your trap, as he will never go through the brush if he can find an opening.

My best catch this way was fifteen coon out of twenty-two traps in one night. Fresh eggs are good coon bait, also honey and fish.

THE BEAVER

If Possible, Set the Traps from a Boat

By Thomas L. Elliott

HERE is my best beaver set, especially for the late winter and spring months: I find a beaver-slide, or landing-place, and set my trap in three or four inches of water at the foot of the slide, or landing-place, covering it with old water-soaked leaves. For traps I prefer the No. 3½ Newhouse single-spring.

As the main thing in beaver-trapping is to take each beaver, one at a time, and drown him, I will tell you how to drown him. First take a coil of strong, soft, pliable wire, and cut a piece about ten or twelve feet long; fasten one end to the ring in the end of your trap-chain and the other end to a root, tree-stump, or anything convenient. Make a sack of canvas, or you can use a burlap sack large enough to hold thirty or thirty-five pounds of rock or gravel. Fasten this sack to the trap-chain about six inches from the end of the spring, and sink the sack in the water or mud. When caught, he will make a dive for deep water and drown.

I set my traps from a canoe or boat, or if unable to go with a canoe or boat I use rubber boots and stand in the water when making my sets.

A sure set when the ponds are frozen over is to cut a hole through the ice anywhere near their house or feed-bed, where the water is about eighteen inches to two feet deep, and shove some freshly cut green poplar, birch or cottonwood boughs down into the bottom, setting two or three of your traps on the bottom so that he will step in them when he goes to cut the boughs off, as that is the first thing he will do when swimming around under the ice. As soon as he sees the fresh green wood, he will proceed to take it home for a fresh feed, as his winter's stock stored under the ice soon gets slimy.

* * *

Five Practical Sets for Mr. Beaver

By Geo. Cuneo

1. Find a place where the beaver passes over regularly. Set a trap in about three inches of water, and cover carefully. Use some beaver-castor, and put it near the trap. Use a sliding pole.

2. Beavers are sometimes taken by breaking away their dam two inches below the surface in one or two places and setting traps in the water above the dam where they are likely to go and get some material to repair the break. Cover the trap with mud, and fasten to a sliding pole.

3. Make a hole in the bank about six inches long and twelve inches wide, make the hole so that one half will be under water. Dip a small stick in beaver-castor, and place at the back part of the hole. In the hole put some bait, as the bark of the poplar, or a cottonwood twig. Set a trap at the entrance of the hole, and fasten to sliding pole.

4. Find a small shallow stream that beaver are using. Dam the stream with brush except for an open space in the middle. Set a trap in this space carefully covered.

5. Find a landing-place of the beaver. Set a trap under water where his hind feet touch the bottom in order to spring up the bank. Have trap fastened to a sliding pole. Caught in this set the beaver is yours.


THE RACCOON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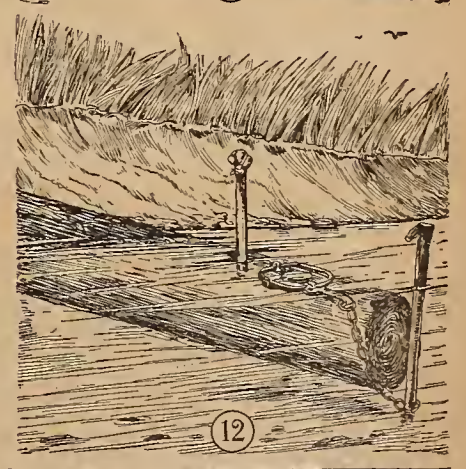
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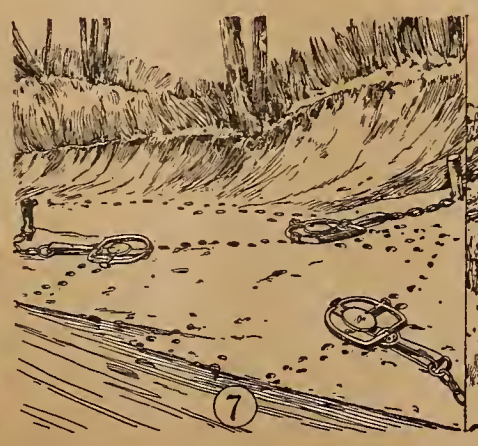
THE MINK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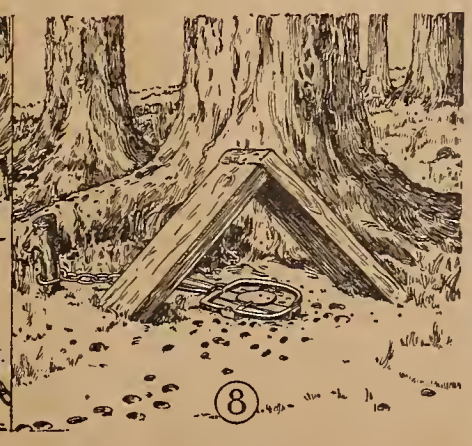
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THE BEAVER

Trapping Our Common Fur-Bearing Animals

[CONTINUED FROM PAGE 5]

To Outwit the Opossum

By J. W. Goddard

THE opossum is not shy of traps, and it is not hard to trap him if you will use the right kind of bait and scent and set your traps in the right place. For bait I use fish-heads, birds, rabbits, spoiled beef and chicken. For scent I use fish-oil. To prepare the fish-oil, catch small fish in September, cut them up fine, put them in large bottles, and hang in the sun for three or four weeks. For a trap I find the No. 1 Victor is best.

In setting the traps, I first take a rabbit, a small bottle of fish-oil and twenty-five fish-heads. I place my trap in front of a hollow tree or log or a hole in the ground, place a fish-head in the hole and drop a few drops of the fish-oil around the trap. I then split the rabbit open and drag him toward the trap for a trail scent, as the 'possum has a keen sense of smell.

For another set, when I cannot find a hole, I take a piece of beef as large as my fist and tie a cord two or three feet long to the beef and tie to a limb, letting the beef hang about eighteen inches from the ground. I then set a trap directly under the beef and put a few drops of fish-oil around it. I then cover the trap with dry leaves or grass.

Another good way to catch opossums without bait is to go to the woods where there are old logs on the ground, set a trap about the middle of the log and drop a few drops of fish-oil on each side of the trap. The first opossum that comes in sight of that log you will get. An opossum will not pass in sight of a log without getting on it, for he is a great lover of a log. When he gets on the log, he will get a scent of the fish-oil, and he will stop to investigate. In doing so, he puts his foot in the trap.

I will advise that where you want to catch opossums to put them in enclosures for the purpose of fattening, that you catch them in box traps, as the box trap does not hurt them. I find when a 'possum is caught in a steel trap he will not do as well in an enclosure as where he is caught in a box trap. I use a box trap opening at both ends. I have better success with this trap than any trap I have ever tried, and I have tried several kinds. Opossums will do well in enclosures, as they will fatten like a hog.

Approved Methods of Skinning

SKINNING a skunk is as important as catching it. Be careful not to cut the hide. If it is a nice full-furred hide, stretch tight, and make the hide as long as possible, and if it is not very full-furred do not stretch so tight. Be sure that the wrinkles are out and it is smooth. I use steel fur-stretchers, but wooden ones will do. R. C. McCormack.

Martens have very thin pelts and usually dry in one or two nights on the stretching-board. When dry, they should be taken from the board and turned fur side out. In turning, begin at the nose.

If the skin is too dry and you are afraid of breaking it, put it outside in the fresh air for one-half hour, when it will absorb enough dampness from the air to turn without breaking. In skinning marten, be sure to leave all the claws on if you wish to sell the skin. Thomas L. Elliott.

To skin a muskrat, begin at hind leg at joint where fur begins. Rip down to base of tail and around it, then rip the other leg to base of tail. Next loosen it, and peel off down back and belly over front legs. Now pull it off front legs to head. Skin it over head and nose, and cut off. Leave tail on body by skinning around it.

After the skin is dry, stretch over a smooth board, tight but not too tight, fur side in.

When the hide gets dry, take a knife, and peel off fat, then take it off board. It is now ready to sell. Warren Depuy.

To skin a 'possum and stretch the hide for market, first cut off his tail, as it is of no value. Then cut around the hind feet, afterward cutting a straight line down the back of hind leg to vent, and from vent to hind foot; this is all the cutting necessary. Now, using a round-pointed knife, catch the skin with your left hand, and pull, using the knife in right hand, setting it so as to scrape, not cut. Scrape toward the carcass, and you can scrape all the fat from the skin.

Stretch the skins on the proper-sized board, running two wedges between the skin and the board to let air between the skin and the board. Hang in a cool, dry place for three days, and then take a tablespoon, and scrape from tail to head, thus thoroughly cleaning all the grease from the skin. J. W. Goddard.

In skinning and stretching coon-hides, split them open down the belly, and skin them as you would a cow. Be sure that you remove the bone from the tail.

In curing skins, never use salt or alum, as that will spoil them. Hang in a dry, shady place. Stretch coon-skins as nearly square as you possibly can. Use small nails to hold them square, nailing about every two inches. Ben Giehr.

Trapping the Marten

By Thomas L. Elliott

THE marten is very easily trapped. I make a pen at the root of a tree or stump or alongside an old windfall, as they are great mouse-hunters. Bait with fish, birds, rabbit, porcupine or beaver.

You need not cover your traps, as a marten has absolutely no fear of a trap, but cover your pens to keep the snow from clogging the traps. I place a few drops of scent in the back of the pen, but Mr. Marten will go in, scent or no scent. Still, you catch more marten with scent, simply because he can wind it farther than he can plain bait. The ground sets are the best if you can keep them working.

The best way to make a tree set is to cut a good-sized notch in a tree and nail strips across it so as to leave just enough room for the trap to work freely. Take your chain around to the back of the tree and drive your staple there.

The only way to make money trapping marten is to run long lines and work hard. I have eight months' supplies in my camps. It costs me ten cents a pound to get my supplies packed the first twenty-two miles up the Copper River, and then I have to pack them the balance of the way on my back. But there is a fascination about trapping.

What the Best Trappers Have Learned

First post yourself thoroughly on the local game and trapping laws.

When you buy new traps, it is best to boil them in the bark of a maple or oak tree, to take off the newness and varnish.

The trapper soon learns that all wild animals have a very keen scent, and that the only way to entirely destroy the human scent which may be left on the trap is by making water sets.

Place a few twigs or leaves on the ground for your traps to set on, as these prevent the trap from freezing to the ground.

When covering traps, always use material which is inconspicuous and is commonly found near by. In the woods, for example, use leaves; in the open use grass, and near streams use moss or small water-plants such as cress.

Uncle Sam's Fur Farm

By E. Y. Wead

FOR some years Uncle Sam has been working along the line of fur farming, and everybody knows of his success in showing that the true Karakul, or so-called Persian lamb, fur can be easily and profitably raised, while his experiments in reindeer-growing in Alaska have altered life for the Eskimos and done more to civilize this savage people than has any other one agency.

The Government has long wished to give the people further aid, but until a recent decision of the Treasury Department rendered funds available, it was unable to do more than plan.

Uncle Sam is now about to attempt an undertaking never before tried scientifically in any part of the world, the establishment of a farm for the production of fur-bearing animals.

Private breeders have had considerable success with foxes, some even rearing animals which nearly always come true, whether blue, black or silver.

The Government will begin with the mink and the marten, as they are fairly prolific, and their skins are of considerable value. The farm is among the mountains of Idaho, where streams are many, waterfalls abundant and there is plenty of room.

A Rarebit for Reynard

By Leonard F. Strickler

THE trap should be smeared with blood or beeswax to destroy the odor of the iron. Set it in soft earth, packing moss or leaves around the pan and jaws. Bait with fried meat. Then put a few drops of animal scent on the bait.

Another method is to make a bed of chaff where the fox is likely to visit. Stir in old, toasted cheese or meat-scraps. Do not handle the material any more than is necessary. After you are sure that a fox is visiting the place, set a small-sized double-spring trap and cover it with chaff. Fasten your trap to a clog heavy enough so that he cannot get too far away.

Five Good Sets for the Fox

By Fred Stamer

AS THE senses of the fox are acute, especially hearing and smell, one of the most important things when about to trap the fox is to have the traps clean. This may be done by boiling them in hemlock-bough water, or sprinkling them with blood, or burying them in the earth for two weeks. When setting trap, use clean gloves.

Foxes feed on grouse, small birds, eggs, fish, rats, mice, rabbits, muskrats and squirrels.

No. 1—After finding a place where there are fox signs, put a large stake in the ground, so that four feet will be above the ground; sharpen it at the top. Put a rabbit on the stake and leaves around the bottom. Set the trap about three feet from the stake. On the pan of the trap put a mouse sprinkled with scent. Cover the trap well, but leave the mouse-head uncovered.

No. 2—Go to a spring where the water does not rise and fall. Place a stone about fifteen inches long near the shore so that the top will be one inch above the water. Cover the stone with sod. Place the trap about five inches from shore, all of the trap being under water except the pan. Cover the pan with moss or thin sod. Put the bait on the stone that is covered with sod, using some scent.

No. 3—Get a large piece of bloody meat, and sprinkle with scent. Drag the bait around, and set your traps in the trail. Cover the traps with dirt, leaves, moss, feathers or chaff.

No. 4—After finding a place where the fox passes around a log or stump, make a bed of chaff or leaves, and set the trap in it. Have the trap fastened to a drag. Sprinkle small pieces of bait around the trap, and use some scent.

No. 5—During the summer lay limbs across cow-paths in the woods and pastures. On either side of these obstructions will be good places for your traps in the winter.

Catch the Fox Off His Guard

By Thomas L. Elliott

AS THE fox gives the beginner about as much trouble as any of the fur-bearers, I will give a few practical sets which should enable a beginner to hang up his first fox-skin.

In a country where there is timber a very good set is to find a windfall and with your hatchet cut a bed for your traps on the windfall. Carefully make two blind sets about twenty feet apart on top of the log; fasten trap to a clog or drag. Dig a hole under the log about half-way between your two traps, and place your bait in the hole under the log. Mr. Fox will smell the bait and jump upon the log and walk back and forth, and if you have made a neat blind set he is your fox, as he is not looking for any trap on the log. Only on very rare occasions would you catch him by setting a trap in front of the hole with the bait in, as he would be very cautious when approaching the bait, and he would probably discover your trap.

Boil all traps used for fox sets in a strong liquid made of the bark or small boughs of whatever kind of timber that grows the most plentiful in the vicinity.

A good set in a prairie country is to make a careful blind set on an ant-hill or badger-mound and stake a beef-head anywhere within fifteen or twenty feet of the trap. As Mr. Fox will circle around that beef-head and jump upon the knoll or mound to get better observations, you are pretty sure to land him.

Fox-Trapping Requires Patience

By Martin Swanson

THE fox is a very shrewd animal, and it takes wit and patience to trap him. However, I have been very successful with this method of taking Reynard.

Find a place where foxes are in the habit of traveling. Pick out a nice knoll or hill, and if you cannot find one, make one. Hills should be made a month in advance, or during the summer, so the fox will get accustomed to them. When trapping season opens, get a couple of handfuls of chicken-feathers, and sprinkle around the hill. This hill should be at least two feet high. Then get a live chicken, putting it in a cage, and hang about ten feet from the hill and about eight feet high, in plain sight of the mound. Set about three No. 2 fox-traps, and cover well with dirt from the hill, and fasten chains to drag.

Traps must be set on top of mound. Don't touch the trap with bare hands after you have touched the bait, or the fox will not go on the mound, and your work will be in vain. Use clean mittens or gloves in handling bait or traps.

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Farm Notes

Killing Quack-Grass

By James A. King

QUACK-GRASS is one of the most pernicious weeds which the farmer must encounter in many parts of the country. One of the principal reasons for its great perniciousness is the persistency with which it grows again after having been pulled out, cut off or dug up. It has more lives than the fabled cat. Its ability to grow again after all kinds of mistreatment is the result of its method of growth.

> The whole problem may be summed up into this one thing: If we can keep the quack-grass from getting a sprig or leaf above ground for a whole season, we have succeeded in killing the weed. If this is not done, our efforts are unsuccessful.

It is a perennial plant with running rootstalks. These rootstalks are a sort of fleshy, white, underground stem with feeding-roots running from each joint. If one of these joints or rootstalks is set down in the ground anywhere, it immediately begins to grow. These rootstalks are a sort of storehouse of plant-food. The quack-grass in its normal growth forms starch and stores it in these rootstalks.

If the top plant is cut off, pulled up or dug out, the roots that do remain in the ground immediately draw from the store of starch which is stored away in the remaining portions of the rootstalks, and there is enough of this left to nourish them until they get a few leaves above the ground and so put themselves on a self-sustaining basis.

This brief record of the life history of the plant gives somewhat of an insight into the problems involved in the successful killing of this weed.

The Growth Was Almost Too Heavy to Mow

On the farm which I have been operating for the last few years there was a small patch of a very heavy growth of quack-grass. Apparently I have had pretty good success in killing it out, and this was the method that was used: This patch of ground was in corn in 1911. In the early spring of 1912 a good coat of barn-yard manure was scattered over this patch. Then it was plowed deep. Then another light coating of well-rotted barn-yard manure was put on as a top-dressing.

At least twice every week, and in some instances three or four times, we went onto this piece of ground with our tractor and double-disked and harrowed it, sometimes going over it twice with this outfit before leaving the field. This was done until the middle or latter part of June. Then one day just after a light shower a heavy seeding of Japanese millet was sown and harrowed in. In this way the millet sprouted at once.

What quack-grass roots were left in the ground were by this time considerably discouraged. As a consequence, the Japanese millet beat them to it and got a good matted growth before the quack-grass was able to struggle out. Because of the heavy fertilization and the very thorough tillage of the ground, the millet made an unusual growth.

The accompanying photograph of the field at the time of cutting gives some idea of the thickness of the crop and the height of it. The growth was so thick and so rank that any quack which still had sufficient life in it to try to grow was entirely smothered out. In fact, the growth was so heavy that it was very difficult to mow it successfully.

After the millet was removed in the fall, we were unable to find any trace whatever of any quack growing in the stubble. Some such method as this is the best that I know of for combating quack-grass.

Heavy growth of Japanese millet that effectively smothered the quack-grass

Observations of a Veteran Bee-Keeper

By Henry L. Jeffrey

MY ADVICE to beginners is to first keep your eyes open. Learn to let the bees tell you by their actions what they want you to do for them, in place of your telling them what you want them to do for you.

The very first consideration is where to set the hives to obtain the best results in pounds of surplus honey. Suppose it is two or three hives or ten or twenty hives you have or buy to start with and you have a place sheltered on the north and west by buildings and high fences. A part of the hives are set in that protected corner. The remainder are set on the south side of the building and have more of a west and south exposure.

Those in the corner are catching the early morning sun in winter and are warmed up in the early part of the day. They take their fly-out exercise, return to their hives, cluster snugly between their combs and are well prepared for the coming chill at nighttime.

The hives placed with the west and south exposure are warmed up one, two or three hours later and fly out that much later. Watch them, keep a record of them, and you will find out that the bees are lost twice as much on the snow from the west and south situation as from the east and southeast location.

The same observations taught me, also, that during the bloom of basswood, that yields its nectar during moonlight nights, the same east and south exposure let the rays of moonlight right into the entrance of the hives and started the stream of workers for the basswood bloom. Taking all points into consideration, I want the entrances of my hives between straight east and straight south.

Have a Definite Price

My second consideration is the shape of the hive. Combs longer from front to rear than from top to bottom furnish the most space on top for surplus boxes. The standard size is eight and one-half inches deep and seventeen inches long on the inside measure. There are all sorts of variations from this size, but start with the standard.

My third consideration is the style of the surplus honey-cases for the hive. Do not try supers for two, three or more sizes of honey-boxes. Have only one, and always sell for just one price, to all customers, and do not experiment with every new thing that comes along, if you want to obtain an income from your bees, that will pay you for your time and the money invested.

COFFEE THRESHED HER
15 Long Years.

"For over fifteen years," writes a patient, hopeful little Ills. woman, "while a coffee drinker, I suffered from Spinal Irritation and Nervous trouble. I was treated by good physicians, but did not get much relief.

"I never suspected that coffee might be aggravating my condition. (Tea is just as injurious, because it contains *caffeine*, the same drug found in coffee.) I was down-heartcd and discouraged, but prayed daily that I might find something to help me.

"Several years ago, while at a friend's house, I drank a cup of Postum and thought I had never tasted anything more delicious.

"From that time on I used Postum instead of coffee and soon began to improve in health, so that now I can walk half a dozen blocks or more with ease, and do many other things that I never thought I would be able to do again in this world.

"My appetite is good, I sleep well and find life is worth living, indeed. A lady of my acquaintance said she did not like Postum, it was so weak and tasteless.

"I explained to her the difference when it is made right—boiled according to directions. She was glad to know this because coffee did not agree with her. Now her folks say they expect to use Postum the rest of their lives." Name given upon request. Read the little book, "The Road to Wellville," in pkgs. "There's a reason."

Postum now comes in concentrated, powder form, called Instant Postum. It is prepared by stirring a level teaspoonful in a cup of hot water, adding sugar to taste, and enough cream to bring the color to golden brown.

Instant Postum is convenient; there's no waste; and the flavour is always uniform. Sold by grocers—45 to 50-cup tin 30 cts., 90 to 100-cup tin 50 cts.

A 5-cup trial tin mailed for grocer's name and 2-cent stamp for postage. Postum Cereal Co., Ltd., Battle Creek, Mich.

Opening and Closing Attachment for Gate

By Vernon Hartsock

HERE is an attachment for opening and closing a gate from a vehicle. This idea is original with the writer and has been tried out with satisfactory results.

The attachment consists of a post (A) set in the ground directly in front of the gate-post, at right angles, and is bored through to receive eye-bolt (B), which is keyed at the bottom of the post to keep it from pulling out. Hinged with eye-bolt (B) is a piece of U-shaped angle-iron (C), at the opposite end of which is hinged iron (E), the same bolt going through C, E and clevis D. The iron (E) must be longer than C by five inches, as this is the secret of its successful operation. The iron (E) is in turn hinged with open eye-bolt (F) at the lower board of the gate, at the same distance from the gate-post as the attachment post is from the gate-post. Ropes 1 and 2 are tied to clevis (D), thence they run through the double pulley (H), which is supported by a bracket (G), thence going in opposite directions, up and down the driveway, and are there fastened to posts set at a sufficient distance from the gate to permit it to open without interfering with a team or conveyance.

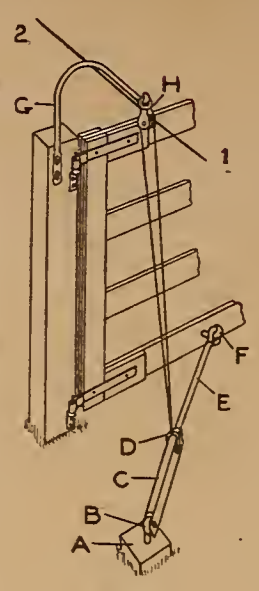


Fig. 1

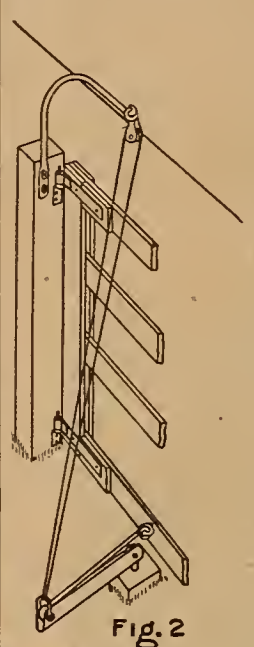


Fig. 2

As this attachment locks the gate shut as well as open, no other latch is required. Now, if we pull either rope, No. 1 or 2, the attachment is raised, folds together like a jack-knife and falls backward, as in Fig. 2—the gate is open. Pull again, and the movement is reversed—the gate is closed.

Plan for Road Work Now

By John N. Edy

WITH winter snows the road-improvement season is practically at an end. This is a good time to "take stock," to look back over the year's work and see just what has been accomplished. If the road business of your community is properly handled, every item of real improvement is planned in advance. Assuming that you have put forth substantial effort, it is entirely proper that you realize what has actually been accomplished.

The trouble with a great many of us is that we are too easily satisfied. We start out with certain results in view, and then gracefully accept the accomplishment of half what we originally intended. Especially do we find this spirit in relation to highway betterment. There has been so much proposed and so little done that we are prone to take for granted the failure of any road-improvement project. And just there lies the secret of a great majority of those failures: they are expected beforehand.

Some Questions to Consider

Of course, it is possible that your efforts to better the roads have met with exceptional success. If such is the case, what is the reason? Are your officials vitally interested in the work and unusually able? To what man or men do you give credit for the pleasing results? Who planned the work and supervised its progress? It is well for the road-user to consider these questions, because there is another season coming. Your system of highways is certainly not perfect, and the ultimate perfection of that system depends largely upon the officials chosen by the men to be benefited.

But I question if the average citizen can truthfully say that the roads in his community have really been bettered. In all likelihood they have been *worked;* but have they been substantially *improved?* Was your work planned before actual construction began? Was there organization and coöperation, without which nothing can be accomplished? Did your officials—your county commissioners—attempt to supervise the improvements themselves, as they so often do with disastrous results? Did they think it a waste of money to engage the services of a competent road-builder, who could take charge of the road affairs and do systematic and economical work? Do your people still "work out" their poll tax, as your grandfather did? Are your neighbors so behind the times that they think they cannot afford decent roads? And if you did have competent officials and a reasonable road fund, did the road-users stand back of the men who were trying to do something?

It's a good idea to think about these things. After the rush of farm work is over—when, on your way to town, you have time to look about you and think of what you see—it's a pretty good thing to take stock. Does your road business pay? *If not, WHY?*

A Farmer's Test of Corn Fertilizers

A. J. Legg

LAST spring I laid off three plats of uniform soil in my corn-field for comparing complete fertilizer with acid phosphate, and also with a plat without fertilizer. Each plat consisted of two rows of corn laid off three and one-half feet apart. They were sixty feet long, and each plat contained a little less than two square rods of ground. On the first plat I applied eight pounds of a complete fertilizer, a 2-12-3 goods, costing $26 per ton; on the next plat I used eight pounds of a 16 per cent. acid phosphate, and on the third plat I used no fertilizer.

The fertilizer was put in the hill and the corn dropped on the fertilizer and covered with a hoe. The corn did not come up very well on the fertilized plats, and it was replanted. These plats were cut separately and carefully shocked. They were husked November second, and the corn carefully weighed as soon as husked, with the following results:

Plat No. 1—Complete fertilizer	34 lbs.
Plat No. 2—Acid phosphate	42 lbs.
Plat No. 3—No fertilizer	28 lbs.

The complete fertilizer showed a gain of twenty-one per cent. in production from its use, while the acid phosphate showed a gain of fifty per cent. over the unfertilized plat.

This is in harmony with other experiments I have tried, comparing acid phosphate with the so-called complete fertilizers on other crops. The acid phosphate nearly always proves better than the complete fertilizers on my soil. Other soils may not show the same results, but it would be well for farmers to make a test of their soils and see which fertilizer does best in the way of crop production. It might lead to a more economical use of fertilizer.

Some Useful Rules

By Walter S. Chansler

WHEN estimating the quantity of grain or vegetables a heap or pile contains, the following rule will be found useful. Multiply the diameter in feet of the heap by itself and then again by the height in feet, and divide the result by four, and you have approximately the number of bushels.

Try this rule; it is simple but accurate, and it will save much time in measuring.

To Find the Height of a Tree

When you wish to find the height of a standing tree, pole or building, the following rule will be found of inestimable worth: Set up a ten-foot pole vertically ten feet nearer the tree than the spot where you would judge the top of the tree to strike should the tree be felled. Now measure back from

this pole, away from the tree, ten feet; mark a spot on the ground at this point and lie down, your head at the mark and your feet toward the pole. Now look over the top of the pole at the tree, and if you can just see the top over the pole, you have the measurement of the tree correct; the distance from your eye to the foot of the tree being the same measurement as the height of the tree. If at the first trial you do not set the pole at the proper point to be able to just see the top of the tree over it, you can move it nearer to or farther away from the tree, as the case demands, always measuring ten feet back from it to find the spot where your eye should be when sighting over the pole at the tree.

T Mark Tools with Acid

In marking iron tools, the following method will be found to give good results: Melt a little beeswax or tallow, and pour it on the iron at the place to be marked. After the wax or tallow cools, take an awl or sharp piece of steel, and do your writing in the wax. Pour a little nitric acid on the wax where you have done your writing, and allow to remain a few moments, then wipe off the wax, and the writing remains indelibly marked in the iron.

The White-Headed Eagle

By Edgar S. Jones

ON THE silver dollar may be seen a likeness of the white-headed eagle, alias hald eagle, alias American eagle. During the first year of this bird's life it is of a hlackish-hrown color and is often called the hlack eagle. The second year its color changes to a grayish hrown, and in the third year the head, neck and lower edge of the tail-feathers hecome a white, while the hody-feathers take on a hrownish-hlack hue. The third-year colors are the ones that remain throughout the life of the hird. Another characteristic is that the legs of the hald eagle do not have any feathers on them. The female is much larger than the male, often attaining a length of three and one-half feet. It might he mentioned here that when these birds are mated that it is for life.

Their Habits of Nesting

Although this ruler of the sky has been taken as our emhlem, he has many habits that cause us to lower our opinion of him. It is true that we cannot help hut admire his majestic bearing and his dashing flights. He is to be found in nearly all of the wooded districts of North America, and especially along the watercourses. The nest is usually huilt in the top of a very tall tree. If such a tree is not accessihle, the nest is made on the top of a high, rocky cliff. After the nest is made of sticks, grass and bark, it becomes the annual brooding place of the pair. The nest is often four or five feet in diameter, and new material is arranged on top of the nest each year. The numher of eggs laid is from two to four, being of a very light gray. Large quantities of food are carried to the young for several weeks. These eaglets grow very rapid'y, and after two or three months are nearly as large as the adults, hut still they have not even learned to fly.

This apparently strong and keen-sighted bird may often be seen sitting in the top of a tree watching the fish-hawk as he sails over the water in quest of a fish. Should he catch one, the eagle makes a swoop through the air, and hy his shrill cry, that sounds like the laugh of a silly person, and the stroke of his long wings or his breast causes the fish-hawk to drop his dinner. The eagle is often able to get the fish hefore it reaches the ground. He also eats much carrion that he finds along the waterways, such as dead fish and hodies of the smaller quadrupeds. Grouse, rahhits, ducks, seagulls and domestic fowls also afford him many a meal. He will also take the food from any of the carnivora that he may frighten hy his vicious swoops.

First Lessons in Flying

From his perch in a pine-tree or on a cliff he is ahle to discern the presence of a hunter at quite a distance, and should one appear he will leave the perch or nest and soar away to a great height until lost to view. He may not appear again for hours if the danger remains in his neighhorhood. They often descend from a high altitude hy flying in the form of a spiral. In teaching the young to fly, the mother will often have one of them climh on her back. She will then sail away with it in this position. Suddenly she will drop from under the young one and leave him alone in his attempt at flying. Should he start to fall, the mother will catch him on her back and wings, and then try the same project again.

Getting Started with Bees

By Harrison Lowater

SEVERAL women of my acquaintance are keeping bees. Some of the largest hee-farms in Wisconsin are owned and cared for by women. Why not? Bee-keeping is a husiness which requires little strength, but much courage.

Prompt and proper care must he forthcoming at all times, while daily visits of inspection and careful ohservation are necessary during pleasant weather. Persons contemplating bee-keeping should take a good periodical that tells of the work in common language. Any woman who expects to engage in the business in the spring should he provided with a veil, a bee-knife, a smoker, several extra comh-frames, a supply of artificial comb-foundations and one strong colony of hees in a good standard hive. Boxes or a home-made hive would compel the heginner to care for her bees in the old, old style of tin-pan thumping and with the loss of much honey in a good season.

Consult an Expert

One strong colony is better to start with than more, if you are inexperienced.

To get such a colony, patronize only a man who has a reputation to sustain. He will ask two or three times what you could have bought a good family of hees for last fall, hut that is the rule, and the colony will be worth it. When the pussy-willows first begin to show is the time to set the hive on the stand for the season.

If the slope of your land will allow it, set the hive facing the east, but under something that will protect it from the rain and the hot sun. I said pussy-willows, for all willow-trees are very attractive to bees in the early spring. I have had people stop in the highway running hy my willow-trees and ask what caused all that noise they heard in the trees long hefore huds or leaves could be noticed.

When your hive is placed in position and the bees have commenced to make regular flights, get an expert to come some warm day and show you:

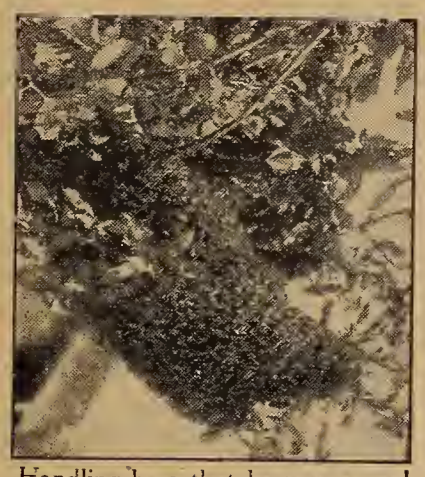
1. How to clean the hive.
2. How to distinguish the different kinds of comh.
3. How to cut out affected or objectionahle comh while the hees are active.
4. The different hees—queen, drone and worker.
5. Help you to catch the queen and clip her wings.

An understanding of these things at the beginning will save you money in the end.

The hive must he cleaned early each spring. Bees are very clean when they can he, hut need help in the spring, or there will be much unnecessary sickness.

There are three kinds of comb outside of the kind usually sold in the market—worker, drone and queen. All of these you must learn to distinguish from one another.

The worker comh is of the medium size



Handling bees that have swarmed on a tree is a task for an expert

seen in the market comb. This you will save and wish for many more like it.

Even Bees Like Good-Natured People

The drone comh is much coarser and can he easily noticed. Have most of it cut out, as all of such hees are a drag on the productiveness of your colony as long as they live.

The queen cells are not very numerous and are really worker cells enlarged and royally cared for. They will not need to be disturhed until swarming-time.

Never let any grass grow around the hive for a few feet on all sides. The grass helps the trouhlesome insects, especially the ants.

Provide fresh water in a shallow dish near the hive. Put chips in the water, and see that the water does not dry up. Have salt where the hees can easily find it and help themselves. This salt should be protected from the rain.

Lastly, let the bees form your acquaintance. Let them alight on you at will. Never attempt to hrush them off. They will do you no harm as long as you are gentle, slow in movement and keep out of the line of flight. Never use perfume on the clothing that you wear near the hive.

Bees like music and are easily taught to gather at the call of certain strains, hut they do not like harsh or loud voices or discordant sounds.

An even temper is an ahsolute necessity. I have known a swarm to "growl" hecause a loud-talking man stood near the hive.

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Sworn to and suhscrihed hefore me this 7th day of January, 1913. (Signed) J. S. Camphell, Notary Public Queens County. Ccrtificate filed in New York County. (Seal) My commission expires March 30, 1913.

More About Outlets

By D. L. Braucher

IN FARM AND FIRESIDE for October 26th I noticed an article on "Protecting the Outlet."

I am writing to make some suggestions on the value of a submerged outlet.

I have used the kind illustrated on my own farm for the past thirty years, and with entire satisfaction, as it has three distinct functions and makes good in all of them.

First—By excluding the air, a partial vacuum is formed, which increases the draft, and thus increases the flow as long as there is water enough to make the ground *air-tight*, thus *pumping* the water into the tile until the air gets to the tile through soil relieved of its surplus of water.

Second—It protects the tile from the intrusion of animals, which often carry corn-stalks, grass and weeds into them when the flow of water in the tile is small.

Third—It holds the end tile as firmly as if walled in with cement or other masonry.

To make my outlet, I set a two-foot length of glazed tile with junction, at outlet on end, so that the top of the tile is just even with the grade line of the tile which empties into it.

This upright tile should have a junction equal to the size of tile to be accommodated, and should be set with the opening directly toward the entering tile, as shown in diagram.

Thus the dip makes a trap which excludes the air from the tile and yet makes no resistance to the flow, as the upright tile should be two or three inches larger in size than that used in the entering drain. I expected to have to clean out the upright tile occasionally, but to my surprise the whirling agitation of the water actually cleans out all silt down below the inlet, as shown in diagram.

The Vanishing Red Ear

By Ramsey Benson

CORN was unknown prior to the discovery of America, which is to say that up to the year 1492 there were no husking-hees and no red ears heing ever and anon shucked out. Although statistics are not available, the conclusion is irresistible that there must have been less kissing in those days, at least among the agricultural population.

Good Reason for Complaint

By the way, if reports from the corn belt are to be credited, the red ear is growing scarcer. Some farmers with large families of girls complain, indeed, that in the average year there are not enough red ears to make husking-hees worth while. This is no douht hecause kissing is now known to be unsanitary, and the experiment stations are therefore hending every effort to eliminate the red ear.

Corn in its green stage is perhaps more fatal to tahle manners than any other vegetahle equally esteemed, yet the advance of civilization has nevertheless been, on the whole, rapid and solid.

Ahout seven hillion bushels of corn were raised in these United States in 1912. This is some corn—more, in fact, than the dozen chickens which the city man is trying to keep in a piano-box at the hack end of his city lot will deign to live on all winter, though not enough to make them lay.

The Redpoll

By H. W. Weisgerber

IT IS the rarity of these little wanderers from the top of the earth, so to speak, that makes them such welcome visitors at a time of year when bird life is at its lowest ebh. Then, too, they often come in flocks of several hundred; but, as a rule, I believe they divide and form flocks of a dozen or more and up to a hundred members so as to

accommodate themselves to the small, weedy fields of the hilly sections of our eastern country.

Perhaps they do not visit Ohio every winter, for they may wish to strike along some other meridian, and so visit Indiana, New York, Illinois, Massachusetts, or far-away Asia, or even western Europe. For these little polar birds are erratic wanderers. But whenever they do come they offer the farm boy and girl some interesting bird study.

They are Weed-Seed Eaters

Living, as they do, where man with his shooting-irons are unknown, they are quite fearless, and he doesn't count any more than a four-footed musk-ox; and when they do fly at an approach of a few feet or a yard or two, it is not of fright, but on account of their restless habits.

They are small, sparrowy birds; the male has a red topknot and a real rosy breast and white wing bars. Their twittering notes resemble those of our common goldfinch.

These birds feast upon the seeds of such weeds as stick above the snow-covered fields. I have known a flock to remain in a ragweedy corn-field several weeks, or until the seed had all been eaten. Thus their service to agriculture is one of great importance.

Poultry-Raising

Hens in Paper Houses

The Unique Methods of a Successful Poultry-Raiser

By E. J. Farrington

POULTRY-HOUSES made of tarred paper are found by Frank Brown, a well-known poultry-keeper of Massachusetts, to be the most satisfactory of any kind he has ever tried. Mr. Brown is not an amateur, and his paper houses are not an experiment. He keeps a thousand laying hens through the winter and hatches two thousand chickens and over each season.

There are four long paper houses on the Brown plant, besides smaller coops. One of them has been in use for seven years and is in fair condition yet, although showing numerous patches. The permanent nature of the houses may be judged from the fact that all of them have cement floors, designed to keep out rats.

In making these houses, a frame of common furring was first constructed, two or three strips being nailed together in some instances to secure extra strength, and some of those under the roof set edgewise. Then poultry-netting was drawn very tightly over this frame on all four sides and across the roof, the latter being made with a double pitch, but with the rear slope much longer than the other.

They Have the Appearance of Frame Houses

Next, very strong tarred paper was laid over the netting and tacked securely to the frame, the nails being set closely together. The work was completed by giving the paper several coats of red paint outside and by painting the inside white. The paint, which was applied in heavy coats, filled all the joints and, when it hardened, helped to make the paper tough and strong. It also proved an important factor in keeping the houses cool, for a large A-shaped coop which has not been painted is exceedingly hot in summer, while the painted houses are cool. It is obvious, of course, that the black paper absorbs the heat rays while the red paint reflects them. The white paint is necessary inside to make the houses light, as well as to protect and give life to the paper. Additional paint is given as needed, and when a hole appears in the paper it is simply patched from the inside, a square of tarred paper being slipped outside the wire. There would be but few holes were it not for the fact that the small boys of the neighborhood sometimes find themselves unable to resist the impulse to throw stones at the paper houses. As a matter of fact, though, there is nothing to indicate from the outside the nature of the material used in constructing the buildings, for they have the appearance of ordinary frame houses.

The houses are divided into pens eight feet square with a yard attached, and each pen has a long glass window, at the top of which is an opening covered, in winter, with burlap, in order to insure good ventilation. In summer the windows are removed.

The Birds Thrive in the Cold

Obviously, these paper houses cost but little to build, and they are not expensive to maintain. The experience of several winters has shown them to be as warm as necessary. Last winter the temperature ran as low as five degrees below zero, but there were no frosted combs, according to Mr. Brown's son, who spends much of his time at the plant.

All of the poultry are not kept in these houses, for there is an old mill on the little farm which Mr. Brown utilizes, keeping a considerable number of laying hens in the basement, which is warm and dry, while the top floor is given over to pigeons, the first floor being used for storage purposes. The hens in this building are kept in two large pens, each twenty by thirty feet, with an alleyway in front.

There are also several A-shaped houses of wood, Mr. Brown's original houses, which have open fronts, no protection being given except when rain or snow beats in; then a burlap curtain is hung over the front of each house. Mr. Brown believes thoroughly in fresh air for hens.

All the work on this unique plant is of a highly intensive nature, for there is hardly more than half an acre of land altogether, and much of that is not land at all, if the pun may be allowed, but rocks. Mr. Brown's place is within gunshot of the sea.

About half the plot is covered with underbrush, and the growing stock spend much of their time there. Many of the birds roost in the trees while warm weather lasts. There is no coddling of the chickens.

He Has a Private Poultry Trade

In the fall a large number of pullets are purchased and forced for eggs during the winter. In the spring they are dressed off for meat, and only a few kept through the summer. The breeds which are raised are White Plymouth Rocks and Games. The former are depended upon especially for roasting chickens, the latter for eggs and broilers. It is not unusual for roasters weighing eight or nine pounds to be produced, and as they sell for as high as thirty cents a pound when the demand is strong, the profit is very satisfactory. Mr. Brown is in a position to make all the money there is to be made in that line of work, too, for he owns a meat and grocery store in the heart of his town, and gets much trade from the summer colony. Indeed, he began raising poultry largely to meet the demand for dressed chickens of high quality which exists throughout the summer months. The pullets which he buys in the fall usually gain two or three pounds during the winter, so that he makes a profit on them apart from the eggs they lay.

His Success with Incubators

Keeping Games for eggs is a unique feature of Mr. Brown's business. Much emphasis is laid on the laying abilities of both Pit and Cornish Games. A well-known poultry-book has this to say about Pit Games: "They are hardy and mature early, but do not produce eggs in sufficient number to meet the requirements of the farmer." To offset this statement, Mr. Brown gives the record of ten pullets of this breed for seven months as follows:

January, 120; February, 198; March, 228; April, 176; May, 173; June, 146; July, 105. A hen imported from England laid the eggs from which these pullets were hatched and in her pullet year produced 195 eggs in nine months.

All the chickens raised are hatched in incubators located in the store basement, and all the machines used are home-made. After experimenting with the incubators on the market, Mr. Brown prefers his own design. In his machines the heat is secured by hot water distributed through pipes, no tank being used, and ample provision is

The paper house—good even in cold climates. In summer all the windows are removed

made for ventilation. Gas is used instead of kerosene, but simply as a matter of precaution.

According to Mr. Brown, success in running incubators depends upon proper airing of the eggs. It is his custom to remove the trays with their contents five minutes the second day and to increase the length of time they are left out up to thirty minutes on the eighteenth day. He follows this plan even when the temperature in the cellar is down to forty. He has another practice which is contrary to the teachings of all the books and yet one which in his opinion accounts for much of the success which he has in hatching chicks. When the eggs begin to pip, he removes them from the machine for fifteen minutes. Some of the colleges say shut the door when the eggs begin to pip and keep it shut. Mr. Brown says they are wrong, that airing the eggs just before the chicks emerge will result in a much more satisfactory hatch. If he finds two or three chicks already out, he puts them into the machine while the eggs are being aired, so that they will not become chilled. After the chicks are hatched, they are placed in individual brooders of a standard make.

His Squab Department

Mr. Brown's feeding methods are not orthodox. After giving the plan a thorough test, he has decided that in the future he will feed all his laying hens but once a day. He followed this practice with the Pit Games which made the excellent record already cited. In the morning he gives a liberal ration of oats, wheat and corn, raked into a deep litter, which suffices until the next morning, although supplemented with sprouted oats and green cut bone or fresh meat. In summer vegetables are substituted for the sprouted oats. Wheat is preferred above all other grains, and more of it is fed than of any other kind. Dry mashes in hoppers have been tried and rejected, enough grain being given in the litter to make mashes unnecessary. Chickens and hens alike have meat frequently.

One set of trap-nests is used in the laying houses, being moved from pen to pen. The hens in each pen are trap-nested for three weeks, and those which are found to be unprofitable are killed and dressed. In this way all the hens are tested at certain intervals without a great amount of trouble, and the drones are weeded out pretty thoroughly. There seems to be much about this plan to commend it even to those poultrymen who complain that they have no time to bother with trap-nests, which poultrymen are very largely in the majority.

The squab end of this plant supplements the poultry work profitably, although it occupies a subordinate position. A profit of about one dollar for each pair of birds is shown, and there is a good local market much of the year. When the local demand drops off, no difficulty in selling the products in Boston is found, as that city is obliged to import squabs from Philadelphia.

Feeding Hay to Hens

By A. E. Vandervort.

IT HAS not been many years since the time when if a man had proposed feeding hay to his hens he would have been considered a mild sort of lunatic, and yet now thousands of tons of hay are fed to the poultry flocks of this country every year, and each year the practice becomes more common.

From the earliest times poultry-raisers have noticed that a flock of hens having access to green food would lay better than those deprived of this kind of feed, but it took several centuries for poultrymen to learn that they could feed green vegetables in winter with profit, and still longer to learn that hay made an excellent winter feed for laying hens and other poultry.

A few years ago the poultry publications began to print articles concerning the value of green food for fowls, and particularly recommended lawn-clippings or tender grass which had been cut and carefully dried in the shade and then stored for winter use. This was tried by a great many and found to be excellent for laying hens, but not every poultry-raiser is so situated that he can get lawn-clippings during the summer, and others cannot secure other green vegetable feeds without great expense.

Some Observations on Hens' Appetites

The American poultryman does not sit down and give up over small trifles that oppose him. Once the green-feed idea possessed him, he began to notice that hens greedily ate the broken fragments of the hay that had become scattered about in feeding his life stock, even the broken corn-blades being eaten with evident relish.

Then came a genius with the idea that clover-hay might be cut into pieces short enough to admit being swallowed by a hen, and cut clover at once became a favorite feed for winter as a substitute for grass and other green feeds. Later, a further step was taken, and clover-hay was ground into a fine meal to be used as the component part of a warm mash, and it has made a very good feed.

In the meantime alfalfa was beginning to make friends for itself in the West and Southwest and farther east wherever it would grow. It was found to be far superior to clover for live stock, and analyses at the agricultural experiment stations showed why. It was found to be richer in protein, the substance which is a component of the whites of eggs and that element of feeds which makes lean meat, than any other forage crop.

They Eat it Greedily

Dry alfalfa-hay was found to contain more than one third more protein than wheat-bran, which had been before this time considered one of the standard protein feeds. If alfalfa was good for live stock and dairy cows, why not feed it to poultry? Clover-meal was by this time being used in large quantities, and alfalfa-meal was tried. It was found to be really a great feed for laying hens and growing chicks. The best alfalfa-meal, when slightly moistened, turns a vivid green, and the odor from it is exactly like that from new-mown hay. All kinds of poultry eat it greedily, and when fed growing chicks it gives them strong, vigorous muscles and large, hard, fine bones.

Recently I was talking with a very prominent and successful poultryman, and we got to talking about eggs and egg foods. "I never had my hens lay so well at this time in the year," said he. "I began feeding alfalfa-meal a few days ago, and since that time we have been getting eggs by the basket. I think it is the best single feed for laying hens I ever used."

So valuable a food is it considered by those who make poultry-foods that a number of our best egg rations have alfalfa-meal as a base instead of oil-meal. A combination of alfalfa-meal, beef-scraps, ground bone and a few other ingredients of minor importance makes the best feed for chicks that can be secured. As most of our egg foods contain these ingredients, it follows that they must be valuable for the purpose for which they were compounded. With alfalfa-meal, the poultryman need not hesitate about keeping his laying hens confined the year around, if necessary, for the meal is fully as valuable in maintaining health and productiveness as the best natural grass.

Why is Poultry Unprofitable?

By F. W. Kazmeier

THE reason that poultry-raising on most farms is not more profitable is because the hens do not lay when the price of eggs is the highest, and the chickens are not hatched at a time of the year when there is greatest demand for them.

Another factor which attributes much toward the unprofitableness of the average farm flock is the method and time of marketing the poultry products.

If the farmer would give the same thought and attention to his poultry flock that he gives to his other live stock, then, and not before, he would find that the money invested in his poultry would net him the highest percentage on the investment.

Early Hatches Are Most Profitable

For all those that believe that their fowls are an unprofitable investment I would advise the following procedure:

In the first place, if you have a mongrel flock, the thing to do is to cull them very closely the first year, sell all those over two years old, and in the spring order about three hundred day-old chicks from some reliable breeder. I would advise the buying of Single-Comb White Leghorn chicks, of a heavy laying strain. These chicks will cost about $36. Of these you ought to easily raise two hundred nice chickens, of which you will have at least eight dozen cockerels. The cockerels should all be sold, excepting a few of the choicest specimens, as broilers when weighing between one and one-fourth to one and one-half pounds each. At this weight, early in the season, they will easily bring fifty cents apiece, and the amount realized from them will pay the initial cost of the chicks and the food the cockerels consumed. It will cost you about $25 for feed to raise the pullets to laying age, outside of that which they will be able to pick up from the farm. There is one mightily important factor which you want to remember, and that is to get your chicks on time, not later than April, and the beginning is to be preferred. Between April and May 15th is the best time. If you buy them later, the cockerels will not bring the above prices, and the pullets will not begin laying as early in fall.

Get Rid of the Mongrels

In raising them, probably the best equipment would be to use individual brooders and colony houses.

I am sure that when fall comes and you find yourself owning one hundred fine, pure-bred Single-Comb White Leghorn pullets, which are already beginning to shell out eggs when they are selling at twenty-five cents per dozen or more, then, and not before, you will begin to believe that after all there is money in poultry-raising when it is correctly done. Now is also the time to sell your mongrel flock; yes, dispose of every one. Pen them all up in a small pen for about ten to fourteen days, feed as much of a good fattening food as they will eat, and next get a few shipping coops and shipping tags, and express them to your nearest large commission house specializing in poultry products. You will realize several cents more per pound than if you sold them at home, without any more work.

The next thing for you to do is to provide clean, free-from-vermin, roomy and fresh-air quarters for your pullets. Allow at least four square feet of floor space per fowl. Build the house, or remodel your old hen-house into a partly open-front house facing the south. Plenty of fresh air and sunshine must be provided. The house must be absolutely dry at all times. The location of your poultry-house should be dry. Buildings facing the south will be drier and warmer, also more cheerful, therefore, if possible, by all means face your chicken-house to the south. A house sixteen feet wide and twenty-five feet long will comfortably house one hundred fowls. Build the house four and one-half feet high in the rear and eight feet high in front. Construct it on the shed-roof style. In the front have two doors six feet four inches by two feet eight inches, one into each pen. Have them on the ends of the front. Then two openings with a muslin-covered frame six feet four inches by three feet four inches are necessary to admit plenty of fresh air. Two glass windows, one in each pen, are necessary to admit sunshine when the curtains are down. They should be four feet eight inches by two feet four inches.

The four corner-stones upon which the success of the poultry business depend are: (1) suitable buildings properly located, (2) the right foods skilfully fed, (3) good fowls carefully bred, (4) facility and ability to hatch and rear chickens.

If anyone is willing to employ some common sense, there is no reason why he should not be able to clear $200 over feed expenses from one hundred layers. A good many are doing much better.

One Kind of a Farmer

By Berton Braley

HE SELLS the whole of the apple crop
Whatever the price may be;
And he sells his milk to the last lone drop,
There's none for the family.
When he kills a pig, he sells that too,
And the same with a beef or lamb,
While the family fare the whole year through
Is bacon and spuds and ham.

He sells the eggs that his hens may lay,
And the chickens themselves as well,
For he says, "There ain't no farm can pay
If you eat what you've got to sell";
And he takes his children out of school
As soon as the law'll allow,
For he says the teacher's a "gol-durn fool,"
And he's "needing the kids to plow."

His wife is weary and bent and sad
With the labor that she has done,
And his children have never known or had
Their rightful portion of fun,
But his cattle are fine and big and fat,
And his horses are sleek and trim.
Now, here is the question, plain and flat:
Are YOU in a class with him?

Clean Method of Dressing

By Mrs. F. W. Hackbarth

CATCH a chicken off the roost, shut it up, and next morning butcher it. I put its feet under right foot, wings under left foot, head in left hand, sharp knife in right hand.

After the head is off, I hold its neck with left hand till all blood is drained from body. The neck and feathers are clean, since flopping is prevented. Then dressing is a pleasure, as intestines are empty and there is no blood on the table.

The Care of Incubator Chicks

By Archie E. Vandervort

THE first care the young chick requires is that the temperature in the incubator is gradually reduced until it is about one hundred and one degrees when the chicks are forty-eight hours old and ready to be removed to the brooder, which should be warmed up to about one hundred degrees and running safely. Before placing the chicks in their wooden mother, cover the floor of the brooder with any good

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scratching-material that you have at hand, such as finely cut hay. I find it a very good plan, also, to put about an inch of sand in the nursery of the brooder. This makes an excellent grit for them. Then put a little grit among the litter, and your brooder is ready for the chicks.

Feed Hard-Boiled Eggs and Cracker-Crumbs

Arrange a warm blanket in a box or basket so it will cover the bottom and sides and large enough to cover the chicks, and in this remove the little chicks from the incubator to the brooder. The best time to put the little chicks in the brooder is at noon, as they will have all the time they need from then until dark to fill up on grit, which I find is all they require for the first day, and will be pretty well satisfied with their day's work at bedtime.

By placing them in the brooder at noon you will also have a chance to attend to the rising temperature of the brooder, incident to the added heat of the chicks, without watching it with a lantern. The next morning place a fountain of fresh water, slightly warmed, in the nursery, and sprinkle a little commercial chick-food of good quality among the litter. Hard-boiled eggs and cracker-crumbs are also given them.

Keep the chicks penned in the brooder for two or three days, and see that they know how to get under the hover; they will soon learn where to go when they get a little cold. See that they all go under the hover the first night and that they are warm enough. Always provide a little ventilation, as they must have fresh air. Feed them often, but give them only what they will eat up clean each time. After they are about three days old, they may be let out of the brooder, if the weather is favorable. After they are three weeks old, they may be fed larger grains, such as wheat, cracked corn or buckwheat.

Study the Chicks Rather Than Printed Directions

One of the main points is to keep your brooder very clean, cleaning it every day if possible, and give it an airing each time. It will be necessary, of course, to trim the wick and fill the lamp every day for best results. Do not crowd too many chicks into one brooder and expect them to do well. In regard to the proper temperature of running a brooder, I have found that it is better to follow one's judgment than to adhere too closely to printed directions. If you have a strong lot of chicks, you will find that they will require not so much heat as a hatch not blessed with that stout rugged appearance, but in case you see the little fellows crouching and huddling in the brooder you will be safe in running the heat a little higher than the directions call for, with better results. At night when you find the little chicks with their heads sticking out under the felt of the hover, you may rest content that your heat is pretty nearly right whether it is ninety degrees or more.

Farm Fables—The Hen

I AM the hen which lays the eggs which bring the money which pays for the house in which Jack the Farmer lives.

I am the hen which lays the eggs from which are hatched the chickens which are sent to market to pay for the clothes which are worn by Jack the Farmer.

Myself

I am the hen which, when I am killed and dressed, brings the cash which is needed by the wife of Jack the Farmer.

I am the hen which keeps lively the barnyard, which would be a dull place but for my presence.

I, the hen, am the poetry of the farm.

I am the hen about which city people write articles and finally invest their money in and go stone broke if it happen that they do not understand me.

I am the only living biped, man excepted, which is of any real use on the farm. This is a challenge to the duck and the goose.

I am her majesty the hen. By me are fortunes made and lost—and this is glory enough for any common denizen of this busy, workaday world. BIDDY THE HEN.

To Prevent Scrambling

By A. E. Vandervort

CONSIDERABLE skill and a good knowledge of details are required to pack eggs for hatching. I have had good results with baskets. Eggs shipped in boxes are liable to be roughly handled by the express companies, while baskets will be handled more carefully. Then, too, they are much cheaper. Good baskets can be bought for forty or fifty cents a dozen, and you can get covers and labels at a small cost. The best basket for the purpose is one with a good strong handle, upright so as to guard the package if other matter is laid upon it.

I exercise the same care and follow the same rule for packing one setting as for one hundred or more eggs, except as to the size of the package; I always have the basket just large enough to hold the eggs and the necessary packing-material. If your order calls for one hundred or one hundred and twenty eggs, a bushel basket is needed. First line the basket with newspapers, and then put about an inch of excelsior in the bottom, and you are ready for the first layer of eggs. After wrapping each egg in soft paper, put them in one by one, leaving a one-inch space to be filled with excelsior crowded in firmly so as to keep the eggs from the sides of the basket and to prevent them from shaking. This first layer of eggs is then covered in the same manner as the bottom, and all the other layers packed and covered likewise, with the exception of the top layer, which should be thicker and rounded up so that when the canvas cover is sewed on and drawn down tight the eggs cannot shake around in the basket. Sew the label to the canvas cover, or if the cover is pasteboard use gummed labels. Have printed on your labels in good-sized type: EGGS FOR HATCHING. HANDLE WITH CARE. Use a darning-needle and strong cotton cord, and sew the canvas to the sides of the basket, drawing it down tightly so that the packing will spring up when pressed with the hand.

The Indian Runner flock of T. E. Burnham

A basket about the size of a ten-pound grape-basket will hold a setting of eggs. For two settings an eight-quart basket is necessary, and for fifty eggs a half-bushel basket. Excelsior for packing the eggs can usually be procured at all grocers' or furniture stores. For wrapping the eggs a soft grade of newspaper is used. Always place them small end down in the basket. The air-cell is in the large end, and in shipping may be displaced by rough handling. Thus the eggs become addled, which kills the germ. It is also a good plan to instruct the buyer to unpack and lay the eggs in their natural position for at least twenty-four hours before setting.

Fertile eggs cannot be shipped any distance unless they have strong shells. For the purpose keep oyster-shells and plenty of green food before the hens all the time. My trouble has been to get the shells strong enough, especially when the flock averages five eggs a week fo. each hen.

Wealth and health make good rhyme, and to him who has either, life would be a perfect poem if he but had the other.

Experience with Indian Runners

By Mrs. E. G. Feint

THE unusual rains last fall and the consequent abundance of worms and luxuriant green stuff have favored good egg-production with the ducks. Owners of Indian Runner ducks speak very highly of the laying abilities of their respective flocks. April-hatched ducks began laying the middle of October.

Owners of old ducks report that they have not ceased from laying all the summer and fall. This when eggs have been from thirty-five cents to fifty cents means much to the poultryman.

The photograph shows a flock owned by T. E. Burnham, of Cortland County, New York. In it there are three yearling ducks which were hatched rather late last summer, the rest all being of this season's hatch.

Some Good Egg Records

The laying record of these three for the past nine months is an interesting one.

February, laid 26 eggs; March, 41; April, 48; May, 65; June, 90; July, 63; August, 38; September, 77; October, 11.

This makes a total of 459 eggs, or an average of 153 eggs each for the nine months. The owner's hens, White Leghorns, receive the same or equally good care, and do not do as well. In June, a thirty-day month, it will be noticed there were ninety eggs, an egg a day throughout the month, while the next highest month was September, the month of increased prices.

Almon Finch, also of Cortland County, has six yearling ducks that have laid remarkably well. He has not kept a record of every month, but in May they laid 148 eggs, while from September 20th to October 20th they laid 157 eggs, or an average of 26½ eggs each in thirty days.

Another flock numbering about one hundred has laid remarkably well all the season.

Still another flock of thirty yearlings has done remarkable stunts in the egg-producing line for the past month, having laid twenty-three, twenty-four and twenty-five eggs a day, one day having laid twenty-seven. The best part of this flock's work is that they get almost their entire feed from a stubble-field so far away from the buildings that the hens will not go there. The only ration fed is a mash of horse-provender fed in the morning, consisting of ground oats, corn-meal and bran mixed with beef-scraps.

All these flocks have no water but the drinking-water, excepting the largest flock, which has a small creek. All have had practically full liberty.

The flock pictured has been fed mostly on cracked corn, the old and young feeding together, which, of course, was not ideal conditions for either, but they were thus cared for for the sake of convenience. However, the results have been gratifying. All the flocks mentioned are of a well-known strain of the English penciled Runners and lay an abundance of pearly white fine-flavored eggs.

Old Ducks Best for Fall Laying

Many fear that they will find it difficult to sell the eggs, owing to the popular prejudice against duck eggs that is entertained in some localities. It will be found that any prejudice of this sort, if any is met with, arises from an acquaintance with the ordinary duck egg, greenish and unattractive in appearance, and equally so in texture and flavor. If the flock is only a small one, it is an easy matter to find a market for these eggs locally, as their appearance, size and quality speak for themselves. Owners of larger flocks do best to ship them to New York, using ordinary egg-crates and filling only every other hole in the cartons.

I have found the old ducks to be the most dependable for fall laying, with the young ones to begin in early winter when the old ones are recovering from the rather late molt. I also find it profitable to keep them until four years old, as they lay well up to that age, while the rearing of the young is the chief expense item in duck-keeping, as it is in the chicken business.

Washing Eggs

By Fred Grundy

I AM asked how to clean dirty eggs. Here is my answer: The shell of the hen egg is porous, and any stain sinks into it so that it is impossible to remove it entirely. We have tried washing and chalking, polishing with plaster of Paris and other white substances, but all proved unsatisfactory. The only way to keep all eggs clean is to keep the hens on clean litter all the time.

Our hens were on range all the time and quite a lot of the eggs would become stained or soiled. These were washed in warm water, dried with clean cloth and packed in cartons separate from the unwashed eggs. All were warranted fresh, so there was no difference in the quality, but the washed eggs did not look quite so well as the unwashed, but when separated from them still had a good appearance. Don't polish eggs. Leave the "bloom" of freshness on all you can. Wash soiled eggs soon as gathered and dry with a *warm*, dry, clean cloth. Market as soon as possible.

Squab Skill and Success

By E. I. Farrington

MR. W. G. TODD was principal of a normal school in Porto Rico when ill health sent him back to this country and started him in the business of raising squabs. That was ten years ago, and he began his squab-growing enterprise practically without capital on a little farm near Brockton, Massachusetts, which belonged to his wife. Since that time he has built a comfortable little house, a commodious barn and a well-equipped pigeon-plant accommodating a thousand pairs of birds with the profits from his squabs.

It should be understood that Mr. Todd makes his money from the sales of market squabs, and not by selling breeding stock. If it were otherwise, there would be no occasion for this article, for it is not difficult to find men who are making money by raising pigeons or buying them up and selling them to beginners at a profit. The number of men, however, who are making a living exclusively from market squabs is small. To be sure, Mr. Todd sells some breeders, for occasionally people who happen to learn that he has good stock write or send to him for a few pairs. That is purely a side issue, though. The profits come from the sale of squabs, killed but not picked, and disposed of at the regular market price in Boston.

His Home-Made Guillotine

It was fortunate that Mr. Todd began in a small way, for the first two years were marked largely by failure. Many men would have had enough by that time. Indeed, scores of men who go into the squab business give it up in disgust long before two years have passed. He thought, studied and experimented, and finally the tide turned. From that time he began to make money; not a lot, of course, but enough to pay the equivalent of a living salary in the city. Mr. Todd is not a young man. If he were, it is probable that he could sell his squabs to much better advantage than is the case now, selling them to market men. The present plan is economical of time and labor, however, and as Mr. Todd does practically all the work on the plant alone, these two items are important.

The squabs are killed in a little wooden guillotine, a home-made device which breaks the necks of the birds when the handle is pressed. With this machine it is possible to kill one or two hundred birds in a very short space of time. Squabs are not bled as chickens are. Then the carcasses are packed in bags, the feathers not being removed, and shipped to Boston by the first express in the morning.

Mr. Todd's plant consists of two pigeon-houses attached to his barn, one a hundred feet long, and the other considerably longer. These houses are divided into pens about twelve feet square, each with a covered fly attached. The pens are separated by poultry-wire and have doors swinging both ways and extending in a straight line the length of the house. The doors are wide enough so that a wheelbarrow can pass through them, and some two feet above the floor on each door is a wide, smooth board which has a peculiar significance. When the houses are cleaned, Mr. Todd uses a wheelbarrow equipped with light iron rails extending the full length of each side and coming together in a point just ahead of the wheel. As the barrow is trundled through the pigeon-houses this iron point strikes against the wide board just mentioned on each door. The door opens as the iron slides along the board and is held open by the rail until the barrow has passed through, when it swings shut again. The rails are placed far enough from the sides of the wheelbarrow so that the hands are protected, and opening and shutting the doors becomes purely automatic. This device has effected a great saving of time and labor, and might be used just as successfully, it would seem, in a poultry-house.

The Manure is Sold

The nest-boxes are quite different from those found in many pigeon-houses. Instead of being in pairs side by side, one is above the other, and in the top one is a drawer with but one side. Here the nest is made and the eggs laid. When the squabs are two weeks old they are transferred to the shelf below, leaving the nest above free for the next pair of eggs. As is generally known, the eggs come in pairs, and usually one squab is a male and the other a female. This nesting arrangement is found a very convenient one, as it makes keeping track of the squabs an easy matter and promotes cleanliness.

Tobacco-stems are used for nesting material, because it keeps vermin away, and lime is scattered about the houses. No other provision for fighting the lice pest is found necessary. Bathing on the part of the breeding pigeons is not considered by Mr. Todd to be so important a matter as some breeders claim. His birds are given water for bathing every other day in summer, but not for weeks at a time in winter when the weather is cold, and he never has found any reason for changing this practice.

Feeding and Breeding

A large amount of manure accumulates in the pigeon-houses and constitutes a valuable by-product. There is a series of racks in one end of the long barn where the manure is dried. These racks are simply loose boards which can be moved about at will. When the manure has been properly dried, it is sold to a man who comes to the farm and hauls it away, disposing of it to morocco manufacturers.

Pigeon-keepers, like poultrymen, are always interested in the feeding problem. Mr. Todd regulates his feeding practice partly by the market. Canada field-peas, for example, are considered of great value as a pigeon ration, but they are so high at the present time that Mr. Todd has stopped feeding them. Wheat, corn and Kafir-corn are the staple grains. Peas are invariably fed once a day unless the price is prohibitive. Experiments have not shown the necessity of green food regularly. Some of the birds have been fed green food, while it has been withheld from others, and no difference as to the health of the pigeons or the number of squabs raised has been noticed. Still, Mr. Todd favors supplying green food when possible, and has a row of spearmint planted just outside the flying yards and very close to the netting. As fast as it grows tall enough so that the pigeons can reach it, they eat it off and so feed themselves.

Mr. Todd feeds certain other things which long investigation has shown him pigeons need. For months he watched his birds to note the kinds of weeds or seeds or gravel they chose when a choice was possible, and the knowledge gained in this way he has put to account.

According to this breeder, years are required in order to develop a really profitable strain. He has experimented with many varieties, including the Carneaux, about which much has been heard the past year or two, and has come to the conclusion that the best squabs are produced by a Runt and Duchess cross. The Runt is a slow breeder and the Duchess a quick one, but both leave a strong impress upon their progeny, and the poor qualities of one neutralize those of the other, while the good points of both are intensified. If the Runt is crossed with the Homer, on the other hand, the progeny is in appearance and characteristics mosty Runt. Many different varieties have been bred into his own flock so that his birds are decidedly composite. He has one pen of pigeons which he calls Royal Whites which are the result of many crosses, but now breed true and are snow white, of good size and very prolific.

He Uses a Card Index for His Birds

Mr. Todd goes to little trouble in mating his birds. Picking twenty-five males and as many females, he puts them into a pen together and lets them select their own mates. If a bird dies, another bird of the same sex is put into the pen.

Enough breeders are raised each year to keep the total number at one thousand or close to that. Pairs of pigeons are often kept profitably for eight years or more, as Mr. Todd's records show. No pair is given more than one year, however, unless it raises at least six pairs of squabs, that number being Mr. Todd's minimum, although there probably would be a profit if five pairs were raised. Probably the average number of pairs raised each season is about six. A

strain of birds which can be depended upon to do as well as that is a valuable one and not attained in one year or two.

Mr. Todd attributes much of what success he has achieved to the fact that he has been very systematic in his work. For years he has used a card index to keep a faithful record of each pair of birds. The pigeons wear leg-bands, and each is assigned a number, which also appears on one of the index cards, and the life history of each bird may be obtained almost at a glance. It is only by such means that the poor breeders can be weeded out and a first-class strain built up.

Some Poultry Problems

Points Wise, or Otherwise, That are Facts

By O. F. Sampson

EVERY business has its problems, and the business man who enters the ranks of the poultrymen to escape them will find the mistake he has made, as hundreds have before him. I know of no business to-day that has more serious problems to solve. I do not mean for the men or women who are going to raise a few chickens to supply themselves and neighbors with eggs and meat, but for those who are in the work as a business.

Let us consider the feed question. This is becoming a serious problem for the poulterer, large or small. Very few of our poultrymen are raising even a small amount of their feeds. Even the farmer doesn't raise enough grain to feed his poultry, and I know of no poultryman doing it. Hence an immense amount of money is paid yearly to the feedman that poultrymen in many cases could save. I include myself in this arraignment, though I raised about one-tenth of my grain last year and have about one acre of oats and millet this season.

The Average Hen's Board Bill

The feed bills are one of the most expensive necessities of the producer, and anything that will lessen the cost of production, must, of necessity, apply to the feed used. At present all feeds the poultryman uses are very high, and while many producers could raise oats, corn and buckwheat, and a good many in some sections could raise wheat, only a very few poultrymen raise any of these four principal feeds. Oats are a very important egg-producing food when fed with corn, wheat or buckwheat, and I consider them the leading poultry-food. In my section they are now selling for 2.1 cents per pound, or $2.10 per hundred pounds. Corn is worth $1.65, buckwheat $1 and wheat $2.

A laying hen will consume from 100 to 125 pounds of whole grains in a year, and about the same of ground grains. If grains are mixed equal parts corn, wheat, buckwheat and oats, it costs $1.91 per hen for whole grain alone on 100 pounds of feed, and about $1 more for ground feeds; this allows nothing for milk, meat or shells. It will thus be seen that it will cost the producer who buys his feeds, at present prices, about $3.50 per hen for a year. How many of us have figured this out, or can help it?

The fancier who can get from $1.50 to $10 per setting for his eggs during the hatching season, and can sell surplus stock from $2.50 up per bird, can stand this fairly well, but the man who sells market eggs and poultry at the present prices of twenty-five cents per dozen for eggs and thirteen cents per pound for fowls has a pretty deep problem. If he is endeavoring to double his flock of fowls, his expenses will eat up every dollar of earnings, and he will have nothing for his labor, time and investment.

Beware of Misrepresentation

For example, it's a good hen that will average 150 eggs in a year. At an average of twenty-five cents per dozen (and few will average this at market prices) she should produce a total of $3.12 for the year. This will just about keep her, at present prices for feed, if all feed used must be bought. Many farmers are selling stock because of high feed prices. My good sales of hatching eggs the past season has helped me out, but my poor egg yields during July and August did not any more than pay feed-bills at market prices. Many flocks are not doing even this. In my article in the July 20th issue of FARM AND FIRESIDE I touched on this subject, and one or two poultry journals censured me severely for telling such facts, because it would hurt the poultry industry. I fail to see it so. If uninformed persons enter the business to-day because of glaring misstatements made in some of our poultry journals, and lose their money and their confidence in the editors of such journals, I believe the industry will receive far more harm from such statements than from mine.

After considering the feed question, the next problem is in securing good sales and good prices for your products. Upon these two problems hinges the success of all of us in the poultry business. If we can buy our feeds at a reasonable cost, and sell our produce at a reasonable price over cost of producing, we should be content. We are not doing either now. We lack organization and coöperation, though we have our poultry associations and specialty clubs and poultry journals and several others things. The stuff we buy comes through many hands, which increases the cost to us, and the produce we sell does the same, at an increased cost. The consumer must pay for it. This is the fault of our present system. If we could buy our feed in car-load lots from the producer, and sell our produce in car-load lots direct to the consumer, the thing would be greatly simplified and everybody interested greatly benefited. I am confident the time will come, sooner or later, when this will become quite general, but our poultry clubs and associations are doing very little toward it. *A few* of our clubs are now making special efforts to bring about such results, but the American Poultry Association, the largest one in America, has never made any efforts along this line, depending solely on

An example of the pleasing effect of uniformity in poultry-house construction

their efforts along fancy lines to secure members. *Our utility interests to-day demand a movement along coöperative lines* that will bring producer and consumer nearer together and secure benefits to both, rather than the fattening of middlemen who have nothing invested.

When poultrymen can buy and sell direct, there will be direct benefits not now realized, and the product will come in better shape, with less cost and work. There is no more reason for produce passing through six to sixteen hands than there is why banking should be done on the same system. These problems will be solved, and the sooner some organization is formed the better. Coöperative stores and warehouses can be run by an organization.

And then in the matter of buying poultry supplies or lumber for building purposes, there is a splendid opportunity for team work. The coops may be planned with the idea of uniformity in mind and a sufficient quantity of lumber and sundries may be ordered to enable the poultry club to get wholesale rates or at least have the prices greatly reduced.

The same principle applies to the purchase of glass, building paper and roofing material. Uniformity in construction not only presents a pleasing appearance, but also simplifies the equal division of building material among the members of the poultry association.

A wise man may get a dollar's worth of wisdom out of a penny newspaper, while a fool may not get a penny's worth of wisdom out of a dollar's worth of magazines.

Live Stock and Dairy

Selling Old Bill

By Alice Jean Cleator

WAL, yes, I've sold Old Bill.
He wa'n't much good.
He's sorter stiff. Rheumaticky, I reckon.
Coughs a bit, too. Bill used to be "some class."
Onct at state fair he took a farm-hoss "second"

I sold him to Nick Lossi yesterday.
A huckster! Had hard work to git five dollars.
Bill put in twenty-five years' work for me—
The best farm hoss that ever wore a collar!

Somehow it don't seem right without that hoss.
It's strange not hearing him in the stall
Munching his oats! You see, for a spell back
He's only done light work occasional.

I can't help wondering where he is to-night,
And ef he's had his supper—and enough!
Nick Lossi's whip will cut his very soul.
With such a master, Bill will have it rough!

It haunts me, seeing Bill's face jest as plain
As he went out the gate to worse than death.
A loaded gun had been more merciful,
But not until he'd had a good long rest.

Five dollars! Yes, it has the Judas touch!
Seems like it is the price of treachery.
Ef I could only find Old Bill, I'd pay
Ten times that five and bring him home with me!

Feed Inadequate or Incomplete

"WHAT is the matter with my pigs," asks a Wyoming farmer. "I have a litter about two weeks old which first get weak in the hind quarters, then gradually become thin, and some of them have died. I had the same experience last year with another sow. Would like to know the cause and remedy."

The pigs undoubtedly suffer from rickets due to malnutrition, and it is to be suspected that the feed of the sows is incomplete or inadequate.

If the sow is fed plenty of alfalfa or alfalfa-hay and roots, in addition to light slop, she should have plenty of milk for her pigs, and the youngsters should grow strong and hearty.

Sows that are stuffed on corn and given too little exercise often have rickety pigs. It is best not to feed corn to the sows nearing farrowing, but to keep them outdoors on grass or alfalfa and to see that their bowels are kept active at all times.

Worms also are a common cause of rickets in pigs.

If milk is fed to the sow, one ounce of lime-water per quart will in most cases make the pigs do better. DR. A. S. ALEXANDER.

Farm Fables—The Cat

IF IT happens that you are not acquainted with me, it is certain that you do know my brother. No farmhouse is completely equipped which has not an Old Tom the Cat.

Why do I consider myself of importance? Listen, and I shall tell you.

First, I am ornamental. I keep myself clean, and I am truly handsome, even magnificent, and if you doubt this, look upon me as I stalk majestically across the floor.

Myself

Second, I sing in high notes and low notes for your benefit, and I purr gently to lull myself to sleep.

Third, I am one of the few which domesticity has not robbed of the ability to care for itself. Old Tom can find the means of sustenance which he requires. 'Tis a strange house and a stranger barn and a mighty peculiar granary which has not some small holes through which mice and rats may and do sneak—and thus do I gain glory everlasting.

Fourth, I know how to accept favors. Have you ever looked upon a more perfect picture of gratitude than myself licking up a saucer of warm milk? I ask you—have you?

Fifth, I have the saving grace of knowing when I am not wanted. Let the baby unhindered persistently pull my tail, and I depart never to return. TOM THE CAT.

Reclaimed from Ruin

By C. W. Connell

THE illustration shows Mr. Daniel L. Young and family, of McDuffie County, Georgia. He has made farming pay under unusual circumstances, as the following story will show.

Seven years ago he purchased the Flint plantation in McDuffie County, eleven miles from Thompson. It was a typical old Southern plantation when he bought it. The buildings were falling down, and the place was going to ruin. Mr. Young paid for the plantation in cotton on the instalment plan, and it took him five years to do it. For four years he paid five bales of cotton a year, and one year he paid seven bales.

He raises both cotton and wool

There are 372 acres in the farm, and the land is the typical red clay of middle Georgia; 272 acres are now in cultivation and one hundred acres in pasture. Mr. Young has replaced the old-style rickety houses on the place with modern ones, and now has three splendid dwellings. Every year he makes good crops and clears money. Last year he raised twenty-four bales of cotton and over 250 bushels of corn. He has one hundred sheep, thirty hogs, twenty cows and six horses and mules. Thrifty, resourceful and energetic, he manages to make money on all lines.

Milch Goats Practical

By E. I. Farrington

OF LATE years Mr. W. G. Todd of Massachusetts has become interested in milch goats, and is now endeavoring to develop a strain of generous milkers. He has a fine Swiss billie and a number of grade nannies, as well as many common goats. Altogether, he has a herd of fifty-four animals, including a considerable number of kids, which are being raised.

Mr. Todd believes thoroughly in milch goats and considers it possible to secure good milkers by crossing common goats with a thoroughbred buck. Some of his goats give three and four quarts a day. He uses the milk in his own family, but makes no attempt to sell it. A neighbor, however, is disposing of several quarts of goats' milk in Brockton at twenty-five cents a quart, his customers being invalids, who find it much preferable to cow's milk.

Two goat-stables have been built for Mr. Todd's goats, the stalls being elevated about two feet from the floor and having feeding-racks at one end. When the goats are milked, a strip of burlap is laid at one side of the stall, on which the milker sits. Only two minutes are required to milk a goat.

In the summer the animals get most of their living from roughage. They have the run of a fourteen-acre lot which was formerly woodland, and have cleaned it up about as effectually as though they were Angora goats. They would not eat this rough stuff at first, but soon learned to do so. In winter hay and pea-vines comprise the bulk of their feed.

Goats remain in milk as long as ten months when properly cared for, and Mr. Todd thinks it would be perfectly feasible for most people living in suburban places to keep two nannies, thus providing them with milk in abundance the year around. It would not be necessary to keep a buck, for the nannies could easily be sent by rail to the nearest farm where goats were raised. This venture of Mr. Todd's is purely an experiment, and he is not selling any stock. He is greatly interested in the subject, though, and hopes to see goats kept more generally in a few years by all progressive farmers.

Choosing and Training a Collie

By J. C. Courter

"I AM lonesome without a collie," writes a Michigan subscriber, "and the dogs I have had recently have either been poisoned or have developed chicken-eating and meat-stealing traits to such an extent that I have been obliged to dispose of them. I want to ask if a male is better for a stock dog than a female; also, can a collie be taught to watch?"

It is best to get collies as puppies and train them for the duties required. A collie pup that is strong, eager, nervy and inquisitive will generally, if well trained, develop into a good farm dog. A good dog is worth all the time and trouble, but let no man underestimate the need of teaching and patience.

With a pup I have now a new trouble is arising. Not new for dogs, but new for this present puppy. The pup I have now wants to run at the head, *a most serious fault in a farm dog.* This is a crisis that needs quick remedy. To cure him I will use him myself every time he is used. I will ask of him many things every day that will get his mind on me and get him to doing what I want. I will double on the times it is necessary to use the words "stop" and "that's right." More than this I will keep him feeling in fine spirits and not in the least cowed. In this way he will be eager to work when I take him out and yet accustomed to listen and obey the command to "stop" or "go ahead." The rest is sure and simple if I give him time and attention till I instill in him the habit to work at the heel. Then I must watch to prevent his backsliding into the old error. In training dogs, as in other things, eternal vigilance is the price of success. He partly got into that habit because I grew slack with his mother and let others, who would not hold her to her work, use her, and, in the joy of having her pup with her, the mother grew wild and ran out with her puppy. This is characteristic of many little breaks an eager pup will make and shows how training a dog takes thought and time.

They're Good Dogs for Cold Weather

Speaking of the inquiry as to the collie's tendency to eat chickens and other fresh meat, I feel that there might be an hereditary tendency to this.

Both male and female collies have developed into good work dogs, though it is generally considered that a female will be more constant in her watching out in the field.

The collie makes an excellent watch-dog, and there are few better. Due to the long, rough coats, they can endure weather that would send other dogs to cover, and because of that they stay out in the open where they can watch better than other, lighter coated dogs. My young dog is now at the front yard gate "watching."

Treatment of the Ewes

By John Pickering Ross

WATCH the breeding ewes. If any signs of purging appear, give them at once a moderate dose of Epsom salts with a few drops of laudanum in it; repeat every day or two, and give now and then a spoonful of gin. Give them a chance in bad weather to keep dry in the shed, for a wet fleece kills many a good ewe. The effect of purging when near lambing is dangerous, as it is very apt to cause abortions—"slipping," as the English shepherds call it. The damp climate over there makes this trouble, as well as pneumonia and other diseases of the throat and lungs, more prevalent than with us.

As to shearing the ewes, if it has not been done before in the summer, it is very desirable to do it as soon as possible before lambing; but it is better left alone altogether, than to have it done by any but the most skilful shearer. Both ewe and lamb will be killed by any slip or rough usage. Anyway, before lambing, the matted wool on the belly and hind parts should be carefully and quietly removed; the udder examined, and if hard or caked well bathed in hot water. Every dry day, up to lambing, the ewes should be allowed a couple of hours' run in a grass paddock. Cold won't hurt them. A little hay should be scattered around about the field to induce them to trot about to find where the morsels are they like best. On any signs of rain they must be driven in. Fresh water should be supplied every day, and salt must always be on hand in a dry place in the yard.

Holding the Reins

By C. E. Davis

THERE are almost as many different ways of handling the reins when driving as there are drivers, but there is a knack about it that some drivers know, and more especially women do not. To hold the lines in the hand with the straps running over the forefinger is the wrong way. Such a hold gives you no control over your horse if he should bolt suddenly.

The wrong way

The right way is to let the line come under the hand, and up between the thumb and forefinger. Then, should your horse bolt, you have a firm grip on the lines. You can check the horse at once with a firm pull, and it is more horsemanlike.

The right way

Finish Your Cattle

Advice from a Tennessee Cattle-Feeder

By A. E. Murphy

THERE is nothing so sadly neglected in the Southern States as the finishing of cattle for the market. Feeding and finishing cattle is profitable for three reasons.

Well Bought is Half Sold

First, the cash profit above all feeding expenses; second, the value of the manure to the farm; third, the profitable disposal of the coarse forage that abounds on the farm, such as corn-stover and straw of all kinds.

Now, if a feeder expects any cash profit in his feeding operations, he must remember that well bought is half sold. The feeder who lays in his cattle too high is up against a hard proposition. If cattle are secured in one's own county they should be bought for about fifty cents per hundred less than they are worth at the large stock centers.

For one to make a reasonable profit on his feeding operations he should have an advance of fifty cents per month over the purchasing price for every month he feeds.

The characteristics of a good feeder are: Short face with a medium broad forehead, sleek quarters and well-sprung ribs on a round body. A steer of this make-up is a good feeder and a good seller.

One should be sure to notice in buying cattle to feed that none of them have foul foot or scratches.

More care and experience are required in bringing cattle to full feed than it does to feed them afterward. They should be brought up on a full feed of roughage first. Then increase the grain until they are consuming all they will clean up. It will take them about one month to get on a full feed.

A good and fairly cheap ration for a one-thousand-pound steer is twenty-five pounds of silage, five pounds of corn, six pounds of cottonseed-meal and five pounds of clover hay. Such a ration at to-day's prices will cost eighteen cents per day per head. A thousand-pound steer should have one ounce of salt every day.

Advantage of Covered Feed-Lot

It is practically impossible to fatten cattle in a filthy stable or a muddy feed-lot. A steer fattens best when he can eat, drink and lie down comfortably. So keep the feeding-quarters well bedded. I prefer to keep cattle in a covered feed-lot, as by that method one can save all the manure, and it is more convenient to feed and care for the stock in stormy weather.

In preparing cattle for shipment do not feed much silage or grain, nor give any salt for a day or two before shipment. Give all the hay or dry feeds that they will eat right up to shipping-time. Keep from water about sixteen hours before shipping; if one doesn't, they are likely to scour.

How to Detect Lameness

By Dr. A. S. Alexander

THE horse has been called man's "dumb friend," but he often groans or squeals with pain and anguish, and when lame tells plainly by his actions where the trouble is located. One must be a keen and experienced observer to read the sign language of the horse. When he goes nodding in front of you as you drive, nod with him, and in time you will know which foot is lame. It will be the one away from which he nods. Weight is placed upon the sound foot, and the ear on that side drops or nods. Watch when the horse stands still. The one sore foot will be "pointed" forward. If both are sore, they will be pointed time about.

Founder and Splint

In founder lamencss the fore feet are stuck out in front, and the hind feet advanced far under the body. In shoulder lameness the horse stands down squarely on all fours, but drags the lame leg when walking, and has great difficulty in stepping over a sill or other obstacle. If he has a splint, associated with inflammation of the periosteum (bone-skin) of a fore cannon-bone (metacarpal), he may start out sound, but quickly goes lame. It is young horses that are generally so affected; but the adult horse may strike a large "diffuse" splint with the shoe of the opposite foot and "take a sudden cropper," or become intensely lame. Such also is the case when a horse interferes badly with fore or hind shoes or twists a joint or suddenly knuckles over in a hind fetlock.

Spavin and Ringbone

The spavined horse hops when made to move over in his stall, backs out and starts off lame, but warms out of the lameness on going a few rods. The lameness returns when he rests for a minute or two. This is also true in navicular disease of a fore foot, and that foot will be found smaller, steeper, dryer and more contracted at the heels than is the case with a healthy foot. In ringbone, located as a bony lump upon the pastern, the horse takes an abnormally long step and grows lamer with exercise. The shoe wears down at the heel, whereas that of the spavined horse wears fastest at the toe. Shoulder and hip lameness cause rolling outward of the legs when trotting. In azoturia lameness there is knuckling over of the hind fetlock, and in chronic cases, with wasting of the muscles of the stifle, there is a pronounced dropping motion of the leg. A similar motion and dropped elbow are seen in lameness due to fracture of a rib under the shoulder-blade. In looking for lameness, always begin at the foot.

The Method of Treatment

Remove the shoe. Use pincers to squeeze and a hammer to tap the soles, frogs and walls. If flinching results, suspect a nail prick, bruised sole or corns, and, if necessary, use the knife to liberate pus. Rest is imperative in the treatment of lameness. The longer the rest, the better. If cold or hot soothing applications fail, use stimulating liniments or blister the part, and as a final resort use the firing-iron and a blister combined. In operative cases trust only to the skill of the trained surgeon.

Saving Chilled Sheep

By J. A. Raiser

ONE spring after an early shearing our sheep were caught out in a rather late storm of snow and sleet. Being divested of their wool, some of the sheep were badly chilled. A few we thought were hopelessly so before we got them under shelter. These few were so far gone that we had to carry them to the shed. These we covered thickly with fresh stable manure, leaving only their heads uncovered. The heat of the manure soon warmed them up, leaving them in as good, if not in a better, condition than any of the rest. It would be better, of course, to use dry heat, as an artificially warmed room or hot blankets, if possible.

Though this process brought the sheep out all right, it is best not to run the risk of having them chilled. The sheep are docile, they are also very dumb, and will submit to any kind of treatment received. They will lie in the rain and sleet, in the deep snow or on the unsheltered hill, if there be no master will to bring them forth. Get out of the notion, the sooner the better, that cold and exposure tend to thicken and lengthen the fleece, for it does not, but certainly works the other way.

Their Wool Dries Slowly

If you wish to realize the best profit from your flock, it is necessary to have them properly sheltered in bad weather. Sheep can stand a great deal of cold weather if the atmosphere is dry, but if you want to knock the ginger out of them, and the profit as well, let them out in the rain, sleet or snow after cold weather has set in. It takes days to dry wool on sheep-backs in cold weather. In this condition sheep are very apt to get chilled, with detrimental results. This is how "snuffles," or chronic catarrh, is contracted, if the sheep survive the chill at all.

Garden and Orchard

Successful Garden Experiments

By John J. Dinsmore

GARDENING has always had a great fascination for me, and I cannot resist the temptation to experiment with new methods of growing old and new vegetables, and fighting old and new enemies. A good garden is a great saving in expense, and one should plan to extend the season of some of the earlier vegetables.

Green Peas Late in the Season

Peas may be had until very late in the fall, with no extra trouble, by planting several varieties from early to late; I prefer to extend the season in this way rather than by successive planting of earlier varieties, as all can be planted at once; the last planting is made about the tenth of June, when I plant Improved Stratagem, Prodigious, which has extra large pods and peas, Alderman, Bliss' Everbearing and a few Notts' Excelsior, all of which have proved valuable.

The taller varieties are not given brush or any support, but allowed to stand up as much as they will alone. Treated in this way, I have had great success with them, never failing to have a heavy crop late in the season when peas were entirely out of the market and selling at the highest prices.

The vines make a more stocky growth than when given support. They shade the ground more, hold the moisture and seem to stand the dry weather and heat of summer better.

Tobacco Treatment for Limas

Lima beans I treat in the same way, growing the pole varieties, as I find the pole Limas grown in this way without support branch freely and bear a much heavier crop than the large bush varieties. I plant in rows two feet apart instead of in hills.

Grown in this way, the crop matures much earlier.

After planting Lima beans last year, the weather set in cold and wet. When the beans finally came up, I discovered that a small white grub had worked into nearly all the beans, killing the plants. I replanted, with the result that about half of the second planting was killed. As an experiment, I put a five-cent package of smoking-tobacco in a pail with two quarts of water, put in the Limas and let them soak overnight. This seed was used for replanting and was not disturbed, but came up quickly, and was uninjured.

Manure Hastens Maturity

When setting out tomato or cabbage plants, if a piece of paper is wrapped around each plant, not too closely, and allowed to extend above the ground two or three inches, they will escape cutworms. In planting tomatoes, dig a hole, and put in two quarts of manure, tramping it firmly to avoid drying out. Set the roots of the plant directly on the manure, pack the dirt in, and press firmly around the roots. This treatment will give ripe tomatoes two weeks earlier than the usual way.

Some of the largest and finest Hubbard squashes I ever saw were grown by giving them a mulch of manure six or eight inches deep, extending two or three feet on all sides of the hill. This is the way to grow fine rhubarb, also.

How to Keep Cabbage

The finest way to store cabbage for winter is to cut off the head, trim off the outer leaves and wrap each head in newspapers; store in the cellar, and they will come out crisp and brittle; have kept Danish Ball Head this way until May.

Simple Tree Irrigation

By D. S. Burch

MAKING every newly set tree grow is one of the most perplexing problems for the landscape-gardener or for the ambitious owner of an attractive home. Most newly set trees die from a lack of proper watering at the right time. Especially when water must be carried by hand, watering a number of trees is a tiresome task.

An ingenious gardener of Denver, Colorado, simplified tree-watering by arranging sewer-pipes as illustrated, the water being poured through them.

By this method surface evaporation is almost entirely eliminated, as the water is put where most needed. The pipes should be filled with coarse gravel to prevent their filling with dry leaves and trash.

For a very small tree one tile would be sufficient, but it should not be placed too near the trunk. The farther from the trunk it is placed, the greater is the desired outward root growth, which gives the tree stability and a large feeding area.

Crops and Soils

Don't Shoot the Professor

By L. L. Klinefelter

SOME day you may see a man in your woodlot, with an insect-net and a magnifying glass. Quite likely you will find he wears eyeglasses and an absorbed expression—and clothes, of course.

If so, don't fill him full of bird-shot.

He is not at all dangerous. All he is after is some particular insect which he wants to add to his collection and which you do not need in your business.

In other words, the professor-looking man is an entomologist.

That is a big word which means a student or collector of insects.

Remember about Bill Nye's dog? Bill named him "Entomologist" because he had got together such a large collection of insects.

But this is something else again.

Our entomologist collects and studies insects in order to learn their habits and in this way to know how to fight them.

The entomologist is really the farmer's best friend, and it is by his aid that the farmer is able to carry on the fight against those insects which are his most dangerous enemies.

My object is to show how, in just one of thousands of instances, the study of insects enabled a couple of professors in Texas to head off a little insect that for years had destroyed the seed crop of all the sorghum, milo maize and Kafir-corn in a large section of the State.

Down around San Antonio the weather and soil conditions are not suitable for corn except in favorable seasons, and unless the sorghums (which term includes all the varieties of maize, Kafir, cane and that sort of crops) can be grown the farmer, as well as the city people, must depend for feed on crops that are shipped in.

The sorghums can stand dry, hot weather better than corn, and as a rule they can be grown well enough in this locality, but for a number of years the trouble has been that the heads had no seeds in them.

Instead of well-filled heads, there were only bunches of chaffy shucks, so that the crop had no value as feed for horses and cattle except to a certain extent for roughage and as exercise for the stomach.

They Blamed the Weather

For years everybody, especially the people who had tried to raise the sorghums, laid this seedless condition to the weather.

Even the scientific men who never had looked into the matter, as yet, agreed that "blast" was caused by rains washing off the pollen when the plant was in bloom.

But there is an experiment farm near San Antonio, and it makes it its business to find out all it can about the crops of that region.

Like everybody else, the manager thought "blast" was caused by rain, and began experiments to find a variety that would resist the bad effects of the rain, thus preventing "blast."

One day an entomologist (not Bill Nye's, however) happened along when the plants were in bloom, and he noticed hundreds of little flies, of the size known as "midges," flying about the heads of the sorghum.

After looking into the matter from the entomologist's standpoint, he became satisfied that the little flies had an object in view.

They were looking up good boarding-places for their big families of children which presently would be hatched out of the millions of eggs which they proposed to lay just as soon as they found a place where their midge babies were sure of a good living until such time as they were able to fly about and raise families of their own.

Now, in the general scheme of things, it is so ordered that every seed-bearing plant also has plans of its own for the future, and every sorghum-plant hopes to raise up a sweet and interesting family of its own, and for this reason it puts all its best effort into making the seed, and within that seed is an egg which contains the germ of the future sorghum-plant.

This egg is the plant's masterpiece, and the best of the whole plant goes into it.

Now, the pesky little midge knows this.

And so the little midge mother provides herself with a long tube specially designed to reach down into the flower, and through this tube she deposits her egg slap up against the egg of the sorghum-plant.

In a few days the egg of the midge hatches out, and the young midge, which in that stage is merely a very small worm with a very big appetite, begins to eat the egg of the sorghum-plant by absorbing the rich juices out of it, and while he waxes fat the operation kills the seed of that particular section of sorghum-head, and only a dry husk remains, without any kernel in it.

Meanwhile, his little brothers and sisters and cousins have been doing the same thing in the sorghum-heads all over the field, and while the result is an enormous crop of midges, the seed crop of the sorghum is a complete failure.

Nothing remains but the chaff, and the farmer calls it "blast" and lays it to the weather.

But how did they know it wasn't the weather?

Oh, that was easy. They got a lot of paper sacks from the grocery-store, slipped them over half of the heads just coming into bloom and tied them below the heads with fine copper wire, leaving the rest of the heads exposed.

The Midge Was Found Guilty

After so long a time they took off the sacks, and not a kernel was injured, except in the case of two sacks which happened to have very small holes in them and the enterprising little midges had found them.

The unsacked heads were all "blasted."

That makes a clear case against the midge and completely clears the weather.

The jury returns a unanimous verdict of "guilty" against the midge.

Well! what good does that do the farmer? He can't go out and put paper sacks on every head of maize and Kafir-corn.

Of course not. But wait.

The entomologists have studied the life-history of the midge.

They know that every summer's brood is descended from a comparatively small number of midges that have survived the preceding winter.

It takes them just about so long to multiply and increase to an extent that makes them sufficiently numerous to kill or damage the sorghum crop.

That takes pretty well into the summer.

Now, it was found that by selecting the earliest varieties and planting very early, not later than the first of March in that latitude, it was possible to get the seed past the danger-point before the midge crop was sufficiently numerous to do any harm.

By planting early in the season, they raised from twenty-three to thirty-two bushels of seed to the acre, whereas in the same season all the late-planted crop was "blasted."

That also seems pretty conclusive.

This is why we say "Don't Shoot the Professor" if you find him prowling around your premises. He isn't dangerous, and the chances are that he is working on a problem of direct value to you.

So, instead of filling his hide with bird-shot, ask him in to dinner.

He probably can explain a lot of things you never understood.

Propagating California Privet

By T. Greiner

CALIFORNIA Privet is a hedge-plant almost without fault, although not fully hardy in western New York. The closely related *Ligustrum Amurense* is somewhat hardier, yet the former is usually preferred even here. The propagation of either of them is by no means difficult. In the fall make long cuttings, eight to fourteen inches, of one-year growth, tie them in bundles, and bury these during the winter. In the spring plant the cuttings three to six inches apart in the row, with rows about three feet apart, and keep well cultivated.

Or cuttings five to six inches long may be made in November, the leaves stripped off and the cuttings tied in small bundles to be buried tops down over winter, then planted in spring in rich loose soil, four by eight inches apart and tended by hand. The plants may be dug in the fall and heeled in, then planted in spring in rows three feet apart, with plants six inches apart in the rows. In fall after that they may again be dug, heeled in, and following spring planted out with wider space between them and set considerably deeper. This is for the purpose of thickening up the growth from the bottom or lower branches.

GARDENING
By T. Greiner

Grapes for a Cold Climate

A WASHINGTON reader has some large Concord grape-vines which he proposes to graft to earlier varieties because the grapes usually fail to get ripe. I would hardly advise an amateur to attempt grafting old grape-stocks, though it can be done. The method is similar to that of grafting scions on bigger apple or pear tree limbs, by cleft grafting. But this, in the case of the grape, must be done below the surface line of the ground, the cut surfaces carefully covered with grafting-wax or clay, and the stump well covered with earth. It is a job for the expert rather than the amateur. But as it takes only two or three years to get a good grape-vine, newly planted, to bear fruit, the better way, for the inexperienced, is to plant young vines, and root out the old ones if they cannot be made to produce good ripe fruit. The earliest good grape I know of is the Green Mountain or Winchell, but it is not nearly as productive as Concord, Worden and many others of our standard grapes. I have a European black grape that is about as early as Green Mountain, quite productive, of highest quality, but so subject to disease that I would not recommend it for general planting.

Nor can I find its true name, or any firm propagating it. It is just possible, too, that the late ripening of your Concords is due more to your treatment than to the climatic conditions. If you let your vines overbear, as Concords, and especially Wordens (the latter a trifle earlier than Concord), are likely to do, the clusters will be much later, and may not ripen at all. Do not force wood growth by heavy applications of organic (nitrogenous) manures, but rather rely on mineral plant-foods, superphosphates and potash, or wood-ashes. Liming helps also.

Celery for Late Use

A Pennsylvanian asks me to tell the best way to handle celery, taken up out of the row after having been bleached, so that it will keep firm and crisp. The best way to fix celery after it has become fully blanched is to eat it. When you attempt to keep it much longer, you will usually find that it decays rapidly. The celery which has some chance of keeping well in winter storage is that which is only partially bleached. If stored in a dark place, with roots kept moist or wet and tops dry, it will finish the bleaching process and come out firm and crisp.

If you desire to keep bleached celery for at least a reasonable length of time without having much storage-room, trim it in about the same way as you would for market, and pack it in layers of moist moss in a box, and keep this standing upright on the cellar bottom. It will not, however, keep many months in good condition in that way.

Keeping Cauliflower

Cauliflower when kept for winter use turns brown. That is the complaint of a lady reader in Vermont. Yet she finds good ones in city markets. This is easily explained. It is difficult, almost impossible, under ordinary home conditions, to keep fully headed cauliflower for winter. If you attempt it, for instance, by hanging them up in the cellar or treating them otherwise like cabbage, the heads will turn brown or blackish, and be worthless for use. But there are various methods by which cauliflower that is not fully headed may be kept.

Set the plants late so that they will just begin to head nicely at the time (late in the fall) to be taken up and stored. Tear off the largest outer leaves, and set the plants closely together in a cold-frame to be kept covered with sash, or on the cellar floor. They should have moisture enough to keep them from wilting, but none on the heart or leaves, as that would cause them to rot. Partly headed plants may also be put in trenches in the same way that celery is frequently trenched.

Boards may be placed at the sides, and a covering of straw or other litter given when cold weather comes. Much, of course, depends on weather conditions and locality. Methods of storing celery and cauliflower, such as trenching and storing in cold-frames, which are commonly employed and successful in New Jersey or on Long Island, may not be suitable for western New York, Maine and Vermont.

About Propagating Ivies

For the amateur the easiest way of increasing the so-called English Ivy *(Hedera)*, a popular window-garden plant and creeper succeeding well in shady positions, and the Boston or Japanese Ivy *(Ampelopsis tricuspidata)*, the king of all climbing vines in cities, is undoubtedly that by layering. Commercially, these vines are usually increased from cuttings of half-ripe wood under glass.

Preserving Grapes

How to preserve grapes for later use or sale is another question asked. For long keeping, firm grapes, such as Catawba, Vergennes, Niagara, Salem, perhaps Isabella and some of the Rogers' Hybrids, ought to be selected in preference to Concord, Worden and many others that are more liable to shell or shrivel. Such grapes keep fairly well for a reasonable length of time if carefully gathered from the vines, freed from all defective berries, then placed in shallow boxes or baskets and kept undisturbed in a cool and rather moist place. Or they may be packed in layers in dry clean sand, in cork-dust, dry hard-wood sawdust, clean fine-cut hay, or clean dry oats or wheat, or parts of the cane with three or four clusters may be cut off, the cut ends dipped in melted wax, and the clusters then hung up in a cool room. A good use to make of Concord, Worden and many other grapes is for grape cordial or unfermented grape-juice such as now sells in our grocery-stores at about forty-five cents per quart retail. The good housewife who has a surplus of grapes or can get them at small cost can make grape-juice as good as that kept in the stores, at a trifling expense, and put it up in ordinary fruit-jars or bottles for home use or for sale to neighbors at a good profit.

No better way of handling grapes for late keeping or sale is known to me than that which is original with Mr. Pomeroy, the man who has the big English-walnut orchard in regular bearing here in western New York. He bags all his grapes soon after the blooming season, leaves them on as long as the weather permits in the fall, then gathers and carefully stores them, leaving them in the bags. When the best time for selling comes, he takes them out of the bags, carefully trims them, especially removing every defective berry, and finally places each cluster back into a waxed paper bag that carries an attractive label on outside. In this shape they go to the better class of hotels. Mr. Pomeroy tells me that he receives three cents per cluster.

The Market Outlook

The Price Ratio Between Hogs and Corn

By L. K. Brown, South Dakota

THERE has been but little change in the hog-markets recently. The eastern shipping demand which reappeared previous to the time of the last issue has increased as the marketing in that territory has declined. The receipts at western centers have been inclined to increase, but only moderately. These two factors have about balanced one another, so the prices have remained materially the same. The packers have been very vigilant in their bear campaign, but are able to accomplish nothing except on days of heavy runs. They have been light buyers except on these slumps, and have made accumulations for their cellars only on these days when the market favored them.

January Receipts Were Not Up to Expectations

The heavy inroads that cholera has made in the territory where the season's main supply is coming from are becoming more evident now. The January market has not been receiving the number of hogs that had been expected. Part of this is due to the actual scarcity caused by cholera, and part to the present profitable business of feeding for a longer period. This should help maintain present prices, but will also hold them to their winter level later on when feedyards have usually been cleared up, as many heavy hogs will continue to be marketed then.

The market has a very narrow price range. Heavy hogs maintain their premium, as they always do at this season. The strong demand for medium weights for shipping purposes and the demand for pigs in fresh-meat channels have brought the prices of these to nearly the quotations on the heavy classes.

Lately Sioux City has been receiving the largest percentage of heavy hogs, due to the fact that southern Minnesota and South Dakota have been free from hog-cholera.

It is seldom that pork-making is as profitable as it is at present. The general price ratio is about thirty-five cents for corn and seven cents for hogs. Locally the prices are twenty-eight to thirty-one cents for corn and $6.50 to $6.90 for hogs. A feeder can make a living profit in feeding thirty-five-cent corn to four-cent hogs if the hogs are a vigorous, healthy bunch. This additional $2.50 to $3 per hundredweight will pay for a lot of cholera risk if the hogs are in the country to be bought. The man who has hogs or can get them should make a big profit in feeding for some weeks to come, as there is little indication that the market will decline, except possibly for a few short periods.

The Risk in Buying Feeders Now

By W. S. A. Smith, Iowa

A MAN must have great faith in the future cattle-market and great confidence in himself as a feeder to buy stock or feeder cattle at the high prices now prevailing. I am inclined to think this is no time for the amateur feeder to begin it, and it is a time for the veteran to think very seriously.

Here in the western markets, the first week in January, three-months-fed cattle were not selling any higher than stock-feeder steers. If anyone feels they must have cattle, the "warmed-up" steers are better to buy for feeding than the others. They may not make quite as large a gain, but they are always ready for market.

There is a feeling that high prices will prevail for fat cattle. I think this is right, but we really have the high prices now, considering the quality, and to buy these cattle at $7 to $7.50 to put on feed and expect even higher prices for fat cattle is not safe figuring.

By this time of year cattle bought in the fall have in many cases been sold and all could have been sold at a profit. Those who still have their cattle have good property, but to sell and replace them is a serious problem.

All the waste feed on the farms is now practically cleaned up, so that from now on cattle bought to go on feed are eating feed that will keep and are being fed mostly for speculation. Personally, I would not care to go up against it.

Mutton and Wool Prospects

By J. Pickering Ross, Illinois

THE opening of 1913 finds the outlook of sheep culture very promising. At this season two years ago, when top lambs were worth $6.50 and bulk $6, top sheep $4.60 and bulk $3.75, FARM AND FIRESIDE was urging farmers of the corn belt and those of small holdings everywhere to breed and feed lambs. This advice was grounded on the conviction that even at $6 with judicious management, they pay well in any fairly plentiful year when prices of feed are reasonable; and it has been rather strenuously persisted in up to the present times, when top sheep are sold up to $5.75 and top lambs to $8.90. Even in 1911, an exceptionally bad year for all classes of farmers, when sheepmen, seized with panic, crowded the markets with sheep and lambs which, not unfairly, might be called skeletons, men who understood the business and refused to be panic-stricken made money on their lambs, the average price being $5.95, and by retaining their ewes till now, when their value is greatly increased, having risen from $4 to $5.50.

The Sheep Situation Abroad

A little flurry of excitement, which I regret to see encouraged in some of the best live-stock papers, and which, if not checked, may lead to another panic among the class of sheepmen who resemble their flocks in their readiness to take fright is being caused by the idea that Congress is going to "play the dickens" with the wool tariff and to admit dressed meats free. There is, I believe, no cause for this; at all events, for the present year, and for the following reasons: The population in the great sheep growing and exporting countries, Australia, New Zealand, South America and Africa, is rapidly growing, while, for various local reasons, the number of their sheep, though increasing, does not do so in proportion to the needs of their home markets and their export trade. The United States, while possessing 58,000,000 sheep and lambs (nearly one-tenth of the world's flocks), has not only ceased to export sheep, but has to import large quantities of wool, and is barely able to supply the home trade for mutton.

It is stated on good authority that Colorado is the only western State that has its usual quota of sheep, and that all the Middle and Eastern States are short from twenty-five to fifty per cent., while the ranges where best flocks have been raised and pastured are now being converted into arable lands.

The consumption of mutton, and especially of lamb, is constantly growing, and the increasing use of more clothing, and much of it of a more costly class, renders it very improbable that the price of wool will fall.

Large Receipts Do Not Necessarily Lower Prices

Another reason for this faith in the future of sheep culture is to be found in the steady rise of prices, especially in those of lambs. The following table gives receipts and average prices in Chicago for four years out of the past seventeen, want of space not allowing me to record the intermediate ones. The figures are from the reliable *Farmers' and Drovers' Journal:*

YEAR	NUMBER RECEIVED	AVERAGE PRICE	
		Sheep	Lambs
1895	3,406,739	$3.30	$4.55
1900	3,548,885	4.55	5.90
1905	4,736,558	5.00	6.80
1912	6,055,546	4.60	7.20

By the end of the first week in January top lambs were selling at $9.10; the bulk at $8.85.

These figures show clearly the growing popularity of lamb as an article of food; also that the first increase in their numbers does not, in the long run, lower their price.

Native-Grown Meats Preferred

As regards the free admission of dressed meats, it is worthy of note that England, the greatest importer of frozen carcasses, has at times paid sixteen cents a pound at wholesale for them, and is now paying from nine to twelve cents, and that other European countries, especially Germany, are strongly urging their governments to follow her example and admit dressed meats free, forced thereto by the scarcity and the high prices of home-bred cattle and sheep, which in some cases are nearly double those which we groan over having to pay. The wealthier classes in England willingly pay one third more for native-grown meats, and ours would, no doubt, do likewise. But anyway, if the tariff should unwisely be removed, the producers of foreign meats would not, because our market is thrown open, be likely to lower their prices, but quite the contrary the effects of such competition would be apt rather to wake us up.

One Result of the Panic of 1911

These are some of the reasons which appear to justify the belief that 1913 will be a prosperous year for sheep culture, a belief which is freely expressed by the men most competent to form a judgment. The only unhappy sheepmen just now are those who, yielding to the panic of 1911, parted with their flocks at ruinous prices, and have been unwilling to pay the prices asked for ewes and feeders to replace them. Those prices have been high, but not so much so as to cause them to quit the business in a year when feed of all kinds is bound to be reasonable. Grain and fodder are best carried off the farm on the hoof, for thus disposed of they not only make the best returns in cash, but leave behind most valuable fertilizing deposits which enrich the farm.

Selling Rice Direct

By Maurice Floyd, Texas

J. E. Cabaniss

THE high cost of living may be very properly ascribed to several different causes, but the chief of these, no doubt, is the excessive cost of distribution. The Department of Agriculture, after a careful investigation in seventy cities, declared that the retailer alone added not less than thirty-eight per cent. to the price of the meats, and this weighty problem of bringing the producer and consumer closer together has become serious enough to engage the attention of the whole nation. The problem is yet far from its ultimate solution, but here and there, throughout the country, a few individuals have successfully met the issue, and a recital of their achievements will probably aid materially in pointing others to a satisfactory solution of the problem.

How He Secured His Customers

One of these who has achieved a splendid success of dealing direct with the consumer is Mr. J. E. Cabaniss, of Texas. Mr. Cabaniss owns a large rice-plantation, and several years ago he took up the idea of selling the product of his farm direct to the consumers. There was a crying need for a pioneer in this line certainly, for, although the grower was receiving but little more than two cents per pound for his product, rice, even within a hundred miles of the fields, was selling for ten cents per pound, retail. The first problem, of course, which Mr. Cabaniss had to solve was that of securing customers. Being a business man, he met this problem in a business way by placing the following classified advertisement in all the leading papers of the Southwest:

Clean White Table Rice—Honduras, $5.00 per hundred; Japan, $4.00 per hundred; freight paid to your station. Samples free. J. E. Cabaniss, Rice Farmer, Katy, Texas.

So gratifying and successful was the first year's work that Mr. Cabaniss has continued and enlarged his business with each passing year. A feature of the work that aided not a little in bringing success to Mr. Cabaniss, and one which all who desire to make a success of dealing direct with the consumer should not overlook, was his offer to send a generous sample of the rice to prospective purchasers. This offers a sure way of winning the confidence of customers and acquainting them with the quality of goods offered. Needless to say, the sample should always be representative.

An incidental feature, but one which was of even more far-reaching importance than the pecuniary gain to Mr. Cabaniss or the saving of his customers, was the beneficial effect this direct-to-the-consumer movement had on the general rice-market throughout the Southwest. To-day rice retails in this territory for six and eight cents a pound, while the price to the grower is considerably better than it formerly was. Thus it will be seen that by sagacity and initiative Mr. Cabaniss not only secured nearly double the former price for his product while reducing the price to the consumer by at least one half, but he also benefited thousands of growers and consumers who had never dealt with him—who, indeed, might possibly have never heard of him.

It seems that it is to this point we must look for the greatest good from this direct-to-the-consumer movement. The retailer, of course, will never be put completely out of business, for they are an economic necessity, but by direct dealing their tendency toward rapacity may be held in check and their profits held down to a normal and reasonable figure.

He Simply Uses Good Business Methods Which Others May Follow

In passing it should be noted that coöperation on a small scale had something to do with Mr. Cabaniss' success. To carry on the business successfully and get the advantage of reasonable freight rates it was necessary to sell the rice in hundred-pound lots. This quantity being more than was needed by some families, it became necessary for a number of consumers to coöperate in their buying, which hundreds did to the advantage of everyone concerned. Again, it is sometimes necessary for the seller to coöperate, for it is not every farmer that has enough produce to warrant him in going to the expense and preparation needed to carry out a direct-selling campaign. When this is the case, coöperation, of course, is the remedy.

There is no mystery about Mr. Cabaniss' success. It is due to a few plain and easily followed reasons: First, a good opening; second, a businesslike method of securing and dealing with customers; third, a reasonable price for his product. It is to be hoped that many farmers in other lines will follow Mr. Cabaniss' example in selling direct.

The FARMERS' LOBBY.

How the Prune Won Its Shoulder-Straps

By Judson C. Welliver

THE farm value of farm products of the country in 1912 is carefully figured to have been $9,532,000,000. By the time those products get to the consumer, several billions more are added to their value. It is safe to say that nowhere in the world—that is, in the civilized world that realizes that this is the twentieth century—is there a comparable volume of business transacted with so little regard for the ultimate economics, the fundamental interests of producer, consumer and community, as is displayed in the marketing of this imperial product of our farms.

Let Monopoly Fight Monopoly

JUST one bit of illustration of what I mean by this statement. There is a certain tobacco region that produces a quality of tobacco whose market is found only in France. Two or three years ago representatives of these growers came to Secretary of Agriculture Wilson and said, in effect: "We have only one market for our tobacco. Prices have gone down and down, till we are getting three to five cents a pound, and losing money. Our soil is becoming exhausted because we can't afford to keep it up through proper fertilization. What shall we do?"

The Secretary made inquiry about the circumstances and said: "Why not get together as a coöperative association; pool your tobacco; make one man, or a committee, your sole selling agent. Don't sell except through this one agency. Oppose your monopoly of supply to the Frenchmen's monopoly of market, and see if you can't improve your condition."

The committee went away, and after much difficult effort did just what had been recommended. Yesterday Secretary Wilson told me that, as a result of that coöperative marketing experiment, the last crop sold at twelve to fifteen cents per pound!

A good many other people have been studying and wondering about these conditions, and one of them, last session of Congress, got inserted in the Agricultural Appropriation Bill a little clause that marks the beginning of an effort to make our Government do for the agricultural community just what has been done toward better marketing in other countries. It looks to governmental study of conditions and leadership in bettering them.

A Credit Mark for Senator Smith

THE man who started it is Senator Hoke Smith of Georgia. He is an enthusiast on the subject of coöperative marketing. He made his beginning—inserted the thin edge of the wedge—by getting this little provision written into the Appropriation Bill:

> The Secretary of Agriculture be and he is hereby directed to secure from the various branches of the Department having authority to investigate such matters reports relative to systems of marketing farm products, coöperative or otherwise, in practice in various sections of the United States, and of the demand for such products in various trade centers, and shall make such recommendations to Congress relative to further investigations of these questions and the dissemination of such information as he shall deem necessary.

As a result of that provision, the Department has just issued a book of 391 pages entitled "Systems of Marketing Farm Products and Demand for Such Products at Trade Centers." The trouble with this report is that it contains altogether too much matter that is not useful, and suggests too many lines of inquiry that ought to have been followed out and reported upon, but that were not. Nevertheless, there is also a vast deal of excellent and useful matter in it. For instance, over one hundred pages are devoted to explanations of the organization and workings of a large number of associations and agencies, some coöperative and others not, for marketing farm products. The articles of incorporation and the by-laws and regulations of several of these organizations are published, and in this regard the report is thoroughly practical. A copy of the book may be had by addressing "Superintendent of Documents, Government Printing-Office, Washington, D. C.," and asking for "Report No. 98, Department of Agriculture." A reading of it will give an excellent foundation of information concerning what will probably be the next big development of the Department's work for the farmers. There are outlines for a dozen novel plans dealing with economic subjects within the covers of this document. The trouble is that there are only outlines; skeletons of dry information, untouched by the finger of imagination. The thing that is needed; for instance, is not the matter-of-fact description of the organization and workings of the California Fruit-Growers' Exchange, but rather a description of the wonderful things that this and its affiliated and subordinate associations have done for the California fruit industry.

California has gone vastly farther in coöperative marketing than any other American community. In the beginning, its great distance from markets seemed to prohibit great development of the wonderful fruit possibilities of the State. The excessive charges and difficult conditions imposed by the transportation monopoly compounded the problem.

Dreams, Lemons and Oranges

NOTHING save coöperation could have made California's fruit industry what it is. The idea seemed visionary, socialistic, an iridescent dream, when it was first proposed. Anybody could have told you that it wouldn't work, that a man who thought it would work was insane. Almost everybody *did* explain those details to the first few men who undertook to found the great organization. But that only proves how badly "everybody" is mistaken at times. The thing *was* organized, *did* find the market, *did* put the industry on its feet, *is* to-day the country's best exemplification of the possibilities of this sort of organization. It fought the railroads for better rates, made itself heard and felt when tariff rates were being fixed at Washington, induced farmers to coöperate, secured the very best assistance that the national agricultural authorities could give, is one of the chief powers in coast politics and has lighted a lamp that, if farmers in other sections would but be guided by it, would show them the way to a magnificent addition to their gains. It is true that other agricultural sections have vastly different problems from those of the California fruit-growers; but *every* agricultural section has its own set of problems, in the solution of which coöperation would tremendously aid.

California's orange and lemon crop is 50,000 car-loads, or 20,000,000 boxes a year. There are from 10,000 to 12,000 growers in the business. Eighty per cent. of these are organized into coöperative societies, and almost two-thirds of these societies are federated into the great California Fruit-Growers' Exchange.

First are the local associations of growers, 115 in number, each with 40 to 200 members; organized as corporations, not for profit; each member taking stock, as a rule, in proportion to his acreage or shipments. There are seventeen district exchanges, which are simply clearing-houses for handling the fruit through the big central California Fruit-Growers' Exchange. These district exchanges, like the locals, are organized as corporations without profit. Their business is to order cars, conduct general relations with the railroads and keep members informed of all details concerning the trade and the interests of the growers.

FARM AND FIRESIDE occasionally hears from a subscriber who contends that our Washington correspondent should not have free rein to express his conviction on matters treated in the Farmers' Lobby. Who would want to read a muzzled Welliver? And who wants the services of a man that can be muzzled? A lobby "with a string to it" would not be a lobby. The purpose of the Farmers' Lobby is to tell our readers what is going on in Washington and how Mr. Welliver thinks it will affect their interests. In most cases we believe Mr. Welliver is correct, but the publication of his views is not necessarily an editorial endorsement. THE EDITOR.

A Great System of Agencies

UP AT the apex of this coöperative pyramid we come to the California Fruit-Growers' Exchange, composed of these seventeen district bodies. It, likewise, is a non-profit-making corporation, with only $17,000 capital.

The exchange places bonded agents in the chief market centers of this country and Canada. They wire, each day, all market information, reports on sales and demand. This information is immediately transmitted to the district and local associations. It is an interesting sidelight that this exchange spends $75,000 annually in telegraph expenses alone!

All business is on a cash basis. The big exchange makes accounting of returns to the growers, through the district exchanges; it attends to all litigation connected with marketing and transportation; looks after claims, and advertises for a market when business gets slack.

They Made Us Eat Their Prunes

DOUBTLESS everybody recollects how, a few years ago, the Great California Prune burst on our vision. For generations it had been the butt of cheap humor, known only as a *pièce de résistance* of the boarding-house bill of fare. Well, one year the crop was so huge that the boarding-houses couldn't absorb it.

Did the Californians let their precious prunes rot on the ground, as Georgia peaches did two or three years back? Did they get disgusted and go to cutting down the prune-orchards, as many Georgians did their peach-orchards?

Not by a pocketful! The Fruit-Growers' Exchange hired the best advertising agency it could find, appropriated a big wad of cash and told the ad-writers to convince the whole country that prunes were the real stuff. Nobody could be healthy without eating 'em! The most delicious of fruits! Send for a free recipe-book telling how to make wonderful, new and novel confections and desserts with 'em! Everybody come on and have some prunes! The advertising columns were full of it.

You recollect that advertising campaign, don't you? Well, that's what it was about; it sold that extraordinary prune crop, founded a new market, created a demand that has grown ever since and proved once more that coöperation can do things that without coöperation can't even be dreamed of.

Now let's turn to the sad story of the milk-producers association of the Chicago dairy district. It has about 3,000 members, but no independent organization for marketing its product. The Borden Condensed Milk Company controls the distribution in Chicago and is powerful enough absolutely to dictate prices.

Organize and Fight Back

ON APRIL 15th and October 15th the Chicago end of the concern is notified by wire from New York on what basis contracts will be made for the next six months, and milk-producers are required to sign up by 4 P. M. of the contract day, at the price fixed in New York. The report says that producers get 2⅝ cents per quart net for the six months from April 1 to October 1, 1912, and are getting 3 13/24 cents per quart for the current half year. In summer the retail price is more than three times what the producer is paid; in winter, twice as much. As a result of these conditions, there is right now an incipient strike among the producers, and Chicago is in the way of a fine muss over the milk question. Boston had that experience a year or two ago, for like reasons. The producers simply have no part in the business because they are not organized effectively. The present trouble holds promise of better organization and better conditions for the milk-producers.

It would not do to close without telling about the coöperative milk-distribution station at Johnstown, Pennsylvania, which is held by a stock company, all of whose stock is owned by the actual producers of the milk. This concern pays the farmers fifteen cents a gallon in summer and twenty cents in winter. That is, one and one-eighth cents more in summer and one and one-half cents more in winter than is paid by the monopoly which controls the vast Chicago market.

The fact is that, unless the farmers go in for monopoly through coöperation, monopoly will be going in for farms before long. It is doing it already in some places. Startling stories are constantly coming out about great packers going into the stock business, sometimes in this country, sometimes in South America. It all means that if the farmer doesn't fight back, by using the same methods of high and effective organization, the various combines which seek to dominate his industry will reach out to the land itself, and the independent farmer will be squeezed still harder. Will you wait for that time?

The ADVENTURES of a BENEFICIARY

by W. T. Nichols

Illustrated by W. C. Nims

Characters of the Story

EMERY WRIGHT, a young city man whose claim to his Uncle Nathan's fortune depends upon his successfully managing a Revolutionary relic in the shape of a man-propelled river ferry in New Hampshire. In his ignorance he is persuaded by "Chicken Smithers" to buy six "mated pairs" of chickens. They are "Alderneys" and "Holsteins." A large Shanghai rooster has a bantam hen as an affinity.

While Wright is sketching he is attacked by an angry "cow" that chases him across a field, and through this episode he learns that cows are sometimes bulls.

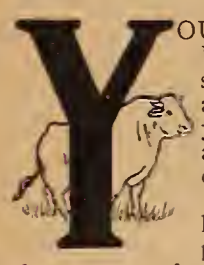
PETE, a half-witted youth, who seems to "come with the ferry."

MISS LANSING, a young lady whose parents have a summer residence close to the hereditary ferry. She meets Mr. Wright on his first trip across the ferry. He falls at the same time into love and the river. He rescues himself and the ferry and determines to learn to swim.

MR. DODD, the attorney, who makes known to Mr. Wright the terms of his uncle's will and who is to give the nephew any necessary legal advice.

When Emery Wright arrives at the ferry, his adventures begin. This is a continuation of them.

Chapter XII.—Consulting Counsel



YOU'LL permit the observation, Mr. Wright, that you must be faring not so badly. You've been there ten days, and the ferry appears to agree with you. You—ah—ah—you seem to have acquired a keener interest in ah—ah—contemporary incident."

Thus Mr. Dodd, swaying gently in his office-chair, tips of fingers lightly pressed together, knee braced against the corner of a drawer, addressed Wright, who sat erect in a chair on the other side of the lawyer's desk.

"Oh, I'm interested enough, and in enough things," the young man responded. "That's why I came to town to-day. You told me you'd be ready to supply advice, if I needed it."

"Certainly, professional advice—that has been arranged by your uncle's executor," said the lawyer. "And personal advice, too," he added, after an instant's hesitation. "That is, of course, if you care for it."

"It will be welcome, sir. But I think it's the other sort I'd like first. What does it cost to lick a man—two men?"

Mr. Dodd ceased the soothing motion of his chair. "My dear sir, what do you mean?" he said. "Cost of licking a man? Do you refer to medical attendance or—ah—ah—the retaining of—ah—ah—coöperation for the undertaking? You will have to be more specific."

"I hadn't thought about the doctors," Wright admitted. "And I guess I can get along single-handed," he went on, more blithely. "You see, I've had—well, I've been in what you might call training, and now the first soreness is over, I'm beginning to be what you might call fit."

Mr. Dodd leaned forward. "Tell me about it," he said genially.

"Well, I've learned to swim for one thing. Might be useful, you know, for a ferryman. Then I've learned to scull the scow, and that brings up the wrist muscles; and I'm getting the swing in chopping wood, and I've had to do some digging, and between 'em the back and upper arms get attention. Oh, yes, I'm really in pretty fair condition."

"And so you are moved to ask the cost of licking a man—or was it two men?"

"The legal cost, I mean—fine, you know, and all that sort of thing. Let's start with one man."

"That depends," Mr. Dodd said promptly. "Probably simple assault—"

"Better throw in battery," the client suggested. "There'll be a good job, if it's done at all."

"But without any but nature's weapons, I'll assume. A justice of the peace would have to consider the attendant circumstances—provocation, for instance."

"Oh, that's all right; plenty of it."

"Then you could probably count upon a light fine, say five or ten dollars, with costs of five or six dollars more, I dare say."

"Umph!" Wright reflected a moment. "And if it's two men? Any—er—er—any discount to the trade?"

"No; rather the other way. Cumulative assessment, so to speak."

"I catch the idea; just what I wanted to find out," the young man said readily. "Now we can move on to the next question. What happens if I shoot a bull?"

"You pay for it!" Mr. Dodd replied with unusual promptitude.

"What? If it tosses me over a fence?"

The lawyer leaned back in his chair. "Whose fence?" he inquired.

Wright's face lengthened. "I don't detect your drift," he said. "The brute chased me an eighth of a mile, and hooked me the last jump. Why, the way he lifted me, I fair took the fence in my stride. You wouldn't always count on such luck, would you?"

"I wouldn't!" Mr. Dodd said with emphasis. "But the point about the ownership of the fence—and the land—is this: if you were on another man's property, you were probably a trespasser."

Wright was not deeply impressed. "That lot has the best view of the river and the island," he said, "and no bull on earth is going to stop me from getting a picture. Didn't tell you, did I, that brute had a bully sketch I'd made spiked on the same horn that he ringed me with? Well, there are limits to forbearance, I'd like you to understand."

Mr. Dodd again set his chair moving through its little arc. "Didn't you have any warning?" he asked. "Hadn't anybody told you the bull was loose in the field?"

Wright shook his head. "Neither one nor t'other," he said. "I saw the animal roaming around, of course, but—well, to make a clean breast of it, I took him for a lady. You see, I'm a novice on farm stock, anyway. Afterward—when I was in the road, I mean—a fellow came along, just as I was getting the range with some rocks, and said he owned the bull. Fellow was named Simonds—Zeb Simonds, it appeared. Neighbor of mine. He's No. 2 on the list for a licking," Wright concluded, but he did not explain who No. 1 might be.

Mr. Dodd's face took on a serious look. "I know Simonds," he said. "Let him alone, Mr. Wright, and keep out of the way of his bull."

"That bull is going to be shot!" Wright said stubbornly. "What you'll please tell me is what Simonds can do—legally, that is—when I've filled the brute with buckshot."

"He can bring suit for damages—"

"Oh, that's all right!" the ferryman broke in with an air of relief. "That's about what I expected. But to get on to the next question. Am I bound to turn out at all hours of the night to row somebody across the river for four cents?"

"I'm afraid you are. The ferry is a common carrier, you see, and in return for your monopoly of transportation you are bound to serve the public's convenience."

Wright shook his head. "There's a lot of unappreciated willingness for self-sacrifice in this world, Mr. Dodd," he objected.

"I regret I cannot give you more comfort," the lawyer told him. "However, there is a compensating point you should bear in mind. As a common carrier, serving the public at a rate of recompense fixed by statute, no customer can refuse to settle with you for that service. If anyone attempts to, he becomes liable to arrest and fine. You cannot refuse service; the public served cannot refuse payment. You see the mutual obligation?"

"I can see it well enough," Wright replied, but he did not look as if knowledge brought happiness. "Well, there's one more poser for you. Suppose a boy who is, we'll say, a bit backward and slow of development has been making his home—no, I won't call it that, by George!—has been permitted to hang about the place of a half-uncle or second cousin, or some relation like that, and has received less care and affection than the half-uncle's hogs, and has found somebody else who's at least willing to see that he has something to eat regularly and a place to sleep—well, what I'm trying to get at is, what sort of a claim can the half-uncle or second cousin set up for his custody, against the other man?"

Mr. Dodd grew serious again. "Assuming that there has been no legal adoption of the minor," he ruled, "it would doubtless be incumbent upon the plaintiff to show actual damages in loss of the minor's services due him in return for previous maintenance; in other words, he would be obliged to establish the existence of a tort. This, of course, as you understand, would be outside of any question raised as to the proper character of the person harboring such minor child and of fitness to assume such relation."

Wright rose from his chair with symptoms of alacrity. "That means, in plain English, nothing worse than another lawsuit, doesn't it?" he said cheerfully. "Glad to have the point cleared. You see, I've been afraid there might be injunctions, or quo warrantos, or some of those things, and I hate uncertainties. And now I must be getting back to the ferry. You'll be sure to bear my respectful homage and my heartiest thanks to Mrs. Dodd, and tell her I'm eternally her debtor for her kindnesses."

"I'll deliver the message, though I'd rather you'd bear it yourself and come up to dinner," the lawyer responded.

"You don't know how I'm tempted, Mr. Dodd," Wright said, "but I haven't time, and it wouldn't do. The only way I can live on my own cooking is by sticking to it. If I stay and get a mouthful of the real thing, I'm lost."

He turned away, and his hand was on the door-knob, when Mr. Dodd stopped him.

"If you get into litigation, we shall be pleased to look after your interests," he said. "We're counsel to the executor, you know, and we'll stretch the commission to cover the ferry and the ferryman, if you so desire. But we can't serve you better than by suggesting that trouble is a good thing to keep out of—trouble of all sorts, I mean," the lawyer concluded impressively.

Chapter XIII.—Zeb Simonds's Bull

"YES sir, there was Sublime Porte, and LeGrand Marquis, and Charlemange Peterson, and Harald Athelstane—them was the boys—and Madeline Amelia, and Charlotta Misericordia, and Dowager Alexandra, and me—we was the girls. You see, Ma she hadn't read a lot, and she had to do it by ear mostly, same as some folks play the pianny; but she had imagination. Ma had, and she said if any of us got to be presidents or presidents' wives, it'd be mighty handy to have names that'd sound full-size. And I guess she was right, though somehow we ain't none of us got the call to the White House yet. Still, there's LeGrand Marquis—he's started, as you might say, for he's an alderman out in Duluth. But then he was allers forehanded. LeGrand Marquis was. And as for the rest, I dunno but they done just as well's if Ma had called 'em Mary Jane and John Henry, and so on. I ain't never kicked, I know, and I guess I had more call than any of the others, for Ma named me Salina Cruz—kinder betwixt and between, as you might say, and neither one thing nor the other, like butter just when it's beginnin' to come. But what's the use of me runnin' on? You don't know any of 'em, and ain't likely to, so far's I can see."

Wright, slowly paddling his skiff across the river, met the glance of his fair passenger facing him from the forward thwart.

"Now, that's unkind, Mrs. Hutley," said he. "Why shouldn't I be interested in them, when I know you, and am interested in you, and know you are interested in them? Why, it works out a regular circle."

Mrs. Hutley stole a plump hand to her head, and slyly patted into place one of several errant tresses, whose dark red was varied by strands of gray.

"Laws o' massy, Mr. Wright! but it does take you to get at things, or around 'em—women folks included, I reckon," she said, bridling. "Not but they was interestin', entertainin' children; I'll say that for 'em, 'specially Sublime Porte when he had hives. But it isn't everybody that'd care or pretend to. You may be foolin' me, but I'm weak-minded enough to like it." And she nodded at the ferryman in a very friendly fashion.

"And so do I," Wright hastened to declare with a very reasonable degree of truth. Mrs. Hutley was a frequent patron of the ferry, her house standing a little back from the river on the road which led from the western landing to the railroad station. She was, he judged, not far from fifty, brisk, [CONTINUED ON PAGE 37]

He wheeled about to confront a very angry man striding toward them

SUNDAY READING

EDITOR'S NOTE—A new and interesting feature of our page of Sunday Reading is the Sunday-school lesson for two Sundays of the month, with a little explanatory talk by the Rev. Charles O. Bemies. These lessons will be found very helpful by teachers who have not many books of reference at hand or who have not the time to consult the library. But those who will most appreciate these lessons and their expositions are the members who are too far from any church to attend or who have duties that prevent their regular attendance. By following the lessons here presented, these readers will still be able to keep up with the work of the Sunday-school and not lose the thread of the lessons. In the next number will be the lessons for February 16th and February 23d.

The Flood

By Rev. Chas. O. Bemies

Sunday-school lesson for February 2d: Gen. 6, 9-12; 7, 11-24. Read chapters 6 and 7.

Golden Text: The wages of sin is death; but the gift of God is eternal life through Jesus Christ our Lord.—Rom. 6, 23.

The Bible, especially in the Old Testament and in the four Gospels, is a rural-life book. Let us interpret it accordingly. We believe that the Bible is a true record of facts.

BEFORE the days of commercial yeast our mothers used a "starter" to raise their bread with. When the world gets too bad, God uses some man as a "starter" to leaven the whole lump of humanity again. Noah became the first starter, saved from among men before the flood. Adam died only about 125 years before Noah's birth, yet the flood was about 1,600 years after Adam's creation. The human race, after Adam's sin and Abel's murder by Cain, divided into two streams, the sons of God descending from Seth, and sons of men from Cain. Giant men and giant animals lived in those early days.

In process of time the two races became mixed, and the result was a new race of mighty men of evil renown. Intelligent crossing of breeds has produced the best corn, wheat, other grains, and the best of farm animals. The American is the biggest man among nations, for he is cross-bred. But the sensual mixing of the sons of God with evil men could only produce intensified wickedness, eliminating the good traits, until riotous iniquity and violence had permeated humanity to the limit. You don't make rotten apples good by keeping them with sound ones. And a Christian-bred boy can't keep sound by running around with cigarette-smoking toughs. Noah and his family alone stood the test of righteousness. He was the only true line-bred son of God left.

When the dairy herd becomes thoroughly infected with tuberculosis, the only remedy is destruction. The human race became so bloodthirsty, violent and corrupted in the 1,500 years after Abel's death that it was a mercy to exterminate them. It seems that no law had been established, as each man was supposed to do that which was right in his own sight. Many powerful chiefs and kings arose, warring against each other. Conflict and sensuality was the law of life. A tremendous population was evidently in existence, possibly, though not probably, 100,000,000 in 1,500 years. Whatever the population, it was a putrid mass of corruption. God told Noah He would give them 120 years for repentance before complete destruction came, ordering him to build a gigantic houseboat according to His plans.

God had tried every means to keep men righteous, had separated a portion as sons of God, gave long life for experience and repentance, gave fifteen centuries for race repentance, sent His Spirit to strive with men, gave long warning of approaching destruction and sent Noah to preach righteousness. He couldn't take away their freedom of choice, for they would cease to be men. The time came. Noah's family and mates of all animals entered the ark's refuge.

How many animals went in? No one knows. But take naturalist Wallace's extreme estimate of 2,415 species of land animals, multiply by two, and add the 70 clean animals. Find the ark's floor space, 450x75x45 feet, three floors, and you'll find plenty of room for all animals, food and Noah's family. The average-sized animal would be about like a cat or a small dog.

The flood extended over the inhabited earth. All ancient nations have records of the deluge. Where could such a forty-day flood come from? This is the best explanation: Many scientists believe that this earth was once surrounded with great dense cloud-rings, like Saturn in our solar system, and when certain changes took place in God's time "all the fountains of the great deep were broken up, and the windows of heaven were opened." If Saturn's rings would condense, that planet would be flooded.

God's Covenant with Noah

By Rev. Chas. O. Bemies

Sunday-school lesson for February 9th: Gen. 9, 8-17. Read Gen., chapters 8 and 9.

Golden Text: I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth.—Gen. 9, 13.

THE deluge was the salvation of the human race, Noah the new hope.

After God had flood-washed the earth of its foul wickedness, and every former living thing had been buried by the sediment, Noah's first act was gratefully to worship God by a burnt offering from each of the clean animals on his newly built altar. Gratitude warms the heart of God and man and cements them together. God now took this second Adam, Noah, to begin over again on a higher basis.

When the boy gets restlessly disobedient, it is a good thing to give him a partnership in certain crops or animals. It develops the boy's manhood. God took man into partnership with Him on a small scale. First, He removed the curse from the ground, for before the flood there was no rain, "but there went up a mist from the earth, and watered the whole face of the ground," making the air warmly damp, just the kind for a rank, uneatable growth.

But now the surrounding vapory atmosphere was cleared, the sun shone bright, most of the weeds and vegetation were buried under the sediment, and conditions were more favorable for food crops without most of the former hindrances. The curse of the ground was removed. Second, God promised there would never be another flood to destroy all living creatures. Third, He promised that the daily and seasonal regularity, with seed-time and harvest, should never cease while the earth remains. God now repeats to Noah the blessing He bestowed on Adam, "Be fruitful, and multiply, and replenish the earth."

During their half-year in the ark the animals had become subservient to their human masters, and after their liberty God continued the instinct of man's superiority in them to fear and shun man ever after, making man safer from the attacks of wild animals. Domestic animals excepted, this has been true ever since. It seems that before the flood man was designed to be a vegetarian exclusively, but now under the changed conditions God told him to eat meat as well as vegetable foods, although prohibiting the use of the blood as food, for the blood is the life, and the life must not be eaten. The wide-open game-law for all seasons and animals came in only after the flood. It made living easier to have a part of his food composed of meat, both wild and domestic.

The first command with penalty attached is here given for the first time. Both man and beast are prohibited from killing any man. The murderer, man or beast, shall be put to death in this new order of things. Before the flood there was no law, now the development of law begins. The repeated injunction to "be fruitful, and multiply, bring forth abundantly in the earth, and multiply therein" indicates that mankind increased at a much faster rate after than before the flood.

God bound Himself by a covenant, or contract, forever, never to destroy all flesh again with a flood, and agreed to write His beautiful rainbow signature across the heavens throughout all generations as a proof of His promise. Otherwise the people would fear another deluge whenever it rained.

Old things were now passed away, all things became new; climatic, soil and crop conditions were more favorably changed, length of human life was gradually shortened, living conditions bettered, the beginnings of law established and covenant promises between God and man. Noah's sons, Shem, Ham and Japheth, became the respective heads of the Asiatic, southern and European nations, and the earth soon became rapidly re-peopled.

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This Blank Must Be Mailed Before February 20th

How I Don't Take Cold

A Letter Written to Our Editor

Kalkaska, Mich., October 3, 1912.

DEAR EDITOR, Farm and Fireside—We have taken your paper for a good many years, and I value it more than any other paper.

I have just been reading your editorial about taking colds, and it's a good one, only you stopped almost before you got started. People should study up on this very important subject which seems to be so little understood. There are lots I don't pretend to know about it, but I know enough about it never to have a cold. I say "never," but I do, once in a while, break the laws of nature enough so as to feel as though I was going to have a cold.

When there is an epidemic of the grip in the neighborhood, my friends say "you'll be next." I tell them "I am next *now*, and you'll see I won't have it," and I don't. I don't take any dope, either, unless it's to go outdoors in the cold open air and take deep-breathing exercises for a few minutes; but for fear this will not be sufficient I miss a few meals. I have cured several very bad colds simply by fasting two days.

That's when I was getting next. I was boarding at a farmhouse once where the food was extra good. The lady of the house was a fine cook, and their table was always loaded with the best. I took a bad cold, and this good woman told me to "feed a cold and starve a fever." I tried feeding the cold.

That was the hardest cold I ever had, and it took the longest to cure. That was about a year before I learned that correct living will cure people of most ills. I commenced by cutting out my breakfast and taking a cold bath every morning, and also went through a few special exercises intended to strengthen the muscles of the stomach and abdomen.

My health began to improve at once. When I got so I could go without my breakfast, I would fast once in a while for a day, then two, and I fasted as long as seven days without much discomfort.

But short fasts are better, I think, for general use, as people are apt to overeat after a long fast and spoil all the good effects of the fast. The cold bath is a great tonic when taken regularly, and I found I would never take cold when taking them unless I was eating very heartily or of rich victuals. Speaking of cold baths, they should never be taken so cold that a person does not recuperate with a feeling of warmth after rubbing down well. Why will people exert so much energy and time and money on raising live stock? They study out a balanced ration, just so much and no more, and then don't seem to know as much about their own bodies as they do about the calf or pig they are looking after. Of course, it's the money we are all looking after, but it does seem as though people would look after their own offspring and would raise them as carefully as they do their live stock.

But the American people are looking after and taking more pains, apparently, with the pigs, calves and chickens than they are with their own babies.

Anyone with a cold ought to keep away from other people. I wish they had to, but they don't. Therefore folks ought to keep themselves in such a condition that a few thousand cold bacteria in their noses or lungs would not hurt them.

Pure blood will do it every time. I have thought that perhaps, some time, the human race will get to the point where it would be looked on as a disgrace to have a cold, or any other ill for that matter. If you should see a nice-looking house with a fine lawn, you would say "there lives a neat man." Then on going into the back yard and finding a filthy, disease-germ-breeding place your estimation and respect for him would drop several degrees. That's just what a person does that keeps clean on the outside only.

The Creator furnishes us a temple to live in. He made it about all anyone could wish and about as nearly automatic as anyone could imagine. If a person studies it up, they find the eliminating process was looked after very carefully, so that the Creator intended that the body should be kept clean. And cleanliness, inside and out, means no colds! Edwin Frost.

PROCLAMATION!

Of the New Time for Farmers and the New New England

LET it be proclaimed and shouted over all the plowlands of the United States that the same ripening that brought our first culture in New England one hundred years ago is taking place in America to-day. Every State is to have its Emerson, its Whittier, its Longfellow, its Hawthorne and the rest.

Our Puritan farmer fathers in our worthiest handful of States waited long for their first group of burnished, burning lamps. From the landing of the Pilgrims in 1620 to the delivery of Emerson's address on the American Scholar was a weary period of gestation well rewarded.

Therefore, let us be thankful that we have come so soon to the edge of this occasion, that the western farms, though scarcely settled, have the Chautauqua, which is New England's old rural lecture course; the temperance crusade, which is New England's abolitionism come again; the magazine militant, which is the old Atlantic Monthly combined with the Free-Soil Newspaper under a new dress, and educational reform, which is the Yankee schoolhouse made glorious.

All these, and more, electrify the farm-lands. Things are in that ferment where many-sided Life and Thought are born.

Because our West and South are richer and broader and deeper than New England, so much more worth while will our work be. We will come nearer to repeating the spirit of the best splendors of the old Italian villages than to multiplying the prunes and prisms of Boston.

The mystery-seeking, beauty-serving followers of Poe in their very revolt from democracy will serve it well. The Pan-worshiping disciples of Whitman will in the end be, perhaps, more useful brothers of the White Christ than all our coming saints. And men will not be infatuated by the written and spoken word only, as in New England. Every art shall have the finest devotion.

Already in this more tropical California, this airier Colorado, this black-soiled Illinois, in Georgia, with her fire-hearted tradition of chivalry and her new and most romantic prosperity, men have learned to pray to the God of the blossoming world, men have learned to pray to the God of beauty. They meditate upon His ways. They have begun to sing.

As of old, their thoughts and songs begin with the land, and go directly back to the land. Their tap-roots are deep as those of the alfalfa. A new New England is coming, a New England of ninety million souls! An artistic Renaissance is coming, the first Renaissance of a vast democracy the world has ever known. An America is coming such as was long ago prophesied in Emerson's address on the American Scholar. This by faith, and a study of the signs, we proclaim!

THE BURDEN OF PROOF

By William Hamilton Osborne

Illustrated by Fred Lewis

I THINK it was the Pantaneous case that made a lawyer out of me. I know being a lawyer was my own idea—not anybody else's—and I am sure that it was that sense of terrible injustice under which I smarted for those three years at the age of twelve—I'll never forget those three years, never—that has made it the ruling passion of my life to get the strongest kind of a strangle-hold on dishonesty. I always figured out, even then, that a lawyer could do more good in this way. Dishonesty, it sickens me. It is so infernally calculating, and it is apt to be so respectable.

Only last week, here in town, a public official—you've seen his name in print, perhaps—left town with forty thousand dollars. They'll never get him. He was highly respected, very highly. He didn't take public moneys. If he had, they would have gotten him. He knew that very well. So he took the money of two old helpless people, clients—every cent they had. The authorities will never get him; there are not enough people interested in it, only two old people. I'm not a hard man (I'm a police judge now) on any kind of thoughtless, shiftless crime; I can understand the point of view of a murderer, but when I contemplate what I call the "cool crimes" something red rises in front of my vision.

It brings me back to Pantaneous. My trouble with him grew out of a gold hunting-case watch that belonged to my father. Every once in a while this gold hunting-case watch got out of order. Always they sent me—my father *or* my mother—to Rivers' jewelry-shop with it. Rivers always fixed it, and I always went after it and brought it back.

The last time I took it to Pantaneous, and this is how it happened.

It was in summer-time then, and I had a curious instinct in me that I always kept from other people, because in our house it seemed to be a kind of disgrace. I was never allowed to take money from people. Whenever I needed money, I was to ask for it, and I was never allowed to carry papers or to run errands for money. We lived in a brown-stone house on the corner of a street. I don't believe we had so very much money, either, but I'm sure we held our heads quite high, somehow. But ever since I came to live in our house, I always wanted to earn money. I felt somehow, young codger that I was, that I must make money for myself. I made it, that summer, by sitting with a dozen other boys, behind a back door in Helmstaedter's butcher-shop, shelling Lima beans. I worked very fast, and I didn't throw unshelled beans behind the door, just to get through in time, like the other boys, and I did clean work, and Helmstaedter used to pat me on the head every time he paid me. We got a cent a quart, I think.

"Where, then, is the ticket?"

I kept my money in my pocket, which accounted for the two or three dollars that they made me pull out at the trial that fall.

It was my father himself that gave me the hunting-case watch that day in September.

"Take this to Rivers and have it fixed," he said, "and if it costs over two dollars let me know."

Rivers said it would cost three and a half, and it was then I thought of Pantaneous. I had never been in Pantaneous' jewelry-store, but often thought I'd like to. I took the watch back to our house and told my mother that it would cost three and a half at Rivers' and asked her, "Should I try Pantaneous?"

She said yes, and I took the watch to Pantaneous and told Pantaneous I wanted it fixed, but it was not to cost over two dollars. I was sorry I took it there, at once, for there was something in his looks, now, that I did not like. He looked at me over his counter, I think to size me up, and then he examined the watch.

"Two dollars it is," he said at length.

"When am I to call?" I asked.

And he told me, in two weeks, or in three, I forget which. I reported at our house that I had left the watch with him, and it all seemed satisfactory.

My mother seemed uneasy about me those days. I suppose she wondered where I was most of the time. I would have died, somehow, rather than tell her I was earning money down at Helmstaedter's with the street boys. And all along I was a street boy myself and didn't know it. Only she was trying to make me over into her kind. I may have lied when I answered her, but at any rate the lie seemed justified just then. I knew that so long as Helmstaedter stayed in town, and so long as school didn't open, I was self-supporting. I could earn a living.

Possibly at that time I felt that I didn't belong to anybody. Some memory of my previous condition must have clung to me then, although I did not realize it.

At any rate, it was the day before school opened that I went to Pantaneous for the hunting-case watch.

His shop seemed, somehow, so much shabbier than before, and he had a sharp kind of look in his face as he sized me up again from behind his counter. And yet, whereas I bowed to him as I had before, he looked as blank as anything. It seemed he did not know me.

"I've come for Mr. Pennington's watch," I said; "it was to be two dollars, you remember."

He peered at me curiously. I can see his glance to-day.

"Mr. Pendleton's watch," he mused.

"Pennington," I repeated.

"Aha—so—so," he went on, "and what about Mr. Parkinson's watch? What about it, eh?"

"Mr. Pennington's," I yelled back at him; "and I brought it in here three weeks ago. It was to be two dollars, don't you know?"

"A watch," he kept mumbling, "and what kind of a watch?"

I told him it was gold, a gold hunting-case watch. His face twitched as I told him. Then he looked at all the watches he had hung up in line. Most of them were nickel ones, I think, from the looks of them. He kept shaking his head all the time, and his fingers kept working as though, somehow, he'd like to get at me.

"No hunting-case watch," he cried shrilly, "and you never brought it in. You were never in here, boy—never in here. What are you trying to do, have some fun? Or trying to bunco, eh?"

I didn't know whether to laugh or to get mad. I laughed at first. "Here's the two dollars," I said, and I fished it out, the two my father had given me at our house that morning, and I tried to hand it to him. But he would have none of it.

"There's no gold watch here, my lad," he said very sternly, as though trying to frighten me, "and I don't believe you ever had a gold watch."

"It's Mr. Pennington's," I said, "and I brought it here."

"You didn't bring it here," he returned; "you didn't bring it here. Get along with you, boy; get along. I got no time."

I made him take time while I impressed upon him that he had the watch, that I had brought it, what kind of a watch it was and that it was to be two dollars. He listened to me blankly. I might as well have spoken to a post.

Suddenly, though, he shot out his hand toward me.

"Where, then, is the ticket?" he exclaimed.

I didn't know what he meant and told him so. Rivers had never given me a ticket, but Pantaneous' eyes gleamed as he demanded the ticket. "Get along, boy," he cried; "if you had left a watch, you would have received a ticket. Get along. I have no more time."

I went along, mumbling to myself in my indignation as I went. I told my mother about it when I reached our house, and she told my father about it when he got home. Somehow or other, my father had been busy and either had not known about the watch going to Pantaneous, or else he had forgotten it. He looked at me strangely.

"Boy," he said, "I thought you took it to Rivers."

I had done so, I told him, but Rivers had wanted too much. And I told him I had explained it to mother, and had then taken it to Pantaneous, who was the man who had agreed to do it for two dollars.

"If you gave him the watch, he must have it," my father said, clipping his words off short. "Come on, we'll go around and see."

We went around, but by that time Pantaneous was closed for the night, and nobody could tell us where he lived, so we only peered in through the little windows for a while and came away. We talked a good deal about it that night before I went to bed.

"You should always ask for a ticket," said my father. He was a good deal put out, but I told him I never got a ticket at Rivers', and hadn't been told about tickets.

"Always ask for one hereafter," he told me.

I didn't sleep much that night, but when I did I could see Pantaneous grinning at me, his greasy countenance widened into a diabolical grin.

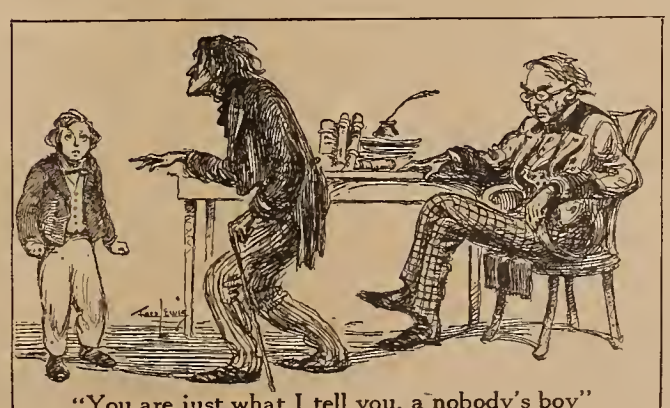
We went to him next morning before my father went to business. I can see my father now, stalking into the shop, as though it were all a matter of course.

"My name's Pennington," he said. "Came after that watch you've been repairing."

Pantaneous looked at me, then he looked at my father in blank amazement. He pointed to me.

"That boy was in here yesterday," he said. "I thought he was crazy. You don't really mean to say, sir," he said pointblank, "that there was a hunting-case watch, or any watch—"

"There was," replied my father, "and he brought it here to be repaired. I have come after the watch."



"You are just what I tell you, a nobody's boy"

"He didn't bring it here yesterday," said Pantaneous.

"He brought it weeks ago," said my father.

Pantaneous shut his eyes and shook his head. "N-n-n-no, sir," he burst out explosively, "if it was a watch, he must have took it somewhere else. He never left no watch. He knows he didn't."

My father turned and looked at me, for Pantaneous was pointing direct at my face. There must have been something in my face that convinced my father for the time being, anyway. He leaned over the counter.

"I will describe this watch," he said, and he did so, and said, finishing up, that it was worth over one hundred dollars and was an heirloom. He said he wouldn't lose it for a good deal.

"I bought the watch two years ago and more"

Pantaneous shrugged his shoulders. "Do you think that *I* would lose a watch like that?" he asked.

I don't know what made me do it, but I pointed right in his face, and yelled at the top of my voice.

"You didn't lose it," I cried; "you stole it! That's what you did; you're a thief."

In that instant I knew he was. Before I had thought maybe his memory had gone back on him, but now there was something about him that told me I was right.

My father took me by the shoulder. "Come on, boy," he said.

As we went out, Pantaneous leered at us. "Take care *you* are not the thief," he said to me.

When we got home, my father told my mother all about it.

"What do you think we ought to do?" she said.

My father shook his head. His possessions were always very sacred things to him.

"It's ridiculous," he said. "I've got to have that watch."

I had picked up a phrase behind Helmstaedter's doors that sounded good to me, and I remember using it then.

"We'll have the law on him," I said; "he's a thief. He's stolen that watch, and we'll have the law on him."

I remember as well as though it were yesterday the queer way my mother looked at me, and asked me where I picked up such funny language. It wasn't funny language, as we all know, but it sounded so to her.

"Do you suppose those funny sayings of his could be—well—in his blood?" she asked my father.

My father mumbled something, I don't remember what. Then he took me up to my room and cross-examined me about the watch. He seemed satisfied.

The next morning he said he would get George to write Pantaneous a letter. George Pennington was a lawyer and was my father's brother. It seemed that the letter did no good, and my father thought there was only one thing to do, he would have to sue. George Pennington sent for me to come down to his office, and he talked it over with me.

"You know, boy," he said to me, "Rivers says that no jeweler in town would have done a job like that for two dollars. Now, we believe that Pantaneous had this watch and lost it, or something of that kind. But we can't believe that he would say he would do a job like that for two dollars. Wasn't it three he said?"

It wasn't, and I told him so. "But you're not sure, are you?" asked George Pennington.

I said I was. "My father wanted it done for two and I said two, and Pantaneous said two," I told him.

"Couldn't you say three on the witness-stand," he asked me; "it looks more plausible, that's all."

There were some other things he didn't like the looks of, but I didn't see how they could be changed, and told him so. He shook his head. He didn't like it, he said, but he supposed he'd have to go on with it.

We went on with it. It was a civil case—trover, they called it—and pretty important for a justice of the peace case in our town. The little room was full of people.

They put me on the stand first. I told my story, and I noticed that Pantaneous only laughed and sneered while I told it. Ever since I've been suspicious of a party to a suit who laughs at testimony. Watch them sometime; you'll find they laugh particularly at the testimony that's damaging. This is affectation, it is the symptom of the lie that lies at the bottom of their case. Pantaneous kept on sneering.

He didn't have a lawyer. He didn't need one, he said.

When George Pennington was through, Pantaneous walked up to me and snapped his fingers in my face.

"You are a good-for-nothing orphan-asylum boy, aren't you?" he asked.

A film seemed to come over my eyes when he said it, but I answered it truthfully enough.

"I don't know what you mean," I said.

"I object," exclaimed George Pennington.

But the justice of the peace allowed it. "Proceed," he said.

"Yes, you do know what I mean," sneered Pantaneous, "you are a street boy. You never had no home. You are an asylum boy." [CONCLUDED ON PAGE 39]

A Valentine Surprise Party

By V. B. Jacobs

THERE is an epidemic of sleek hair, clean hands and polished shoes at our school.

The reason for all of this is the Wonderful New Teacher of the upper classes. She scarcely seems like a teacher; she is more like a favorite cousin or a best friend, and every one of us is so happy we shall not want school to close.

What do you suppose she did the very first Friday she came? Told us to put away all our work half an hour before closing-time so we could organize a new club! She explained that she had lived in one city up State until she had gone to another city to study, but now she was here with us she meant to learn all about living in the country.

So "just to get acquainted" would we all tell her something about it? Then she began to ask questions. "Which girls sew? What do you make? Who can knit? Who has pigeons? Did you ever churn butter?" Once in a while there was something none of us could answer: "What makes butter come? Why are flies dangerous? Why didn't your bulbs bloom?" We promised to find these things out at home before the next Friday's meeting.

Home-made gifts were numerous this year, because the club members brought their work to the meetings. Whittling and stitching went on without disturbing others, and busy hands did not make silent tongues when there was a question to be discussed. Sometimes we took with us the questions in Cousin Sally's letter.

Since school opened we have met every Friday afternoon for an hour, except once, and then we had our meeting on Thursday because it was Hallowe'en.

My Aunt Kitty, who married Uncle Tom last Christmas, lived in the same city as Miss T. They had gone to the same school and were good friends. Wouldn't you love to have a new aunt who enjoys fun and asks teacher and the eighteen boys and girls of the club over to her house for a candy-pull on Hallowe'en?

The tale of that frolic and of our Thanksgiving spread and our Christmas show will all have to wait, because I want to tell of the surprise party we are planning for Valentine's Day. We all know part of the secret, and three of us know all of it, but Miss T. does not know one thing about the surprise.

The boys have made a letter-box to hang beside her desk, and valentines for everyone may be dropped in it for days before. We are to open the box at noon on the fourteenth and distribute the loving greetings. I suppose there will be valentines for everybody; and there will be eighteen for one person, I know, and below I will give you the names of some and tell you how they are made.

We let Aunt Kitty into the secret, and she will let us have the party at her house. We will leave our packages there before school, and at noon three of us will go over and help get things ready.

There are three committees in the club: we call them the "F's": "Fun, Food and Fixings." One has charge of the games and amusements, another of the refreshments, the third of the decorations for all special occasions. There is plenty of work for everybody at such times, so there are six members in each band.

We have fitted a strip of red crêpe paper around the lamp that hangs over the center of the table. From this little red paper hearts of all sizes are hung by strings of various lengths. For the four candlesticks we have made shades of red paper with the fringe of hearts to match the lamp.

In the middle of the table will stand the "Heart Pie," filled with gifts and jokes, and if you wish to make one, take two strips of red paper eighteen inches long and four inches wide. Cut slits one inch deep along the long sides, and bend the flaps so they will be glued to a large pasteboard heart, to form the sides and bottom of the pie. Cut another large heart for the top, and glue it to the top flaps. Cut slashes in the top and stick a large arrow of gilded cardboard into the middle.

Into the box we are putting a tiny gift or toy for each boy and girl, writing a funny verse for each before wrapping the things in red paper and tying them with long red ribbons. These ribbons are to be stretched from the center to each person's place, and tied to them are hearts bearing the names.

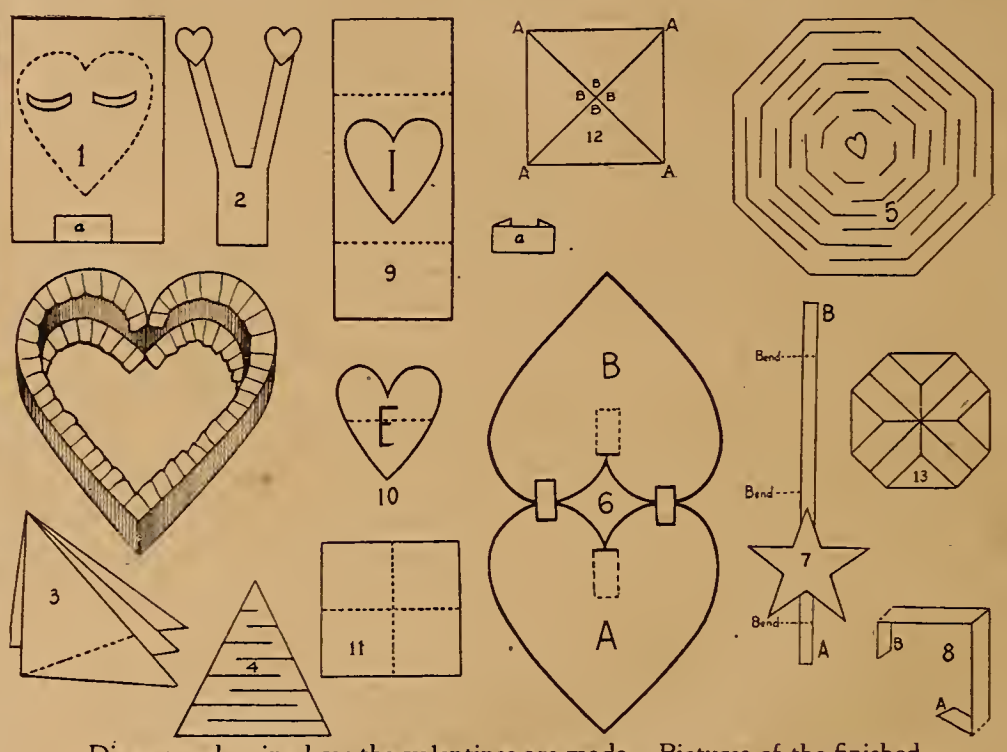
We have fringed red and white tissue paper to twist over the candy the girls will make some days before and wrap in waxed paper to keep it crisp. Beside this, we have folded white paper napkins in pretty shapes and decorated a set of wooden picnic plates with a border of tiny red hearts and bowknots.

The fun section have two contest games ready. On a large piece of white muslin they have painted a big heart in red, leaving a small white spot in the middle. Arrows have been cut of the muslin, and while blindfolded we are all to try pinning them to the sheet in hopes of getting in the center of the red heart.

Beside this, they have painted a heart-shaped target of red and white bands on a board and made darts of clothespins. Into the top is driven a nail with the head clipped off, and into the slit end a stone is fastened and wrapped for weight. Each person will have seven darts, and there is a prize for the best record.

The girls are busy preparing their plans for the treat. Mother will let us cut the sandwiches into hearts if we will dry the waste trimmings and roll them for bread-crumbs. We made tin cutters by hammering and bending tin cans into shape. We will use these for cutting out heart-shaped cookies, too.

Aunt Kitty is going to make a wonderful surprise cake—she told just me. It will be covered with white frosting and then have little hearts of pink icing all around the edge. In the middle she will stand the ornament from her wedding-cake—a white rose with a dove perched on it. There will be something hidden inside, but she will not tell that.



Diagrams showing how the valentines are made. Pictures of the finished valentines are printed on Page 36

Descriptions for Valentines

"Two Hearts That Beat as One!"—Cut two curved openings in an oblong of heavy wrapping paper (Fig. 1), and after cutting a Y-shaped piece of cardboard (2), push the upper arms through these openings or slits. Paste a small red paper heart on the end of each arm and pull the Y down as far as possible. Now paste a larger red heart (by the lower part only) to completely hide the smaller hearts. When the Y piece is pushed up they will come in sight again. To keep the moving piece from slipping, fold and paste a strip of paper on the back of the mount just wide enough to allow the end of the Y to slide up and down easily (A).

Cover the back with a smooth paper to hide all the rough parts.

The Surprise—A square of gilt paper is folded into eighths and the open edges cut off, as in Fig. 3. Then cuts are made from each side of the folded piece alternately *almost* across to the opposite side (Fig. 4).

Opened, this looks like Fig. 5. A gay picture or photograph is pasted in the middle of a square card, and the cut paper is pasted (around the outer rim only) over the picture to completely hide it.

A tiny red heart or a loop of ribbon pasted in the center of the gilt cover pulls the cuts open and lets the surprise picture be seen.

Star of My Heart—"Star of My Heart" is the motto on another attractive Valentine.

Join two red paper hearts of the same size by bits of ribbon, or cut them joined (Fig. 6), and paste heart (A) down on a square of cardboard.

Now cut a star from gilt or silver paper and paste it to a strip of stiff paper. Bend this strip as shown in Fig. 7 and paste the bent end (A) onto the heart (A), and the bent end (B) down on the heart (B), at the places shown by the dotted lines in Fig. 8. If pasted properly, when the heart (B) is closed the star is completely hidden, and when lifted the star will rise to a standing position.

Valentine Letter Puzzle—Fold the short ends of a piece of stiff paper, about three inches wide and eight inches long, to meet across the middle. Inside this folder paste a large red heart. On the outside, on the two flaps, paste a red heart that has been cut into two parts, so it will appear to be a whole heart when the flaps are shut together. On this outer heart print a letter E, as shown in Fig 10. On the inner heart print the letter I (Fig. 9). It is important that the vertical lines exactly correspond. Do you see how by opening and shutting the flaps, you can get various combinations of letters and spell out "LIFE" and other words?

Folded Napkins for Valentine Party—Crease a square napkin as in Fig. 11, and fold the four corners to the center. Fold the corners of the square thus formed again to the center (Fig. 12). Then, keeping the corners marked B in place, bring the other corners (A on drawing) down half-way to the center, letting the extra paper fold underneath. The finished form looks like Fig. 13 when little red hearts are added for decoration.

Let's Have a Taffy-Pull

DEAR COUSINS—February is one of the best "jollification" months in the whole year. Why, it's full of treats: St. Valentine's Day, George Washington's birthday, Abraham Lincoln's birthday and the harvest-time of the more and more appreciated "spelling-bees" and "singing-schools."

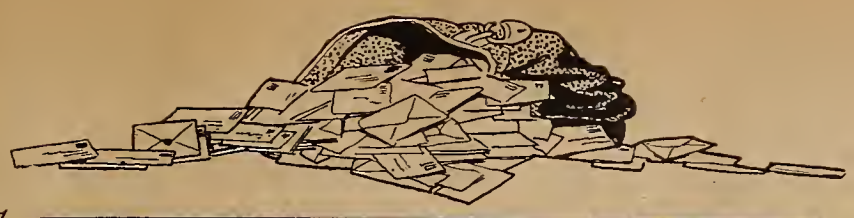
Then, too, Mother Nature is busily working, and her strength is imparted to you, for the air is full of that tingling crispness which makes one feel that just to be alive is splendid.

This is the ideal time for taffy-pullings. And, by the way, suppose you cuddle up to Mama and slip your hand into Father's, while you smile at Sister and with Brother, and throw love-glances right into Grandma's and Grandpa's eyes, and tell them that every little girl is really entitled to one taffy-pulling each year, a regular "party" of fun and frolic—and work—for making candy *is* work. Tell the assembled family how *they* would enjoy themselves. Be sure it will make Mama and Papa remember the good times they had years ago when they were boy and girl, and Grandma and Grandpa will quite likely remember when they were young and helped make those delicious sweet "maple-sugar cakes"; while Brother and Sister will chime in with "Oh, yes, do! And we'll clear up everything afterward." And, dear cousins, don't make that promise altogether a fib. For it isn't fair—and you know how you like fair play yourself—to Mama to cause her extra work. This dear loving Mother whose greatest delight lies in being good to the boys and girls she so tenderly loves.

And always remember that you don't need parties that cost lots of money. Just be merry, kind and loving-hearted. Each little cousin can do this. In a way, it's having a party every day when you are those three things.

Another idea is this: Present yourself to those you love as THEIR Valentine, and carry this spirit all through the year, I promise you nothing could be more welcome than a Real Love Valentine.

Lovingly yours, COUSIN SALLY.



EDITOR'S NOTE—This is the first of a series of articles for women and girl readers of Farm and Fireside by Jessie Field, the girl whose splendid work in the schools of Page County, Iowa, has been talked of all over the United States. At present Miss Field has left her school work to reach a wider audience through the department of rural activities of the Young Women's Christian Association. We are glad to number her among our contributors, for she was born and raised on a farm and knows what she is talking about.

The Farmer's Daughter of 1913

By Jessie Field

MY DEAR GIRLS—A new calendar came to me with the New Year. For a background it has a country home, with a wide pillared porch and pink roses clustered by it and climbing up. To one side is a big, up-to-date touring-car, and in the center, near the front of the car, like some fair jewel in this beautiful setting, is a young lady with laughing eyes and pink cheeks, dressed in perfect taste from her neat shoes to her simple hat with its automobile veil. A collie dog is looking up at her as much as to say, "You surely are beautiful and sweet and fortunate, you farmer's daughter of 1913."

Now, of course, I know that not nearly every country girl has so beautiful a home and a car to run, but this picture symbolizes something of the wonderful opportunities that the year 1913 will bring to all of us who live in the country. The girlhood of the open country in this new year before us is the most fortunate in the chance it has of any girlhood in any period of the world's history. Now, aren't you glad you are a farmer's daughter in this year of 1913? Do some of you still wonder why I think so? Well, let us talk over just a few of the reasons why.

A Happy Girl

Once a girl was writing to me about how glad she was to be a farmer's daughter, and she said, "I am glad I live in the country, because there you can just sing and whistle as loud as you please, and it doesn't bother anyone. I milk three cows every morning before breakfast, and, in fact, it seems to me as though the louder I sing, the more milk those cows give." Bless her heart! I can see her fluffy red hair and her rosy cheeks now as I am writing to you. Her name is Elizabeth. Her brother and sister call her Lizzie, but I like to call her Beth, for I can see so much of gentleness and womanhood down deep in her heart. Beth's mother is dead, and her father is not very well. Her big sister teaches country school fourteen miles away, so you see she has to keep the home. One time when I went out to see her she was quite wild with joy—I think she whistled Yankee Doodle—because her father had fixed up a milk-house for her and made it so the spring water would keep running through and make the milk cool and nice. Beth has many burdens to bear, but she has found the secret that makes all days blessed. She has accepted the three great gifts which God holds out to every country girl—happiness, freedom and work.

The Wonderful Charms of the Country

You have a chance to be truly happy in a way that girls who do not live in the country never know. The sunshine, the clear, clean air filled with the faint odor of growing things, the wide-open stretches of fields and woods, the wild flowers of the wayside and the ferns and bittersweet in the woods—all these things are given to you without cost for your happiness. All the beautiful jewels of the universe are used to make a setting wonderful enough for the country girl.

The only trouble is that some of us do not see all these priceless things. The old gray barn with the wild crabapple-tree covered with pink blossoms beside it we pass by without a glance, for we are so used to having it there. A great artist would find in it a picture which put upon canvas would be worth hundreds of dollars, and which would bring to many a nerve-racked, weary man in the great, tired city a vision of the gate and the path leading through the orchard to the farm home of his boyhood. I wish every country girl might be a true artist in her soul. Even if we cannot paint for others these wonderful pictures we see around us, we can show their beauty to others by making the ability to see them a part of our characters.

Years ago, when coming down the country lane from our school to our farm home which we called "Sunnyside," we children each of us used to make a circle with her arm and then put her head down and look through it. I do not understand yet what there was about this that put romance into the country landscape, but it does, as you will find if you try it. It makes you see the country road, not as the ordinary, bumpy, muddy place for wagons and tired boys and girls to go over, but like a winding yellow ribbon leading on and on between corn-fields and clover-meadows to the end of the world. And the sky, with its deep blue and the white thunder-caps piled in it, looks like a picture out of a fairy book. As I have grown older, I have kept looking for the beautiful things around until I can see the blue and the gold and the winding road with my head up just as well as when I used to put it down and look through the circle of my arm. And if ever I fail to enjoy more each year the violet-bed in the old orchard and the buttercups in the hollow down the hill from Sunnyside, I will know that I am letting slip from my life that great gift of happiness which has been given to me because I live in the open country.

The next gift that is ours is freedom, the chance to live our own lives and just be ourselves. Why, we can climb to the top of the old pine-tree and imagine how we will build us a house up there some day, and no one will laugh at us. We can follow the leader all over the beams in the barn or help the boys break the colts, and no one calls us anything worse than a "tomboy," and I think that's a pretty good name, for it's what my father used to always call me. We can take the old bricks that were left over when the new cistern was made and build a furnace under the willow-tree in the back yard, catch the pigeons from the cupola of the red barn and have a great barbecue party all in our own way.

Rainy Days

When the rainy days come, we can climb into the haymow by the big door where the pulley comes in and read "Little Women," "Jane Eyre," "Scottish Chiefs," "Old Curiosity Shop" and other books we love so well, while no one even knows where we are. We can ride the old white pony bareback to the pasture for the cows, coming back slowly with deep thoughts as the shadows of evening lengthen. We can raise chickens, make garden, have parties with the neighbor boys and girls and just do whatever we please, and, as my Beth girl says, "It doesn't bother anyone."

So, each of us has this great chance to develop along any line that we like and just be natural. We know the people around us and love them. Of course, some of them are very strange and very human, but we've always known them, and we like them, and they like us. There's the woman who lives on the next hill, whom you always thought to be so cross and who made such a fuss when the boys played Hallowe'en jokes that they always went right there and were ten times worse than anywhere else. Well, once when your bright eyes found where a swarm of her bees had settled and you mustered up your courage to tell her, she was so thankful and glad that when your next birthday came she gave you a beautiful book that you always kept. People in the country are good to each other. I think this is because they know each other. There is room enough and sympathy enough so that a girl can develop in her own way, and in such a way that she can be of real service to the world.

The third gift, and perhaps the greatest gift of all, is that we have work to do. It is work, which, if we are interested in it to do it right, will be a pleasure and happiness to us. A country girl whom I know lives in Alabama, and she wished to grow some tomatoes. She wanted to set out a hundred plants and take care of them as the United States Government directs in the tomato club work. Her father thought he wouldn't give her any ground for it because it wouldn't pay to bother with it. But her teacher told her not to get discouraged. So one morning, after her father had had a good breakfast of eggs, bacon, beaten biscuit and coffee that she had cooked for him, this girl said, "Daddy, I do so want to plant some tomatoes. Can't I please have just one cotton-row?"

"Why, yes," her father replied. "If that's all you want, I reckon you can have it, for you've been a good gal to your old daddy."

Where the Tomato-Row Led

So the girl picked the longest cotton-row she could find and set out her tomato-plants and cared for them just as she was told to do in the directions sent out by the Government. She told me there were so many tomato-worms to be picked off the plants that one night she dreamed she was turned into a great, big, green tomato-worm, herself. But she stuck to it and canned over a thousand quarts of tomatoes from her vines. She sold the tomatoes, and with the money she has started to take a normal training course.

Another girl determined that she would learn to make good buttonholes. Mother used to say that the buttonholes I made looked sort of like "pig's eyes." Did anyone ever tell *you* that? Well, this girl wanted to learn to make buttonholes just right, with the threads so even and straight and one end rounding and one straight across. She thought if she could only practice and try hard enough she might learn to make buttonholes as well as her grandmother, who could make them so that you could not tell the right side from the wrong side. She made seventy-six buttonholes, and, finally, she sent the best ones she had made to the state junior contest at the college of agriculture, and hers were the best buttonholes made by any girl in the whole State.

Even Hard Work is Fun

It is such fun to work, and work hard; to save steps for Mother until the tired lines go out of her face and the happy light shines in her eyes. To think of Father and do things for him until he can say proudly, as I heard a father say last week about his girl: "I tell you it doesn't make any difference what time in the morning I call Helen, four o'clock or half-past three even, she gets right up and gets us as good a breakfast as you could wish. She does it so quick and handy. Since she has been going to town to high school she's just the same. It hasn't spoiled her a bit." As he talked on about his girl in a way that fathers have and told how fine she was to work around home, a picture of the girl came to my mind. I had seen her that morning with her brother in their automobile, and as she passed, the teacher I was talking with said, "Helen is just the life of the parties around here." She looked so pretty and bright with her dark-blue chinchilla coat and blue automobile-hood, pink cheeks and laughing eyes. No wonder she is so good to look at and so good to live with, for she has the good fortune to be a farmer's daughter of 1913.

Quaint Cross-Stitch Patterns
From Far-Away Holland
By Fraulein Marie Westenberg

EDITOR'S NOTE—Everyone seems to be interested in old-fashioned cross-stitch patterns. Fraulein Marie Westenberg, who lives in the old-fashioned town of Deventer, Holland, has sent these designs to readere of Farm and Fireside. Some of these designs are over two hundred years old.

Here are two charming borders, "The Ducklings" and the "Acorn," to be worked in cross-stitch and applied each by itself or effectively combined. They are worked on plain white or colored canvas in delicate colors in washing silks, or in various shades of delft blue. The acorn border looks very nice in soft green and brown only; the little trees between the ducks should be light green. The spirited animals are delightful for nursery bedcovers or screens or nightdress-cases, and as such they are very popular in Dutch homes.

The remaining designs have been copied from an ancient oblong cloth or scarf in my possession, and which was hung of old, as it hangs still, sideways across an antique Friesian clock on the wall, and supposed to protect it from dust. The quaint little men with the cluster of grapes illustrate Numbers 13: 23—Joshua and Caleb, who were sent to spy out the land of Canaan.

The manikins are worked in bright red and blue, with yellow legs and feet and black caps; the grapes and leaves and stick in purple and green and brown, and green grass springing up above the yellow sand at their feet.

On my sampler the husband and wife beside the tree laden with bright oranges are dressed respectively in brown trousers and blue kirtle, and red shirt and pale-brown bodice, with black legs, pink faces and light hair; the sand heaps to be worked in sand color.

The flower-pots on each side of the couple are worked in delft blue, and the boughs in green, with flowers of shaded pink. These designs will look charming and quaint on the ends of a cover for a dresser or sideboard, and may be used as successfully for cushion-covers, work-bags, table-covers, etc.

Patterns That Will Prove Most Helpful

Easily Made Clothes for Baby, Mother and Big Sister

Designs by Grace Margaret Gould

No. 2188—Baby's Yoke Dress

One size only. Material required, two and one-half yards of thirty-six-inch material, with one eighth of a yard of embroidery for yoke. The yoke of this dress may be of the dress material hand-embroidered, if preferred. Pattern, ten cents.

Cash Prize Offer

To Farm and Fireside Readers

$5.00 for the best suggestion
$3.00 for the second best suggestion

MISS GOULD wants to make the fashion page of FARM AND FIRESIDE even more helpful and dependable than it has been in the past, if that is possible. She wants the women who read FARM AND FIRESIDE to join with her in doing this, so she asks you what sort of clothes you would like to see illustrated on these fashion pages. For the best suggestion a $5.00 prize is offered, and for the second best suggestion a $3.00 prize. The suggestion may be a rough sketch, a photograph, an illustration cut from any paper or magazine, or even a few words describing the sort of garment you would like. Ideas for dresses, coats, wrappers, aprons and children's clothes will be accepted. Address all suggestions to Miss Gould's Prize Contest, FARM AND FIRESIDE, 381 Fourth Avenue, New York City. The contest closes March 1st. Suggestions only bearing postmarks on the envelopes previous to March 1st will be included in this cash prize offer contest.

No. 2186—Baby's Tucked Dress

One size only. Material required, four and three-fourths yards of twenty-two-inch material, or two and one-half yards of thirty-six-inch material. Tiny bows of soft ribbon are pretty fastened to the shoulders of this dress. Pattern, ten cents

A GOOD-LOOKING dress of serge, Scotch mixture or diagonal cloth is a most helpful addition to the mid-season wardrobe. It may be worn under a long coat in cold weather, and on the first warm days when coats are too heavy it makes a comfortable street costume. The dress illustrated on this page in patterns No. 2208 and No. 2179 may be most satisfactorily developed in any of the above named fabrics. If made of an English mixture in green tones, the collar and tie could be of either black or plain green material.

A costume which was designed especially for the elderly woman is No. 2194 and No. 2012. For a best dress it would be pretty developed in crêpe de chine or Henrietta cloth, while for every-day wear it would be practical made of lightweight serge or poplin.

No. 2183

No. 2208
No. 2179

No. 2208
No. 2179

No. 2194
No. 2012

No. 2194
No. 2012

ONE or two new separate waists will do wonders toward making complete an otherwise rather small outfit. For every day a shirt-waist of French flannel or madras is most satisfactory while for afternoon or Sunday wear it is pretty made of satin messaline. Both of the shirt-waist designs shown on this page are suitable for any of the above named fabrics. Pattern No. 2200 would, however, be especially smart of messaline matching in color the skirt with which it is worn. The collar and cuffs could be either of lace or fine linen hemstitched, and instead of a tie it could be finished with a lace jabot. If it is developed in madras or flannel, the collar and cuffs should be of linen.

The other waist, pattern No. 2201, is more tailored in style, but it, too, could be made quite dressy if developed in satin or silk.

No. 2200

An attractive waist suitable for wash or silk fabrics

No. 2183—Bib Apron with Flounce

One size only. Material required, three and one-half yards of twenty-seven-inch material, or three yards of thirty-six-inch material. This apron is an attractive one to wear over good dresses. Price of pattern is ten cents

No. 2208—Double-Breasted Waist: Long Sleeves

32 to 44 bust. Material for 36-inch bust, three and one-half yards of twenty-two-inch material, or two and three-eighths yards of thirty-six-inch material, with three eighths of a yard of contrasting material and three eighths of a yard of net. The price of this double-breasted waist pattern is ten cents

No. 2179—Five-Gored Skirt

22 to 34 inch waist. Length of skirt, 41 inches. Quantity of material required for medium size, or 26-inch waist, six and five-eighths yards of twenty-two-inch material, or three and three-fourths yards of thirty-six-inch material. This smart skirt is a very easy one to make. This pattern, ten cents

No. 2200—Tucked Waist with Pointed Collar

32 to 38 inch bust. Material for 36-inch bust, three and one-eighth yards of thirty-six-inch material, with three eighths of a yard of contrasting material for collar and cuffs. The price of this pattern is ten cents

No. 2194—Shirred Waist Buttoned in Front

32 to 42 inch bust. Material for 36-inch bust, two and one-fourth yards of thirty-six-inch material, with five eighths of a yard of net for chemisette and plaitings which trim the collars and sleeves. Pattern, ten cents

No. 2012—Three-Piece Skirt Buttoned in Front

22 to 34 inch waist. Length of skirt, 40 inches. Material required for medium size, or 26-inch waist, four yards of twenty-seven-inch material, or three yards of thirty-six-inch material. If preferred, the buttons may be omitted on this skirt. Price of pattern of this attractive skirt, ten cents

No. 2201—Waist with Long Pointed Sleeves

32 to 44 inch bust. Quantity of material required for 36-inch bust, four and one-fourth yards of twenty-four-inch material, or two and three-fourths yards of thirty-six-inch material, with one fourth of a yard of satin for collar. Pattern, ten cents

Woman's Home Companion ten-cent patterns may be ordered from any of the following pattern depots: Pattern Department, Farm and Fireside, 381 Fourth Avenue, New York: Pattern Department, Farm and Fireside, Springfield, Ohio; Pattern Department, Farm and Fireside, 203 McClintock Building, Denver, Colorado

No. 2201

The tucks in this waist give it long, becoming lines

Your Choice of Valuable Premiums

Famous Myers Sewing Awl

This awl meets every condition for a handy tool to mend old or new harness, saddles, gun-cases, suit-cases, shoes, carpets, grain-bags, awnings, pulley-belts, etc. Farmers and stockmen use it to sew up wire cuts on live stock. This awl is well made, and with ordinary care will last a lifetime. It is perfectly easy to operate, nothing to get out of order, and is light and convenient to carry. Each awl comes equipped with two needles, although it will use any kind of a lock-stitch machine-needle. The needles are carried in the hollow screw-top handle.

Our Offer

Sewing awl sent prepaid with Farm and Fireside one year for 60 cents.

This sewing awl sent to club-raisers for a club of two yearly subscriptions to Farm and Fireside at 40 cents.

Eureka Family Shears Set

Premium No. 736

This beautiful set consists of one pair Eureka self-sharpening 8-inch shears, one pair 4½-inch embroidery scissors, one pair 4½-inch adjustable buttonhole scissors. Each article in full nickel finish. We guarantee this three-piece shears set to please and know it will last a lifetime. It is indispensable as a lady's work-basket companion.

Our Offer

This shears set will be sent to anyone ordering a one-year subscription to Farm and Fireside and sending a total remittance of 75 cents.

This shears set will be given for a club of three yearly subscriptions to Farm and Fireside at 40 cents each.

Valuable Silver Thimble

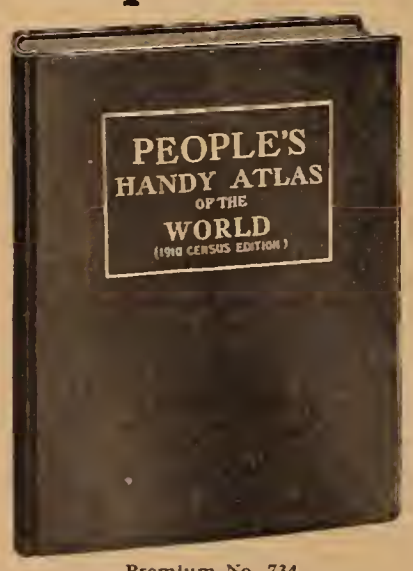
Premium No. 709

We feel that it wouldn't be fair to get up a premium list without giving our readers a chance to get one of these valuable silver thimbles. For many years this has been one of the most popular premiums offered by Farm and Fireside. We are including it this year because we know there will be a big demand for this valuable and useful little article. This is a luxury to which every woman who sews is fully entitled. Indeed, it is perhaps more of a necessity than a luxury. Why take needless risks, danger of blood-poisoning, etc., by using an inferior kind of thimble when you can get this handsome silver thimble by doing just a few minutes' work for Farm and Fireside. This is an insurance that you owe yourself. Every woman reader of Farm and Fireside should have one of these thimbles.

Our Offer

This silver thimble given for a one-year subscription to Farm and Fireside at 50 cents.

People's Handy Atlas of the World



Premium No. 734

Contains the greatest number of maps ever published in handy atlas form. It gives the maps of every State and Territory, the United States island possessions, all printed in beautiful colors. It also gives maps of the Canadian provinces, European countries, and for the first time special feature maps showing farm products in each productive area, locating where wheat, oats, rye, tobacco and other products are raised. It gives the value of dairy products also. The new conservation map with irrigation projects, also new weather map, are very instructive and attractive to offer a newspaper or magazine reader. New maps of the world, illustrating the commercial languages, forms of government and races of men, are to be learned at a glance.

Our Offer

We will send this atlas to anyone ordering a one-year subscription accompanied by a total remittance of 60 cents.

We will send this atlas to anyone sending us a club of two yearly subscriptions to Farm and Fireside at 40 cents each.

Get a Dependable Watch

Premium No. 762

This is the most popular watch made for men and boys. It is really astonishing how such a watch as this can be offered at such a reasonable price. It is the regular 18 size with highly polished nickel-silvered case, gilt-finish movement, open face and white dial with Roman figures. It is a stem-wind and stem-set watch and guaranteed to be accurate and reliable. Each watch is run and regulated before leaving the factory, and in addition to our guarantee the manufacturer sends a guarantee with each watch. Repairs not caused by carelessness or abuse will be made free of charge within one year from receipt of your order. We recommend this watch premium most heartily to all our club-raisers. It is without doubt splendid value, and you take absolutely no chance in ordering a premium that is backed by a double guarantee.

Our Offer

Watch No. 762 will be sent to anyone ordering a one-year subscription to Farm and Fireside accompanied by a total remittance of $1.25.

Watch No. 762 will be given for a club of five yearly subscriptions to Farm and Fireside at 40 cents each.

Ezy-Hem Skirt-Gage

Premium No. 746

This is an article that will prove invaluable to amateur dressmakers, or anyone who does home sewing. Anyone who has ever used an Ezy-Hem Skirt-Gage will never again be found without this article. It is a convenience that needs only to be used once and its value is fully established. It is a great time-saver, and is so simple in construction that it can be used by a wholly inexperienced person.

Our Offer

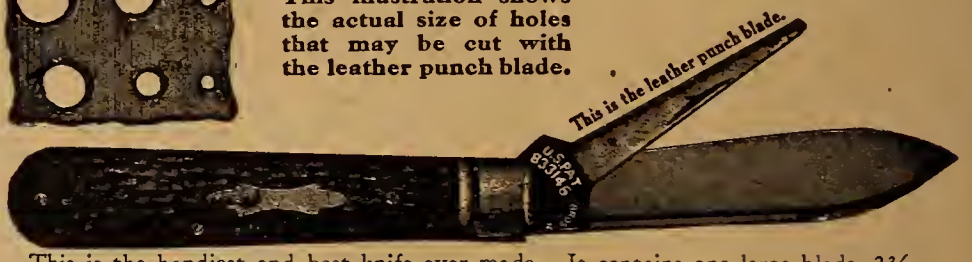
This Ezy-Hem Skirt-Gage will be sent to anyone ordering a one-year subscription to Farm and Fireside accompanied by a total remittance of 60 cents.

This Ezy-Hem Skirt-Gage will be given for a club of two yearly subscriptions to Farm and Fireside at 40 cents each.

Combination Jack-Knife

Premium No. 584

This illustration shows the actual size of holes that may be cut with the leather punch blade.



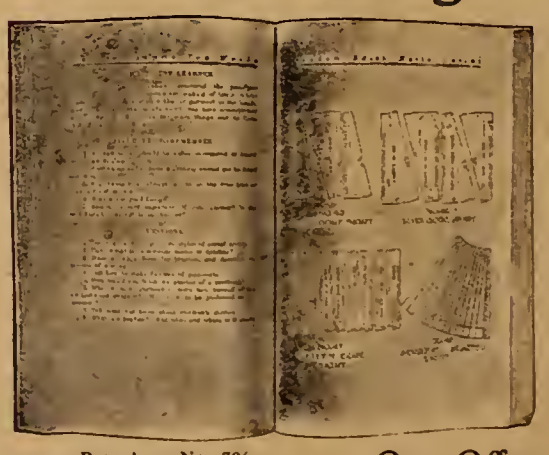
This is the handiest and best knife ever made. It contains one large blade, 2¾ inches long, made of the very best steel; also a combination blade, 2⅛ inches long, suitable for making various-sized holes in leather for buckles, rivets, belt-lacing, etc. The knife will be found of great value to farmers, stockmen, teamsters and sportsmen. It is just as easy to carry as an ordinary three-bladed knife, and is most convenient and durable.

Our Offer

This knife will be sent you, all charges prepaid, for a remittance of 70 cents to pay for the renewal of your subscription for one year.

This knife will be sent to club-raisers for a club of three yearly subscriptions to Farm and Fireside at 40 cents each.

Dressmaking Self-Taught



Premium No. 796

The author of this valuable book is one of the best-known instructors in dressmaking in the country. This is the first time that this work has been compiled in book form suitable for a home study course. Books of this general character have heretofore been sold for as much as $2 per copy. The subject matter is in lesson form, so that a beginner, by carefully studying the book, can obtain an accurate knowledge of just how to proceed in order to become a proficient dressmaker. It is well printed on a good quality of paper.

Our Offer

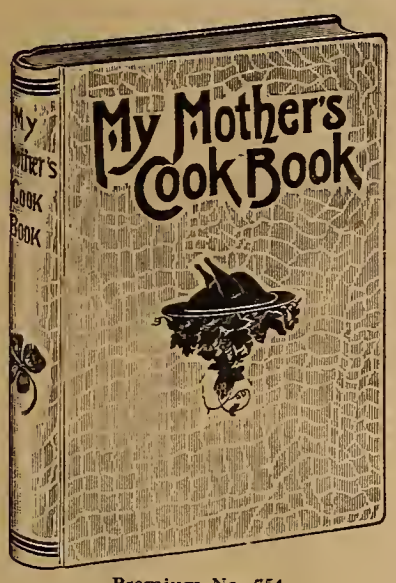
Dressmaking book sent prepaid with Farm and Fireside one year for 60 cents.

Club-Raiser Special—This Dressmaking book will be given for a club of two yearly subscriptions at 40 cents each.

This Offer Will Not Be Made Again This Season

Each Premium is a Remarkable Bargain

Famous Cook Book



Premium No. 754

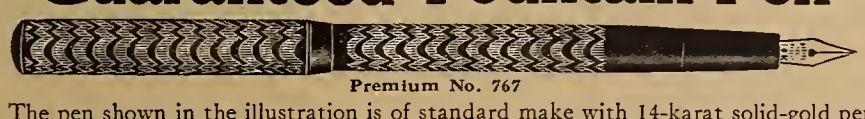
My Mother's Cook Book is the best cook book that we have ever had for our people. It contains all the up-to-date recipes and the latest ideas on cooking. This book contains 230 pages. It is well bound in white leatherette and printed on good quality of paper; size of book, 5½ inches wide, 7¾ inches long. Here is your chance to get a cook book that you can depend on.

Our Offer

This cook book will be sent you, all charges prepaid, for a remittance of 60 cents to pay for the renewal of your subscription for one year.

This cook book will be sent to club-raisers for a club of two yearly subscriptions to Farm and Fireside at 40 cents each.

Guaranteed Fountain-Pen



Premium No. 767

The pen shown in the illustration is of standard make with 14-karat solid-gold pen. It is strictly high grade. The feeding device in this pen is simple and effective. Your fingers will not be smeared with ink when you use one of these pens. Our fountain-pens are guaranteed by the manufacturer, and we will replace any pen that does not give satisfaction, or refund your money if desired.

Our Offer

The above described pen will be sent you, all charges prepaid, for a remittance of 75 cents to pay for the renewal of your subscription for one year.

The above pen will be sent to club-raisers for a club of three yearly subscriptions to Farm and Fireside at 40 cents each.

Set of Six Teaspoons

Guaranteed for Five Years

Premium No. 585

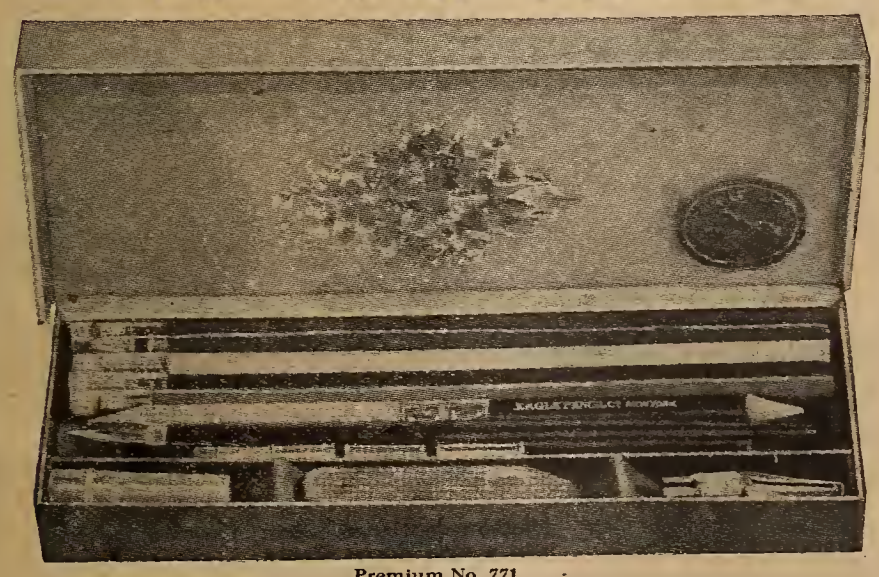
This set of teaspoons is in the popular French-gray finish and looks very classy, made on a white metal base. We feel sure that you will be pleased with the teaspoons and guarantee that they will give you satisfactory wear for a period of five years.

Our Offer

Teaspoons sent prepaid with Farm and Fireside one year, 55 cents.

This set of teaspoons given for a club of two yearly subscriptions to Farm and Fireside at 40 cents each.

Useful Pen and Pencil Set



Premium No. 771

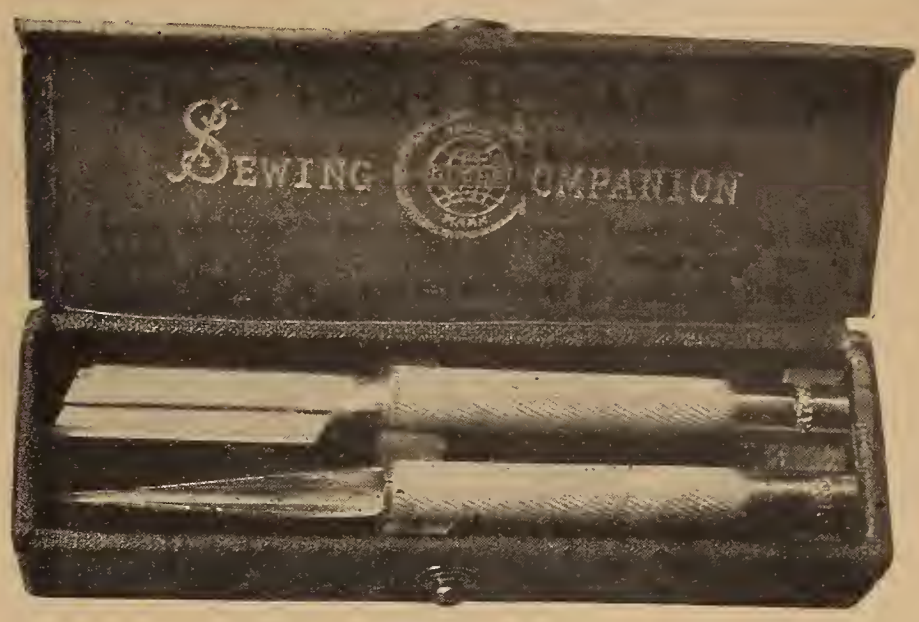
The outfit consists of five splendid lead-pencils, each of which is fitted with a rubber eraser and neatly gilded. One fine pen-holder, beautifully colored, one combination pencil with red lead and blue lead, one rubber eraser, one combination pen, pencil and eraser, one dozen assorted steel pens of standard make in a handsome nickel-plated tube holder with cap, one pencil-sharpener. The attractive box in which these articles are put up has been manufactured especially for our people and is of an antique tapestry pattern, with dainty flower design on the cover.

Our Offer

This pencil outfit will be sent to anyone ordering a one-year subscription to Farm and Fireside accompanied by a total remittance of 75 cents.

This pencil outfit will be given for a club of two yearly subscriptions to Farm and Fireside at 40 cents each.

Useful Sewing-Set



Premium No. 810

This useful outfit, illustrated above, consists of a knife made of the finest Sheffield steel, which insures a sharp edge, one which will cut thread readily and not tear the material. The blades are detachable, like a safety razor, and new blades may be secured when the old ones become dull. Three extra blades are included with the outfit. The thread pick is used in removing bastings and for pulling threads in hemstitching. This is the finest little device ever offered for this purpose, and once used will always be used. This outfit is ordinarily sold for $1.00 and is therefore a wonderful bargain on the terms of our offer.

Our Offer

This sewing-set will be sent to anyone ordering a one-year subscription to Farm and Fireside accompanied by a total remittance of 75 cents.

This sewing-set will be given for a club of three yearly subscriptions to Farm and Fireside at 40 cents each.

Embroidery Special

Premium No. 782

This splendid art embroidery outfit contains one corset-cover design stamped on fine quality nainsook, also a centerpiece design stamped on 18x18-inch pure tan linen, 1 stiletto for punching eyelet work, 2 large sheets, each 28x28, of perforated patterns, containing the following designs: 1 lingerie hat, 1 shirt-waist, 1 skirt-panel, belt, collar, jabot, etc., baby's cap, complete alphabet, 2 eighteen-inch doilies, sprays, a cake of Ideal stamping preparation, a distributor and full directions for stamping.

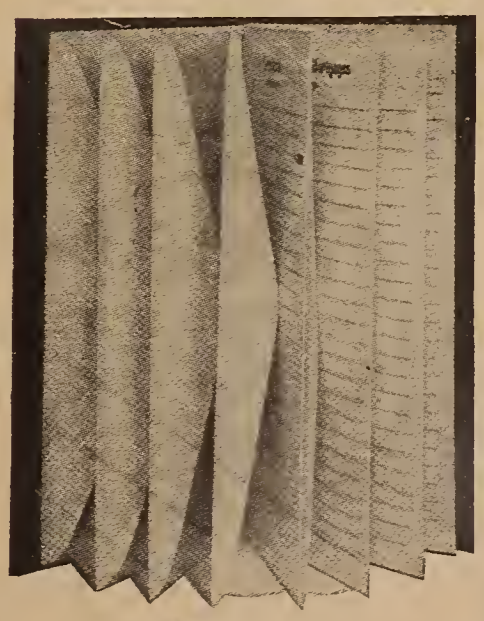
Our Offer

This outfit will be sent you, all charges prepaid, for a remittance of 70 cents to pay for the renewal of your subscription for one year.

This outfit will be sent club-raisers for a club of three yearly subscriptions to Farm and Fireside at 40 cents each.

Valuable Document-Holder

This Article Insures You Against Loss



Premium No. 785

This is an article that every household needs. It is a known fact that a good many people file valuable papers away in ordinary envelopes. Such papers should be kept where they could be instantly reached, so that you could refer to them without difficulty. This valuable document-holder measures 11 inches long by 5 inches wide. The case is made of a strong, durable quality of imitation leather. Within the holder are eight very heavy manila envelopes. Each envelope is intended for filing away one particular kind of document, *e. g.*, one envelope is for deeds, another for mortgages.

Our Offer

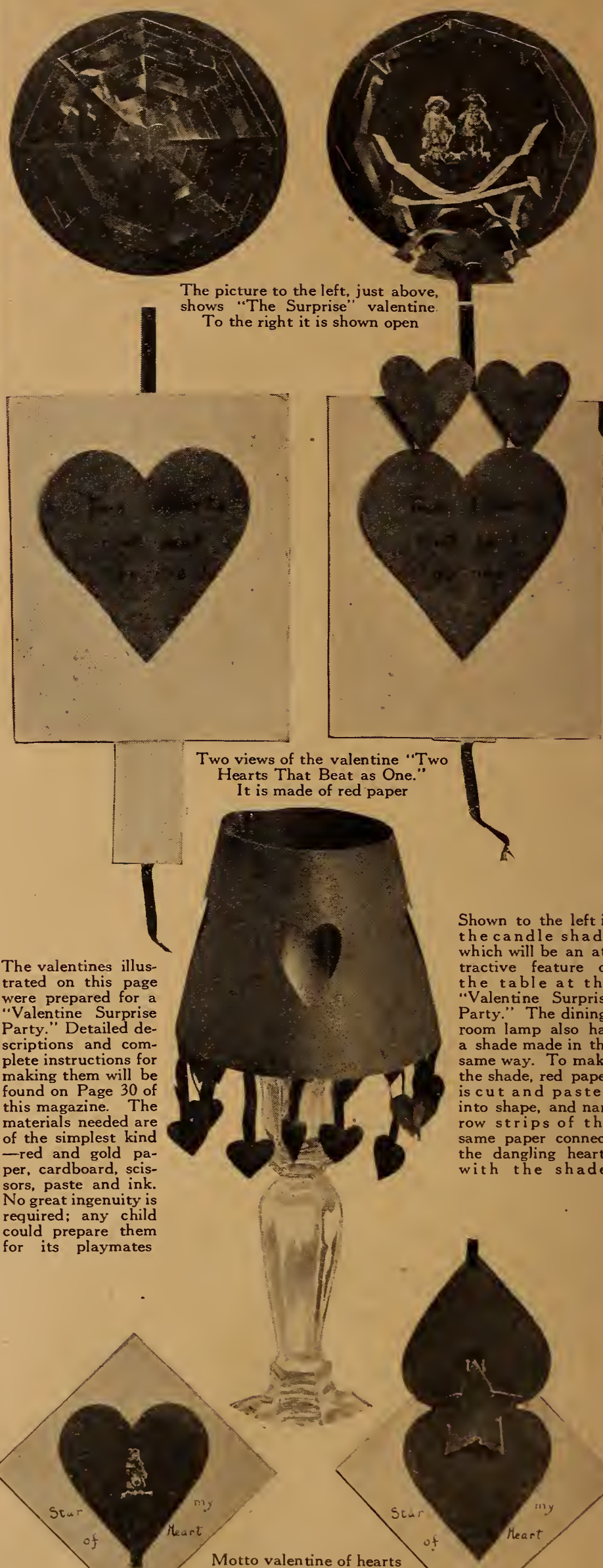
This document-holder will be sent to anyone ordering a one-year subscription to Farm and Fireside accompanied by a total remittance of 60 cents.

This document-holder will be given for a club of two yearly subscriptions to Farm and Fireside at 40 cents each.

Accept One of the Above Bargains Before It is Too Late

Valentines Anyone Can Make

By V. B. Jacobs



The picture to the left, just above, shows "The Surprise" valentine. To the right it is shown open

Two views of the valentine "Two Hearts That Beat as One." It is made of red paper

The valentines illustrated on this page were prepared for a "Valentine Surprise Party." Detailed descriptions and complete instructions for making them will be found on Page 30 of this magazine. The materials needed are of the simplest kind—red and gold paper, cardboard, scissors, paste and ink. No great ingenuity is required; any child could prepare them for its playmates

Shown to the left is the candle shade which will be an attractive feature of the table at the "Valentine Surprise Party." The dining-room lamp also has a shade made in the same way. To make the shade, red paper is cut and pasted into shape, and narrow strips of the same paper connect the dangling hearts with the shade

Motto valentine of hearts and a star shown closed at the left, and open at the right

Valentine letter puzzle when shut

Inside of valentine letter puzzle

The Adventures of a Beneficiary

[CONTINUED FROM PAGE 26]

talkative, a great worker and constructively or at least diplomatically a widow.

"I tell you, though," Mrs. Hutley rambled on, "you mustn't think everybody else is all right, just because you be. There's a lot of skunks walkin' round on two legs, and you want to look sharp. There's Zeb Simonds, now; he's uglier than sin. I wouldn't rile him, if I was you. Leave him and that dratted bull alone, can't ye?"

"Not the bull; he's going to be shot!" Wright replied.

Mrs. Hutley betrayed unwilling admiration for such determination. "For a man that ain't anything like what he was, you somehow make me think of your uncle," she said. "Same way I never see old deaf Abe Jones without thinkin' of onions, but that comes of the poultice Ma put on Harald Athelstane's sore ear, and him the runt of the family. But you and your uncle now—I reckon you must have a streak of the old man's contrariness—he wore boots to his dying breath, Mr. Wright. Heard of that, hadn't ye?"

"Yes, hut not for a week," the ferryman said pleasantly. "Glad to hear it always; you see, I'm developing a good deal of admiration for Uncle Nathan."

The boat touched the shelving hank, and Wright, with a vigorous thrust of his oar, completed the landing, driving the nose of his craft so far upon the slope as to permit his passenger to step ashore dry-shod. Mrs. Hutley compassed the landing, but hefore she went her way tarried to repeat her warning.

"You leave Zeh Simonds be! He's a skunk, I tell ye; and them as fights skunks ain't goin' to be ahle to forget it right away!"

Wright's face was thoughtful while he watched Mrs. Hutley toil up the bank. Just before reaching the bend in the road she turned, calling out that a passenger was coming. Much to his surprise, and equally to his gratification, it was a well-remembered, slender, girlish figure which appeared in sight and came swiftly and lightly along the path to the landing. Wright sprang ashore, hat in hand and countenance beaming.

"Surely the gods are good to me, Miss Lansing!" he cried. "I didn't dream, though, you'd venture so far afield without the pony." And here, be it recorded, rose remembrance of his very prosaic occupation and a doubt if this might be quite the orthodox salutation of a ferryman. "The boat's ready to take you across," he concluded lamely.

There was a flitting gleam in the young woman's eyes, but her speech was demure.

"Noddy's tethered in the shed at the railroad station," she explained. "I started out early, and went to town, crossing the river by the bridge and driving down on this side, expecting to pick up Father, who's coming up from the city to-day. But he didn't arrive on the morning train, and as there won't be another for three or four hours I decided to leave the cart for him and make my way home on foot. It is fortunate, isn't it, that I should have found you on this side?"

"Magnificently fortunate!" Wright agreed. In the glow of delight produced by the fact that her hand rested lightly in his for an instant as she stepped into the boat, the poesy of the ferryman's profession temporarily obscured its workaday phases. He shot the boat into the stream and dropped into his place.

Miss Lansing for a little seemed to have forgotten his existence.

"Have you any news for me—of the Tory Lady, you know?" she asked.

"Not a word, unfortunately; not even a groan."

"Are you still as busy as ever?" she asked. "And does anything of the novelty still linger?"

"Oh, there's more variety in the life than you would imagine possible," Wright said. "There's the ferry to begin with. Then I've turned kindergartner—for Pete, you know. It's amazing, Miss Lansing, how that boy is coming on, and how he picks up things. Why, it's as if his development had been arrested by simple lack of anybody ever thinking of telling him anything. He isn't an idiot, or a half-idiot, I'm convinced, but the owner of a brain that'll be a pretty good sort of brain, if only it's given a chance. There's something that holds it in check—I haven't discovered what. Meantime I'm groping, and Pete's groping, and between us we're learning—yes, both of us are learning. He's quite able to run either the boat or the scow; in fact, he acted as substitute when I went to town the other day. He's risen to the rank of first mate, Miss Lansing."

"That's fine!" the girl said with frank interest. "But after Pete and his lessons—what does Mr. Wright do then?"

"Oh, there are the neighbors. They're not so many, but such as they are—you've heard the old saw."

"And after the neighbors?"

"Well, I fish. Then there's a garden-patch back of the barn. Pete found it, and he and I weed and hoe like good fellows. And there's wood to chop and water to draw. And there's the housekeeping!"

"And after these things?"

"There's the ferry again. When the horn blows, I have to respond; that's the law, it seems. You've very likely heard of exalting horns or horns being exalted, whichever it is; but you've got to be a hereditary ferryman to understand what it means to have an infernal toot-toot-toot exalt you—exalt signifies rise up, doesn't it?—out of your beauty sleep at two o'clock in the morning to row somebody you'd he pleased to murder across the river."

"What an outrage! But after the ferry?" She appeared to be strangely insistent in her quest for information. "You read, or study, or sketch—yes, you must sketch, if a quarter of the nice things my cousin has said are true."

Wright's face hrightened. "Indeed, I've found some charming bits, Miss Lansing," he said. "There's the island, you know, and below the landing there's a place where the glimpses through the willows are bewitching. I must show you—I beg your pardon, though; perhaps you'd not care for that sort of thing."

"But you must show me, if you'll be so good," she said quickly. "I draw a little, a very little and very hadly, but with as much enjoyment, except for the sense that I really don't learn the secret at all. If someone were kind enough to help me, don't you know, and—"

"All that I know, all that I—" Wright began with impetuosity that carried him to the verge of the too-comprehensive "have," which he caught on the tip of his tongue, so to speak. "If you've time, I shall be delighted to show you my favorite view of the willows—show it to you now," he finished more sedately.

The girl met the suggestion with cordiality. "To watch you sketch would he splendid!" she told him.

The next ten minutes passed for one of our young friends as dreams do not pass, hoary phrases to the contrary. For the one great characteristic of dreams is the manner in which they are forgotten, while Wright was to have the little incidents of that journey to the sightly knoll in Zeb Simonds's pasture photographed like a series of moving pictures on his hrain. He could recall with complete distinctness the landing; the brief pause at the ferry-house, where he equipped himself with sketching materials and a huge gun, the latter arousing naturally lively curiosity on the part of the pupil, which the instructor allayed but imperfectly by a reference to possible shots at supposititious woodchucks; then the walk, side by side, to the fence enclosing the pasture; then the brief but comprehensive survey of the field, which revealed no sign of a bovine tenant; then the careful assistance of the girl in surmounting the barrier, and, finally, the arrival at the point of vantage.

Wright had left his gun beside the fence, and in the business of setting to work he forgot both that weighty weapon and the massive animal which at times roamed the field. A sudden bellow, deep, furious, terrifying, came therefore with the added effectiveness of surprise. Miss Lansing gave a tiny scream and caught Wright's arm, while the young man, turning swiftly, beheld the bull approaching at a clumsy gallop. The brute had not been there five minutes earlier. Investigation might come later; other things demanded present attention. To attempt to reach the fence would be to take too long chances. Nearer at hand was an old apple-tree, thick of trunk and with low-spreading branches.

Wright dropped his sketch and caught the girl's hand, but she paused to snatch the paper from the ground.

"He shan't have my picture!" she cried, and Wright felt a thrill at the words, though he knew the delay, trifling as it was, might count heavily in the race. Hand in hand the pair ran for the tree, the beat of hoofs behind them growing louder and louder, and the heavy breathing of their pursuer sounding like the panting of a hard-driven engine. The girl ran well, making as good progress as her companion over the rough turf and keeping her brain clear; for when they reached the tree there was no hesitancy, no waste of precious seconds, as she sprang for one of the lowest branches, just as Wright caught her and swung her up.

Miss Lansing's breathing was a bit rapid, but her self-possession was quite restored. Once sure of her perch, she settled herself comfortably, patted her skirts, deftly corrected the alignment of her hair, and then set herself to the task of smoothing out the sketch which she had borne triumphantly through the flight and the ascent.

"He didn't get that—anyway!" she said briskly, if brokenly.

"And he didn't get us!" Wright supplemented. "He made a great try, though. And he's got a fine giant swing—I know; I've had a romp with him before. But now, with your permission, I am going to try to get him."

Miss Lansing's fine eyes flashed. "If—if you can think—of any way—to get him—as you call it—pray don't hesitate—on my account."

"Thanks!" Wright said mechanically. His brow was furrowed, and he was thinking hard. To get a bull, guarding a tree in which one sat unarmed, required the evolution of strategy. Presently, for the sake of annoying the foe, he plucked an apple, green and hard, and hurled it at the animal. It struck his side, bounded off and rolled a dozen yards away. After the missile bounded the bull, more enraged than ever at this insult; and while he pawed the apple to pieces and stamped the pieces into the earth, Wright, seized hy swift resolution, dropped from his place.

Miss Lansing's cry was eloquent of confused emotions, surprise, alarm, the sense of desertion. She leaned forward, reckless of the danger of a fall, and a second cry died upon her lips, as she saw her knight in full flight for the fence, with the bull stretching himself in pursuit and gaining with every heavy bound. A moment more, and heast and man were so close together that escape seemed hopeless, until, just as the long horns were about to claim their prey, the man dodged, changed his direction and gained a few precious yards, while the bull was clumsily swinging to the new course. Once the feat was repeated, and then she could sink hack with a gasp of relief, for Wright had vaulted the fence a fraction of a second before the bull crashed against the barrier.

Now Wright, gun in hand, was in the field and advancing toward the bull, that, briefly puzzled by the new tactics, bellowed a challenge, lowered his head and charged. Wright halted, and the gun rose to his shoulder. There was maddening deliberation in his aim. The girl tried to call to him to fire, to run away, to do anything but stand there motionless in the monster's path—and then the old gun spoke. There was a roar like thunder, and that by comparison made the bull's loudest battle-cry faint and puny; then a cloud of white smoke that hid the combatants for an instant, and, drifting away, revealed Wright standing where he had been and the bull fallen to his knees. The big body shook convulsively and rolled over upon its side.

"It had to be; I knew I'd shoot him," Wright said calmly, as he aided the girl's descent from the tree. Then he wheeled about to confront a very angry man striding toward them.

"You'll pay for this, young feller!" Zeb Simonds proclaimed. "Kill my bull, will ye? I'll make you sweat for this day's work!"

"Perhaps you may," Wright said. "But you're mighty lucky you don't have to hang for it!"

"Eh? What's that?" Simonds cried.

"Yes, hang for it!" Wright repeated. "That bull wasn't in the field when we came in. You saw us and turned him loose."

"That's a lie!" Simonds shouted.

"It's the truth," Wright asserted. "You turned him into the field. Well, he's here now, you observe, and likely to stay till you cart him off!"

Zeb Simonds gasped, choked and grew white. Then, as a dam breaks and lets loose a flood, he found his tongue, and the sweep of his passion was a thing not for the hearing of decent ears. Wright, in his turn, paled. He leaped forward, catching Simonds by the throat and by the sheer surprise of the attack more than by his grasp shutting off the torrent of objurgation and profanity.

And now a curious change came to pass. Simonds was a heavier man, stronger, tougher, a more practised fighter than his assailant, with a reputation for rough-and-tumble prowess, but he contented himself with shaking Wright off, retreating a little and glaring at him with a malevolence that was all the fiercer for its unexpected repression.

"Young man, I tell you again you'll pay dear for this!" he said, not loudly, but with a voice that shook. "You'll pay dear for what you done this day!"

Wright glanced at his companion. "I think, Miss Lansing, we can count the incident closed," he said. "You can't guess how sorry I am you should have been dragged into it." Then he turned to Simonds.

"I'm not worrying about what I'll have to pay. The satisfaction I've had is worth a lot, I can assure you, my amiable friend!"

[CONTINUED IN NEXT ISSUE]

Hot Dishes for Cold Days

Contributed by Our Readers

PORK PIE—The one I am going to describe is the one grandmother used to make, and indeed all good farmers' wives indulge their families in this particular luxury during the winter months. I had a picture taken of this favorite pie of mine, and you can almost understand its popularity by contemplating its substantial proportions. Its true beauty lies in the fact that it stands upright on its own foundation, without the aid of bake-tin or any other culinary article, and this is where the cook can show off her genius—granting that she has a little. There are a great many delicacies that I would like to initiate my readers into, that all come from pork, but space will not permit me to run away from the main subject this time. I will mention some of their titles, however: sausage, black puddings, aslet. Now, I am not quite sure if that word is quite correct, but my memory carries me back and says that I am right. It is the delicious dish made from the spareribs. And I must not forget the little pig which I wish we could forget. I must own to the universal weakness of being especially fond of pig in swaddling-clothes. That remark gives me pause, and I refrain from saying more as to its merits.

A delicious little pork pie, hot or cold

And now for the recipe for that pie: To one stone (that is English for fourteen pounds) of flour put four pounds of lard scalded and a little salt (the quantity is not given and my grandmother has been dead for many years and I cannot resuscitate her to find out), but a teaspoonful to every pound should prove ample. Mold it well for half an hour, and when you raise the pies do not use any more flour. To every pie weigh one pound and a quarter of paste and one and a half of meat; cut in cute little squares the size of dice. For the lid a quarter pound of paste, which makes meat and crust equal. To the fourteen pounds of meat add a quarter-pound of pepper and a half-pound of salt; mix thoroughly. To raise them you must have a wooden block or a good-sized stone or glass bottle, the wooden concern being decidedly the best and the one used by all farmers' wives in my native land. Take the paste, and spread it out a little, and then place the block in the center, and gradually work it up the side. When high enough, loosen, and take the block out, and if successful it will stand, and you pile the meat in pretty solid. Insert your finger in the middle of the meat before placing the lid on to prevent it from bursting. Add a little water. Put lid on tightly, and allow the same amount of time for cooking as you would for a piece of meat the same size.

This is a large quantity to make at one time, but my grandmother, like her neighbors, made them to send to her friends.

For the pie in the picture, I took a quart of flour and a cupful and a half of lard scalded; by that I mean the lard is placed in a wide-mouthed saucepan with a quart or more of water and allowed to come very near boiling; skim into the flour, and proceed according to the directions above, using two pounds of solid meat or two and one-half pounds with bone.

This unsurpassable meat pie is partaken of cold and brought forth every morning at breakfast until gone. BETH BOWRING.

Stuffed Potato Eggs—Mash potatoes, form into the shape of eggs, cut in halves, and scoop out the center to allow for filling. Take any cold meat, except ham, and put through a meat-grinder. Mix with bread-crumbs, a little onion, celery, one-half cupful of crumbs, one-half cupful of meat, one egg, butter, salt and pepper to taste. Fry in a little butter, and fill the lower half of the egg with the mixture. Cover with the top half, molding the potato carefully to make it look like a hard-boiled egg. Garnish them with parsley. These make a delicious breakfast dish. MARY H. NORTHEND.

Old Dutch Scrapple—Procure and boil a hog's head until flesh can easily be removed from the skull. Take the jowl and trimmings of the hams, and put them through a meat-grinder.

To the ground meat add the juices from the head, and thicken to the consistency of mush with corn-meal. Season with salt.

Stuffed potato eggs are good for breakfast

Boil the mush one-half hour, when it should be thick, and set away to harden. When firm, cut it into slices a little over one-half inch thick, and fry until nicely browned. Serve hot. Eat with butter, butter and sugar or syrup.

MRS. BELLE MARSHALL.

Italian Spaghetti—Boil in salted boiling water for twenty minutes one package of spaghetti. Take from the fire, and let cold water run over it to harden the spaghetti. Take three tablespoonfuls of drippings or butter, melt in a pan, and add one half of a small onion cut fine, three tablespoonfuls of flour, and let this brown. Then add one and one-half cupfuls of water and the juice from one can of tomatoes, and season with salt and pepper. Cut in very fine strips one fourth of a small green pepper, and let this mixture boil for a few minutes.

Place in an earthen baking-dish a layer of spaghetti and then a layer of cheese, over which pour a portion of the sauce, then another layer of grated cheese, then another layer of spaghetti, over which pour the sauce until the dish is nearly filled. Add a layer of cheese on the top, garnished with small strips of green peppers. This dish is excellent without the addition of the cheese. Place in the oven and bake until it is a delicate brown. H. B. COÁN.

Forcemeat Fritters—Rub three tablespoonfuls of butter into one-half pound of fine bread-crumbs, add a teaspoonful of finely powdered herbs and seasoning of salt, pepper and a grating of nutmeg. Stir in one tablespoonful of flour, two well-beaten eggs and one-half cupful of cream. Form into balls, and fry until a golden brown, and serve with brown sauce.

ELMA IONA LOCKE.

Drop Biscuits—One quart of sweet milk, one-half cupful of soft butter, one tablespoonful of baking-powder, one teaspoonful of salt and flour to make a stiff batter. Drop from the spoon on buttered tins, and bake in a quick oven. Grated cheese may be sprinkled over the tops before baking.

ELMA IONA LOCKE.

German Ginger Biscuits—One cupful of molasses, one cupful of sour cream (or one cupful of sour milk and one tablespoonful of butter), one teaspoonful of soda, one-half teaspoonful of salt, one teaspoonful of ginger and flour to knead lightly; roll one-half inch thick, cut with biscuit-cutter, and bake. Serve hot.

ELMA IONA LOCKE.

Date Pudding—To one pound of cut and seeded dates add three eggs, four tablespoonfuls of flour, one cupful of sugar, one cupful of milk, one-half cupful of chopped English walnuts and one teaspoonful of baking-powder. Mix these ingredients, and pour into a dish at least two and one-half inches deep, and bake three quarters of an hour. Serve hot with whipped cream sweetened and flavored with vanilla.

EMMA WILKERSON.

Corned-Beef Hash—Two cupfuls of chopped corned beef, one cupful of chopped potatoes, one small onion, one teaspoonful of salt, one-eighth teaspoonful of pepper, one egg, two tablespoonfuls of milk and two tablespoonfuls of butter.

Mix meat, potatoes and seasonings. Beat egg, and add milk. Melt butter, and add beaten egg and milk. Add the meat mixture. Cook until a crust is formed in the bottom of the pan. Fold one half over the other, and turn on a hot platter.

MRS. A. B. C.

German Rolls—One cupful of sugar, one cupful of sour cream, one teaspoonful of soda, a pinch of salt, and flour enough to make a dough like biscuit. Roll out, spread with soft butter, sprinkle with sugar and ground cinnamon, roll up and cut across in inch lengths. Bake in quick oven. If you have no sour cream, use one-half cupful of lard or butter and one cupful of buttermilk.

Also, try chopped raisins rolled up instead of the cinnamon and sugar. These are more quickly made than with raised dough, and are fine, hot or cold. They are also a practical addition to the school-lunch basket. MRS. W. H. DRAKE.

The Burden of Proof

[CONTINUED FROM PAGE 29]

"There's my father and my mother," I said, and I pointed at them seated by George Pennington's side. But my father's hand was at his own collar. "Your Honor," he choked out, "the boy knows nothing about this; he always supposed that we were his parents."

I forgot Pantaneous. I couldn't understand this kind of talk. "You—you are," I answered my father, as though I thought he suddenly had gone crazy.

"All right," shouted Pantaneous, eating me up with his eyes, "you don't know nothing—about father or mother or anybody. You are just what I tell you, a nobody's boy. Only that nobody may have been a thief."

My face must have been very red, and I must have been near to crying. I seemed a long way off from my—from the people of our house. I found myself suddenly wiping my eyes with something.

The next instant Pantaneous uttered a crow of delight.

"Aha," he said—be had all the tricks of a police-court lawyer—"so you keep a little money in the pocket now and then," he said. He charged down upon me like a bull. "Where did you get *this* money?" he demanded, taking from my hand three dollars and shaking it in the air, "you haven't been stealing, not some hunting-case gold watches, have you yet?"

He sat down. I looked from him piteously to my—my parents, and I know that to them I must have seemed guilty, because one of my secrets was in process of discovery.

George Pennington pointed to the money.

"Where did you get it?" he asked.

"I—earned it," I said, in a whisper.

"Where?" asked George. I told him at Helmstaedter's, and I told him how I'd earned it. The justice of the peace leaned forward swiftly when I said I'd never told my parents about it. He called them foster-parents.

"You never told them?" he exclaimed. "Were you ashamed of *earning* money?"

"Yes," I answered.

I knew I was not believed by the justice. I looked around the court-room. I saw one of my companions there, the dirtiest of the lot, but I simply couldn't call *him*. He was the kind of street boy my mother had been trying to keep me away from. I couldn't call him up to me.

Besides, Pantaneous was waving his arms in the air. "Why didn't he get a ticket?" he demanded.

When he took the stand, all he had to do was to deny everything. He did so, and even went so far as to say he had never taken a piece of jewelry for repair without giving a ticket. We had a witness to prove the contrary, but when all the evidence was in, the justice of the peace leaned back and said that the burden was on me and I hadn't sustained the burden. My story was denied in all its particulars, and, well, he had to give judgment for the defendant. That was all. Not quite all, either. For there was just one word he put in, something about my foster-parents being well-known citizens of the town, and that, of course, if it had been their own son—

I wasn't their own son. Of course, I knew that now. And for all they knew I was the son of some nobody who was a thief, just as Pantaneous had said.

I could feel the doubt in their faces.

The judge shook hands with them and said he was sorry, but the burden of proof—the burden of proof.

Only George Pennington nudged my father in the ribs and grinned. "Henry," he said, "if I know a liar when I see him on the witness-stand, I've seen one to-day."

My father turned white. "Who?" he demanded, as though ashamed.

"Pantaneous," exclaimed George Pennington; "he's a liar and a thief."

I think that was why I clung to George Pennington's arm on the way back to his office, and I'm sure that was why he let me. He shook me by the hand when we left him.

"You made a good witness, boy," he said. "You told the truth. If it hadn't been for a fool judge—"

I think after that, for three years, George Pennington was one of the few people in town who knew about the watch who had real faith in me. The folks at our house drew the lines closer about me than ever, and I felt they were trying to rescue a brand from the burning. Never again do I want to go through a period of doubt and depression such as I did then. Pantaneous had ripped all the ground from under my feet when he told me about my antecedents, and for months I didn't seem to have any feeling other than a cold, dismal lump in the place where my heart should have been. And the folks at our house became unconsciously severe; they were trying to wipe out the poison that they believed must be in my blood.

But one day, in the midst of it all, Rivers, the jeweler, called to me from his shop. He had been a witness for us at the trial—a witness as to the value of the watch, since he had seen it often—and because he was a witness I had avoided meeting him since. That trial had been my disgrace, and I was trying to live it down. Sometimes I really doubted my own innocence.

But there was Rivers calling me. I went over to him slowly, my face flushing painfully the while.

"Youngster," said Mr. Rivers. "come inside. I want to show you something."

I went inside, followed him into his little private office, and stood there wondering. He turned his back for an instant, and then swung about and faced me. There was something in his hand.

"What do you call that?" he asked.

I looked at it and grew faint. It was the gold hunting-case watch, the one I had left at Pantaneous'.

"Where did you get it?" I asked him.

Mr. Rivers only shook his head. "Never you mind," he said, "only you tell your pop to be around here at six o'clock to-nigbt. I'll show him something then."

I got him to give me a note to our folks; I didn't tbink it would do much good, my telling them, unless I could say something about the watch, and Mr. Rivers didn't want that. So my father and I left our house and went around there late that afternoon. Only Mr. Rivers was in tbe shop. He showed us into his private office.

"I sent for you," said he to my father, "just because there was a man coming here I want you to look at. It may do good."

"As—how?" asked my father.

Mr. Rivers did not answer, for just tben the outer door opened, and a medium-sized man stepped up to tbe counter and hammered on it.

"That watch ready, Rivers?" he cried out.

Mr. Rivers beckoned to my father and me, and we both stepped back again into the shop and stood against the counter, while Mr. Rivers laid the watch down on it. My father's eyes bulged.

"That's my watch," he exclaimed.

Rivers only smiled. "It's this gentleman's watch, Mr. Pennington," he answered; "he brought it in to be repaired."

But my father's clutches were on him in a minute. "Where did you get tbat watch?" he demanded of the stranger.

The stranger looked at Rivers. Rivers nodded. "You'd better answer," he remarked. The stranger thought for a moment.

"I bought it down in our town—Donaldson," he said, "of a jeweler. He used to clean it for me—but he's moved—name of Pantaneous."

My father jumped. "Pantaneous," he said when he could get his breath, "he don't belong in Donaldson. He belongs here."

Rivers shook his head. "Pantaneous moved to Donaldson two years ago," said Rivers.

"I bought the watch two years ago and more," said the stranger, "and I can prove it, too."

Well, he did prove it. He had had a friend with him when he bought it. Pantaneous had charged him a good round price for it, but had made the plea that he was selling out.

My father grabbed the watch and started for the door.

"Where are you going?" yelled Rivers.

"Going to find Pantaneous," said my father.

Rivers smiled. But he called my father back. "I'll show you what I'm going to do," said Rivers, leaning over the counter and holding out his hand to me, "I'm going to apologize to—*him*."

"What for?" asked my father.

"Oh, just suspicions," returned Mr. Rivers, squeezing my hand until it hurt.

Well, they found Pantaneous and brought him back. I sat in the court-room and looked on while they found him guilty. He was tried for grand larceny first and perjury afterward. I've tried to forget Pantaneous' face as he sat and glared at me.

The next morning the judge of sessions was going to sentence him, and did. He got fifteen years. Someone told me I ought to be there at the sentence. I was just going in, when a hand caught me by the arm. It was George Pennington.

"Don't go in," he said, "there's no fun in revenge."

I didn't go in. I'm glad I didn't. Besides, George Pennington wasn't through with me.

He handed me a long white envelope, sealed. "Open that when you're eighteen, boy," he said.

I opened it when I was eighteen. I thought it had money in it, but it didn't. It was simply a little note from him telling me that he had found out that my father had been a volunteer fireman in the town of N——, and had been killed in a fire, and that my mother had died in childbirth a few months later. They had been very poor, and people had forgotten. I was the child.

When I was eighteen, I went into George Pennington's office and studied law.

The Farm Sales-Agent

By Mrs. Addie Hull Doerr

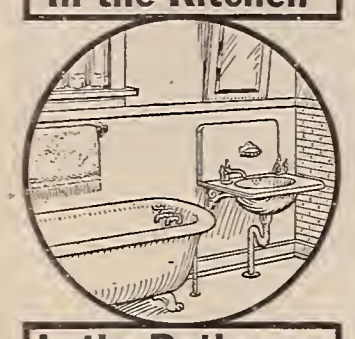
ON A small farm near a progressive town in southern California, the mother of the family is the sales-agent, as one of the sons, a fine young high-shool student, puts it: "Mother gets busy with the telephone and gets orders for all we men folks can produce.

"Mother is not able to do any hard work, but we consider her a valuable member of our 'Twentieth Century Farm Company.'

"From about two hundred feet of blackberry-vines we sold, last summer, $34.60 worth of berries, besides using all the family needed. By getting small-lot orders, and dividing the town into territories, Mother made our work of delivery easy, and we received a top-notch price. Often an order would come over the 'phone for, say, a few boxes of blackberries, a pint of cream, a quart of milk, a pound of butter, a quart of cottage cheese and half a gallon of buttermilk, from someone a mile away. Immediately Mother would get busy with the 'phone and get several more orders in that territory. Even Sister's cut flowers are included in Mother's 'phone orders. The rest of us must make good the 'first-class condition, prompt delivery and courteous treatment' of Mother's guarantee to customers."

Running Water in Every Farm Building

In the Kitchen



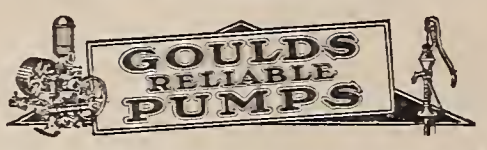
In the Bathroom

In the Basement

In the Barn

Just because you live on a farm, don't think you can't enjoy the conveniences of running water like city folks.

Think of simply twisting a faucet and having a stream of water, *under pressure*, gush forth—in the kitchen, the bathroom, the barn, the wash-house or wherever you need it! A Goulds Hydraulic Ram gives you a private waterworks system as good as a city's without care, and at practically no cost.



Winter and summer a Goulds Hydraulic Ram will keep a good supply of clean, fresh water "on tap." Just the turn of a faucet and a steady stream of water is running when and where you want it.

No Expense

There's no expense to running a Goulds Hydraulic Ram. All you need is a few inches fall from a stream or spring. This fall operates the ram automatically. Its big air chamber gives a steady stream and the improved impetus valve and case make it efficient and reliable always. Think of having running water wherever you pipe it. Thousands of farmers are enjoying the luxury of running water by means of a Goulds Hydraulic Ram. You can, too—if you will.

For All the Family

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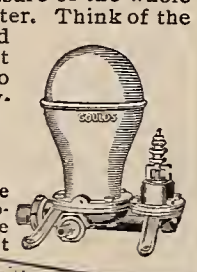

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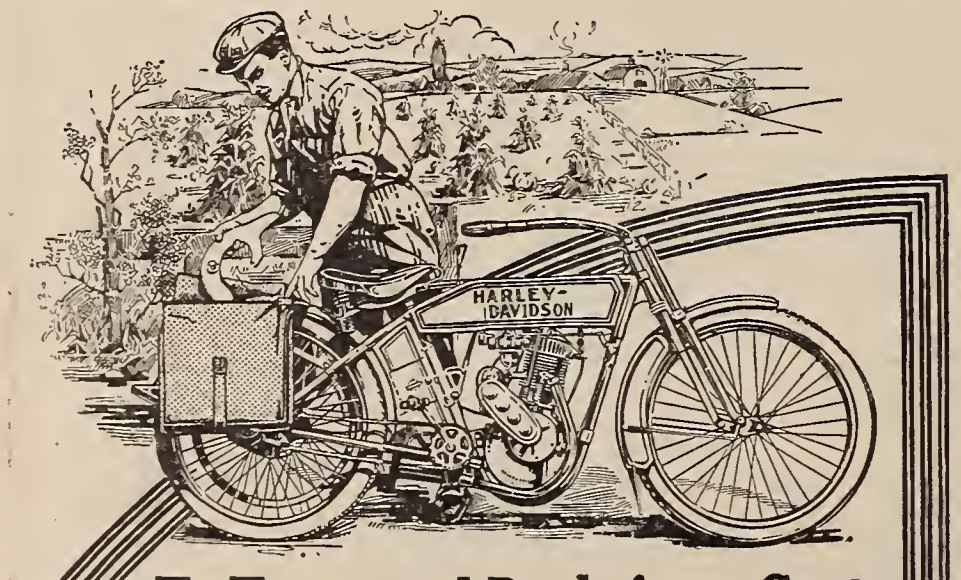

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Eastern Edition

FARM AND FIRESIDE

EVERY OTHER WEEK — THE NATIONAL FARM PAPER

ESTABLISHED 1877 — SATURDAY, FEBRUARY 15, 1913

On the other side of the world—winter in New Zealand

THE EDITOR'S BILLBOARD OF COMING ATTRACTIONS

Editorials

The biographical sketches of prominent contributors to Farm and Fireside will be continued. Among those soon to appear are David Buffum and L. K. Brown. Editorials on the subjects "Flint Corn for High Altitudes," "Feed the Mouth Nearest" and "A Check on the Commission Man" are of particular spring value.

Special Articles

Clearing land by the use of dynamite, with and without the subsequent aid of stump-puller, will interest the man who likes to get his work done in the shortest time and the best way.

"Concrete on the Farm," by Willis. O. Wing, is written so plainly that it will make you want to try your hand right away at building with concrete.

The Headwork Shop, which is resumed this issue after a brief rest in which it has collected some new ideas, will be continued. The home-made contrivances to be published are the kind that will make you say. "Why didn't I think of that myself?"

Farm Notes

"A Timberless Barn" is an article that will appeal to the farmer who is thinking of building a barn, but who cannot count on the help necessary to raise the usual heavy frame. "Mulching Evergreen Windbreaks" tells why evergreens planted under apparently favorable circumstances sometimes fail to grow.

Garden and Orchard

Flower-pots made of ordinary building-paper and used for starting early vegetables enabled a New York gardener to put his products on an early market. He tells just how he accomplished this. Mr. Greiner will discuss among other things "Fall-Bearing Strawberries" and "Little Salad Potatoes."

Poultry

Big hatches are of little value unless the chicks are raised to marketable age. "How to Raise One Hundred Per Cent. of Chicks Hatched" is the title of a most valuable article by A. E. Vandervort. Other poultry experts will tell how they developed birds in the two-hundred-egg class.

Crops and Soils

In the January 4th issue of Farm and Fireside was published an illustration showing ten ears of corn on three stalks. In the March 1st issue Mr. Conner, who grew the corn, will tell how he did it. There will be other corn articles by farmer writers telling how high yields were secured.

Live Stock and Dairy

David Buffum and Doctor Alexander, two of the best live-stock experts in America and who are Farm and Fireside's correspondents, will have timely veterinary articles. Useful rules for making dairy butter that will melt in your mouth will be given by a southern contributor who has been successful in making that kind.

The Market Outlook

In addition to the customary live-stock market letters, there will appear on the market pages of coming issues hints and practical experiences of farmers who use the parcel post successfully for marketing various products. Attention is called to the announcement in this issue on the market page.

The Adventures of a Beneficiary

The ghost mystery is cleared up, and after a rehearsal of past events the ghost is released—only to bring to light the real culprit.

Sunday Reading

"God's Covenant with Abram" and "The Destruction of Sodom" applied to modern times.

Special Articles for Women

"What One Woman's Club Accomplished" reveals the possibilities of community acquaintances and social betterment through coöperation. "Wall and Window Draperies" and "Sunshine and Health," with Mr. Lindsay's "Proclamation" and Miss Jessie Field's good talk to girls, are also in store for our readers.

Fancy-Work and Fashion

Needleworkers will be especially favored in the coming issues with appropriate shawl designs, and Miss Gould's fashion pages will appeal to home dressmakers.

Children's Page

"The Story of Wapsidoodle and Snollygoster"—a fairy tale for the little folks.

WITH THE EDITOR

Living Up To Blue China

You never know how important a thing is until you get it. Many a newly married couple has been ruined by a present of blue china, or a grand piano, or a full dinner-set of Haviland, or a hundred pounds of silver for a wedding-present. They spend the years when they should be economizing trying to live up to the blue china.

We used to get along very well when we went to town every week or two to trade, and got the mail as a part of the trip. Of course, when anyone was sick "back east" or if for any other reason we wanted to know what the post-office was doing, we watched the road in front of the house and had a passing neighbor "ask for us."

So we got our mail, and we were very well content with it. When a new post-office was established close enough so that we could jump on a horse and go for the mail after supper, it was luxury. And then came rural free delivery.

First R. F. D. Now P. P.

The statesman who would seriously propose to abolish rural free delivery would sign his own political death-warrant. Having tasted of the sweets of communication with the outside world, having once had Uncle Sam qualify as our errand-boy, we will never give the luxury up! You may be sure of that.

So it will be with parcel post. The fellows that opposed it said we didn't need it, and wouldn't use it, and would ruin the nation if we did. So they gave us as bad a law as they could, and not at all what we wanted. But the way we hopped to it and used it was a surprise. Four million parcels sent by post the first week! The express companies are already talking of duplicating the service, and competing both as to rates and delivery!

We didn't know how much we needed it until we had it. And now it is a regular part of the life of thousands of farms. This is written at Omaha, Nebraska, where one of the daily papers is publishing advertisements of farmers who want to sell things through the agency of the parcel post.

From Cider to Cheese

Thirteen farms offer butter. Five advertise poultry for the table, and one Pekin ducks for breeding purposes. Besides these, the farmers of Nebraska and Iowa offer to the city of Omaha lard, pop-corn, apples, cider, vinegar, fruits, vegetables, jellies, jams, preserves, catsup, apple butter ("old-fashioned"), meats, bacon, piccalilli, horseradish, garden seeds, comb honey, and cream cheese.

One farm offers cabbage in ten-pound lots "post-paid in the first and second zones from Norway, Nebraska," for five cents a pound.

You see we, as farmers, are competing through the parcel post with every big concern manufacturing articles for the table of the world.

The farmer who is a salesman will be in possession of a great advantage. We should study salesmanship. We have always been weak as a class in salesmanship, and its study will do all of us good. The parcel post ought to be a great educator for us. Some farmers will find it hard to be quite honest by mail. But they must be.

The fine thing about this law is that as we develop its weaknesses we shall not be obliged to make campaigns in Congress for its amendment. The Postmaster-General has in his hands more power to do the farmers good than any other public officer, perhaps.

Look Under the Surface

So all we'll have to do is to find out what we want and go after it through the office of the Postmaster-General. The greatest thing in the world to make a public officer efficient and responsive to the public will is to be able to fix responsibility upon him. That's why the commission form of government in cities is better than the old ward system. Somebody is clearly responsible for bad things, and somebody is equally to be credited for good things when they are done. In years past the Postmaster-General could send in a message praising the parcel post, and that's all he could do. After that it was up to Congress—and Congress was a log-rolling organization as bad as the average city council. A Speaker of the House could talk loudly and radically for parcel post in speeches and on the stump, and when it came to action in Congress he could by a nod of his head recognize some gentleman with a dilatory motion which would put an effectual crimp in the bill.

There's so much more under the surface in Congress than there is on the surface. That's why the Farmers' Lobby has been of so much benefit to the farmers who read *Farm and Fireside*, and also why it has been a thorn in the side of some congressmen.

Let's Live Up to It

The job of the Postmaster-General will not be an easy one in this matter of making the parcel-post law what it should be. But he will be responsible, and over him the President will be equally responsible. The Postmaster-General will take his orders from Woodrow Wilson. One of the first things they will have to consider in the parcel-post matter will be the fact that the express companies have contracts with the railway companies under which express matter goes over the railways at a rate about half as high as the government pays for the same service.

That's one of the things President Wilson will have to figure out.

But, anyhow, we have a parcel post. We can sell some things direct to the consumer by means of it. And we may be sure that it is a bit of blue china which we shall never allow to be broken. We shall spend our time in the future in trying to live up to it.

ADVERTISEMENTS ALL ADVERTISERS GUARANTEED

[CONCLUDED ON PAGE 24]

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published every other Saturday. Copy for advertisements must be received three weeks in advance of publication date. $2.50 per agate line for both editions; $1.25 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 381 Fourth Avenue, New York City; Tribune Building, Chicago, Illinois

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter

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Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper so as not to wear a hole through the envelope.

Vol. XXXVI. No. 10 . Springfield, Ohio, February 15, 1913 PUBLISHED BI-WEEKLY

Have you ever noticed that the breast-bone of a chicken is sometimes bent? It happens quite frequently, as you will observe if you eat the breast or dress many chickens. Poultry-dealers have also noticed it.

European scientists tell us why. They found that all young chickens have straight breast-bones until they learn to roost, when some of them develop crooked breasts caused by narrow roosts. Chickens should have wide, flat roosts. They are more comfortable, and the scientists will also rest better if they know that the little chickens all over the land are not sleeping on broomsticks, which are interfering with nature's plan of straight breast-bones.

Pure-Food Laws and Parcel Post

A THIRTY-FIVE-PAGE bulletin has just been issued in Connecticut discussing the general question of the weight and volume of goods sold in packages. The author of the bulletin weighed and examined nearly two thousand samples of food put up in cans, jars and pasteboard packages, and including everything commonly found in a grocer's stock.

He concluded that the manufacturers of food products doing business in that State were, with very few exceptions, giving full weight and full measure. He states that "the deviations from guaranteed weight were small," and gives the reader the feeling that the people of Connecticut should congratulate themselves because of the full weights and the purity of the products they are buying.

We ought to have had full weights and measures and pure foods long ago. Such things are among our rights, not our privileges; but only recently have food manufacturers as a class been forced to recognize that right. This year the parcel post has put the farmer almost on a par with the merchant in the retail district.

We hope that the fresh-from-the-farm products will all come up to the pure-food requirements. I am sorry to say that lots of farmers may get into trouble unless they become more familiar with Uncle Sam's code of regulations which he is making the city tradesmen and the big manufacturers live up to.

Only yesterday a contribution was received in the editorial office advising housewives to put borax in milk and butter to keep them sweet. Not long ago another contribution was received recommending the use of salt in cream as a preservative. Some of the ways in which eggs are kept would put them on the impure-food list. Let's think about these things before we overstep the line. The Internal Revenue Bureau says there must be less than sixteen per cent. of water in butter. If it has as much as that or more, the butter is adulterated, and the manufacturer must pay a fine and also take out a license to make adulterated butter.

Rather stiff? Yes, but there is a good reason for all the requirements. You can get a copy of the pure-food law from the Secretary of Agriculture at Washington, D. C. There are state dairy and food laws, too, to be looked up. Let's all keep on the side of law-abiding citizens. Remember that ignorance of the law excuses no one. We hope it won't be necessary for anybody to write a bulletin congratulating the people that fresh-from-the-farm-parcel-post produce is really fresh and up to standard weight and measure.

The author of a discussion on drainage engineering shows that tile-drains properly and permanently constructed will pay back the principal and interest on an average acre in five years.

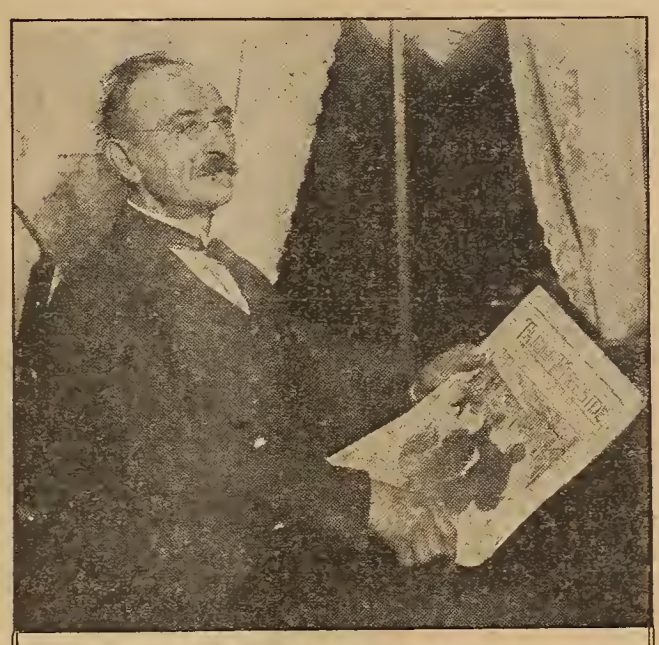
Fruit-growers will be interested in the finds of W. L. Atee of the United States Department of Agriculture, who states that birds are the effective natural enemies of the coddling-moth and in some sections destroy from sixty-six to eighty-five per cent. of the hibernating larvæ, and their work in large measure accounts for the small spring broods of this destructive orchard pest.

"Elgin Makes the Price"

A GOOD subject for debate this winter would be: *"Resolved,* That the Elgin Board of Trade is (or is not) Injurious to the Dairy Interests of the Country." Mr. Rodgers' article on the next page will supply plenty of material for both sides.

The *Elgin Dairy Report,* a weekly paper, which reports "the latest and most reliable information of the values of butter, cheese and eggs," prints on its title page every week the words "Elgin makes the price, we tell you what it is." We are glad that someone has owned up that Elgin does make the price, and the *Report* is indeed very kind to tell us what it is.

Frankly, though, a market on which last week (January 20th) only "eight lots of butter were offered and several were withdrawn" (we quote from the *Elgin Dairy Report*) should not be permitted to "make the price." The value of eight lots of butter is so small that it can be too easily manipulated.



OUR readers in every neighborhood in this broad land will be glad of the opportunity to look at this true-to-life picture of Mr. T. Greiner, whose kindly counsel has helped and encouraged our subscribers during his long connection with FARM AND FIRESIDE.

It can safely be said that no one person has made a more systematic, exhaustive study of both the practical and scientific aids to production in his line—gardening and the raising of small fruits—than has Mr. Greiner. He keeps closely in touch with new developments and on his home acres steadily winnows the wheat of farm-science discovery from the chaff of delusion. Best of all, Mr. Greiner is a genial farmer gentleman—not a "gentleman farmer"—whom every reader would enjoy meeting. His farm is near LaSalle, New York.

Poultry-Doctoring by Amateurs

PRESENT-DAY chickens, like the babies of earlier days, are long-suffering creatures. Unlike the overdosed and mistreated babies, the feathered sufferers endure in silence.

The number of "dopes" that the poultry-keepers of any neighborhood can collectively advise for the ailments and diseases to which poultry are subject is enough to prevent any self-respecting chick from pipping its shell were it a free agent.

Health is the natural condition of chickenhood if a fairly good heritage of vigor is insured at the start. Chickens, like all kinds of highly bred and artificially developed domestic animals that have long been kept for a special purpose, are particularly dependent on man's furnishing just the kind of surroundings and nourishment to which their ancestry has been accustomed.

The most successful poultryman depends but little on medical remedies except for emergency cases. His first thought is for vigor in his stock. Next comes the kind of housing and runs that will furnish just the kind of protection and comfort that his particular variety of poultry requires, not forgetting good and sufficient ventilation without draft. With these essentials provided, he knows that regular and sufficient exercise, either on the range or artificially afforded, is necessary for the good health and best egg and meat production of his birds.

Without constant attention to cleanliness and general sanitation in the poultry-houses and confining runs, he knows that his first-mentioned provisions will count for but little. If the birds are kept right, they will stay right.

The medical and sanitary aids used by poultry specialists for control and cure of poultry diseases are few and simple. Some physic, like Epsom salts or castor-oil, and a reliable disinfectant, such as Zenoleum, are the standbys.

Separating the ailing birds from all of the others the moment disease appears and confining them in sanitary, well-ventilated, comfortable quarters will usually prevent an epidemic. Treatment with physic and the disinfection of their eyes, nostrils, mouth and digestive tract, also the poultry-housing quarters, will in most cases make promiscuous doctoring unnecessary.

Much more disease and loss is found in comparatively small flocks of a few score birds in the hands of the new poultry enthusiast than in poultry operations conducted on a larger scale where exact attention and experienced handling is the rule.

Where'll They Get the Experts?

THE motto of the capital of Iowa is "Des Moines Does Things." Its last proof of the justice of this rather boastful claim is the first steps toward the establishment of a $300,000 crop service. It is reported that a substantial sum has been collected to make good with.

Iowa has a hundred counties. The sum of $3,000 in each county is relied upon to set the movement for better crops going.

Good for Des Moines. Iowa has never been half tried out as an agricultural State, even though she has a greater percentage of her soil under crop than any other. But if all these counties are to have agricultural experts, and the movement spreads to other States, where are they all to come from?

Do your Easter shopping for farm experts early. The supply may give out.

Birds as Common Carriers

A SCOTCH investigator has just completed a most interesting study of the contents of birds' craws. Altogether six hundred and sixteen birds of seventy-three species were subjected to post-mortem examination. Most of them were killed while feeding on farm lands.

The food of a large number killed in February consisted chiefly of seeds and the fruits of wild plants and weeds. But most interesting of all was the discovery that, with the exception of corn, all seeds found in all parts of the intestines were in perfect condition and were not a source of nourishment.

In other words, they are excreted in a state favorable to germination and growth. The wonderful service which birds have, without question, done for agriculture in disseminating the seeds of agricultural plants and trees all over the face of the globe wherever birds fly should not be marred by the charge that weeds also have been scattered. After all, who let the weeds go to seed?

A milking-machine experiment conducted in England has been closed with the announced results that there was less contamination of the milk by bacteria in machine-milking compared with hand-milking as it is usually carried on. This is contrary to experiments made by many investigators in this country.

The Elgin Board of Trade—The Basic Butter-Market

Shall the Government Allow the Chicago Commission Men to Continue the Game of "Heads I Win, Tails You Lose"?

By Edward C. Rodgers

THE dog that was wagged by its ambitious tail must have had a pretty fair idea of how the butter industry feels about the Elgin butter board, or, as it is officially named, "The Elgin Board of Trade." The Elgin board has tried with more or less success to "wag" the entire butter trade, and has in years gone by done much toward making the price for all butter produced in Illinois, Wisconsin, Indiana, Iowa, Minnesota and Michigan. It still has a great influence on wholesale prices not only in the Mississippi Valley States north of the Ohio, but extends that influence in a slightly lesser degree throughout the country.

It is recorded in the pages of fiction that the wagged dog was mightily interested in the tail and came in time to look upon it with no little feeling of awe and wonder. So it has been with the butter industry; not alone in the half-dozen States directly in touch with the Elgin board, but in every dairy district, the product of which comes into competition with "Elgin butter" at Chicago, New York, Boston or Philadelphia, the four great butter-receiving centers; and in any of the smaller markets, Cincinnati, Milwaukee, St. Louis and other cities.

The Board Was Lusty as an Infant

While little butter is offered for sale on the Elgin board, the prices quoted by it have for years formed the basic price in many, if not all, markets this side of the Rockies. For instance, take any market outside the "big four," and the first thing local commission men want to know is the Elgin quotations. That being known, they feel able to go ahead and allow local conditions, receipts and sales to influence their price that day. Even on the big New York market the New York Mercantile Exchange is strongly affected by Elgin figures. There the antiquated "quotation committee" has been abolished, and supposedly actual sales, offerings and bids govern the prices established. There, where 50,000,000 pounds are received in three months, the commission man will keep one eye on Elgin quotations and the other on his sales and receipts. By reason of its ability to accomplish this monumental feat, the Elgin Board of Trade's history is worth looking over.

Forty years ago there were in the vicinity of Elgin, Illinois, about twenty butter and cheese factories. They had no established market for their product, except through the commission men in larger cities, and these middlemen were often imbued with the idea that pervaded the individual who killed the goose that laid the golden eggs—they were not unlike some commission men even to this day. In a word, they had a fond relish for taking profits both ways, gouging the producer as cheerfully and as thoroughly as they did the consumer. In March, 1872, the owners of the factories around Elgin met and organized themselves into a "board of trade." Their first president was Joseph Teft. Once a week they met and offered their butter and cheese for sale. At first it took considerable persuasion to induce the buyers to come to the board room and do their purchasing. The commission men displayed no remarkable liking for a market upon which buyer and seller could meet upon equal terms, where all transactions must necessarily be open. They preferred the practice of consigning dairy products to themselves for sale at such prices as they could get, or could say they got. That plan was proving highly profitable.

However, after a long and bitter struggle, the buyer went to the producer, and by the beginning of 1879 the board had become so well established that it was thought best to incorporate and perpetuate its activities. This was done; the original name, "The Elgin Board of Trade," being retained. For many years the buyer and seller, commission man and creamery man, met in the exchange room every Monday, and after completing their deal reported their transaction to the secretary, the sale then being established as "a regular sale." Soon the offerings and transactions became so large that a call board was installed. Upon it the creamery-owners chalked the number of tubs of butter they offered for sale and the price they would sell for. The buyers could then go along the board and accept such lots at the price marked as they wanted, if any, or they could offer their own prices, which might be accepted by some of the creamery men and refused by others. In that way a large volume of business was done each Monday morning, the board's regular meeting and price-quoting day, and the Elgin Board of Trade achieved an enviable reputation in the butter industry. Things ran along smoothly until in 1896, when the "auction plan" of making actual selling prices was abandoned in favor of a "quotation committee."

It Became a Made-to-Order Market

This quotation committee, or price committee, as it was more frequently called, consisted of five board members, commission men, or producers, or both. Its duty, as fixed by the corporation's by-laws, was to ascertain and state the official Elgin quotation for fancy creamery butter. That quotation was official for the week following the Monday it was declared by the committee, which was popularly supposed to take into consideration the offerings of butter, sales and bids made on the floor of the exchange, and to go beyond that and look into conditions in the trade and industry throughout the American marketing and producing centers.

If three of the five members happened to be producers, they could "overquote" the market—that is, make the official quotation higher than the actual selling figure—and thereby fatten the pocketbooks of all producers having contracts based upon official Elgin prices. Not a few times they were charged with doing this very thing—not often, but enough to give their commission-men brothers an excuse for getting a majority on the committee to "underquote" the market. If three members were commission men, or their representatives, it was to their interest, financially speaking, to lower the official figure to less than the actual selling price, and thus buy their butter from creamery-owners under the terms of their contracts and sell at the actual market price. This they often did.

—there also loses the farmer who gets up in the wee sma' hours

Between the two possibilities much trouble was raised, and this, at last, resulted in "recall legislation" being voted into the board's by-laws. Any two members could demand that the quotation committee's price be put to a vote upon the floor of the board, and if it were not sustained that price was officially "recalled" and a new one fixed by ballot, in which any and all members present might participate. The price finally declared might be lower or higher than the one found by the committee. So if there happened to be a larger number of producers on the floor any Monday than there were commission men present, and the quotation returned by the committee was lower than the majority thought it should be, the official market price could be changed to suit the producers. More often it did not work out that way, for usually the creamery men were back in the woods some place making the product to be sold, and a large congregation of commission men hopped on a suburban train at Chicago and rode down to Elgin with the emphatic intention of underquoting the price.

The Elasticity of Honesty

The quotation committee was usually not unfavorable to the producer, but there was that Chicago representation on the floor each Monday morning. They were Chicago commission men, heads of firms, or their representatives, from South Water Street. Most of them had contracts with creamery-owners covering yearly productions, with prices based either on Chicago or Elgin quotations. The Chicago Butter and Egg Board they already controlled body and soul.

When the Elgin quotation committee announced the official quotation, one of the Chicago members' weekly duty was to jump up and object. Another Chicago man added his objection; it took two to start a vote. Then the balloting of members commenced. If a majority were honest, they would vote to sustain the committee's quotation, if they thought it was the right figure. If a majority were not honest and happened to be producers, they could vote for a quotation they knew to be too high. If the Chicago crowd outnumbered the so-called "country members," the price was lowered to a level with what South Water Street declared was the official price for the Chicago board. It was obviously to their interest to establish the same quotation at Elgin that they made at Chicago.

First the committee's quotation was voted upon. If it was upheld, the Elgin figure flashed to other butter-markets to serve as a basic price upon which to make local quotations. If the vote failed to sustain the committee, a member proposed another price, either higher or lower than that returned by the committee, and a majority vote of the members present might send that to other markets as the official quotation.

Sometimes They Raised the Price

A great deal of butter was contracted for at the official Elgin quotation on the day of delivery, and that price was what the creamery-owner got if he had so contracted. During the season when much butter is being received at cold-storage centers it is reasonable to suppose that the speculating buyer wants to get the butter at the lowest possible price. It was then to his interest, financially speaking, to take advantage of the contracts in his safe by underquoting the price of the product being shipped to him. Millions of pounds of butter were then going into cold-storage plants at Chicago, New York, Boston, Philadelphia and at smaller storage centers.

On the Chicago Butter and Egg Board the committee was dominated by the commission firms of Chicago's produce street. In Elgin the quotation committee was more difficult to drive or coax. But it could be rendered quite harmless to the commission men by recalling its quotation and making another.

Of course, it is to be expected that the commission firm cannot always desire lower-than-market quotations. During winter months when the creamery-owners have less butter to sell, and when the city consumer wants butter most, it is to the interest of the butter speculator to make butter prices higher. This can be done by holding butter in storage-rooms and by boosting the price in either the committee's room or on the floor of the exchange room.

The largest quantity of butter sold on the Elgin board's floor during the last summer season was at the regular meeting, Monday, May 27, when twenty-three lots, amounting to 935 tubs, were sold. During the week beginning that same Monday Chicago received nearly 60,000 tubs. On April 8th three lots only were sold at Elgin, going at thirty-four cents, but the committee declared the price "firm at thirty-two cents." On August 19th several lots were offered, but only one lot found a buyer. That was last summer's history at Elgin. Three, five, and like, lots of butter were offered on the board, not enough to satisfy a fairly active commission house in South Water Street, yet the price-quoting went steadily along.

Just once it halted. That was last Labor Day, when the board took a recess and allowed the country to drift along on the same butter quotation for two weeks or adopt home-made quotations. For the first time in years butter-markets in some American cities were surprised to learn that they could make butter prices of their own, by the simple but effective expedient of finding out how much their customers would pay for the butter at hand.

To be sure, the only plausible reason for the existence of the Elgin Board of Trade now is the contract system, or "contract evil," as the federal prosecutor aptly termed it. The contract system gave rise to the price-committee manipulation and to the "premium evil." The price-manipulation fraud I have explained. The "premium evil" helps the commission man who is largely responsible for underquoting to get the business of the creamery man he cheats.

It works out like this: A commission firm sends its representative to John Doe, address: any creamery in the north-of-the-Ohio States. John Doe signs a contract to ship his butter to the commission firm, at Chicago, Milwaukee or where the place of delivery is agreed upon, and the commission firm contracts to pay John Doe for all his butter at Elgin quotations on the day of its arrival. Maybe John Doe has been selling to another commission firm and is not readily inclined to shift his annual contract.

—before the commission man gets out of his snug bed to tackle his daily labor of beating down the price

How the Premium Evil Works

"All right," says the smooth representative, "we will give you a premium of a cent a pound over and above the Elgin quotations," launching into an elaborate explanation as to why and how his firm can pay more than the official market price.

That sort of talk coupled to an offer of a premium usually gets John Doe's contract. Sometimes the premium offered is less than a cent per pound; also, sometimes, it is more, depending a great deal upon how anxious the commission firm is to pull him away from his old firm.

Now the commission firm has the contract, scores of them usually, and it is then up to it to pay more for John Doe's butter than what the creamery-owner thinks is the actual market price—the Elgin quotation. This is how he could do that and come out ahead of the deal: He or his representative took a jaunt down to Elgin on a Monday suburban train. With him were other Chicago commission men holding like premium [CONCLUDED ON PAGE 22]

Luther Burbank—The Edison of Agriculture

How as a Child He Developed a Remarkable Potato and Later on in Life Tamed the Thorny Cactus and Made It a Food for Cattle

By Chas. J. Woodbury

ONE day in the early autumn many years ago a little boy ran to his mother, saying: "Mother, you know that little piece of ground in the back yard where we have never planted anything? Can I have it for myself?"

"What for, my son?"

"Potatoes."

"Potatoes! Why, we can buy them from the farmers."

"Not the kind I want to try for. See this; I read it this morning on my way to school;" and he showed her their farm paper with these words at the bottom of a column: "There is a demand for a good first-class potato which shall yield 200 bushels to the acre."

His mother read it.

"I remembered," she told me, "how my son had taken the premium at the county fair the year before for his vegetables. He knew more about the garden than I did. So I told him to go ahead."

And he went ahead. For the boy was Luther Burbank; and this is the story of the start of the great Burbank potato, which was Burbank's answer to the call for a potato growing 200 bushels to the acre. It has yielded 435; and I have seen 525 bushels dug from a single acre. It is the only potato grown in Ireland on which the blight has no effect; probably the best yet grown in America. It has added $25,000,000 to the wealth of our country. And it was the work of a boy!

How did he do it?

I will tell you in the boy's own words as he wrote them down afterward:

He Was Willing to Take Chances

"Having saved a very small and insignificant fruit of the Early Rose potato, a variety which rarely produces seed, I prepared a piece of new ground the fall before planting, by thoroughly mixing with it, in the greatest abundance, every element which the potato requires. The next spring the ground was thoroughly spaded several times so as to get it into a perfectly loose, light bed. On this the seed was sown, the plants were carefully cultivated and often dusted with plaster and guano, which kept away insects and stimulated the growth."

"And is this all?" I asked.

"Well, not quite all. There were chances, but I have taken them all along. When I examined it, I found from all my work only one seed-ball in the entire patch. Every day I tended it. It was my only hope. Then, one morning it was gone. It had been struck from its stalk, and the wind had carried it away. I looked all over the yard for it; and what was my joy when I found it at last! Are you superstitious?" he continued, smiling. "I was my parent's thirteenth child, born on Friday; and that precious, solitary seed-ball contained just twenty-three seeds. From it came the famous potato."

How He Grew His Sweet Corn

Let him tell you another story of his boyhood; how he beat, with his early corn, all the farmers and vegetable-growers of New England, putting from his boy garden, long before any of them, his roasting-ears of earliest sweet corn on the market:

"The whole secret of my plan was to germinate the corn before planting it. Before my neighbors or I could begin spring plowing I obtained fresh stable manure, which I mixed with leaf-mold from the woods, about half and half. While this mixture was moist and hot I placed the seed-corn in it, mixing the whole mass together lightly. Thus, I allowed it to stand until the seed had thrown out roots ranging from two to six or even eight inches in length, while the tops had made a growth of about one-half an inch to an inch. In the meantime, as soon as possible, the land was prepared to receive this sprouted corn in drills made about four feet apart. Along these drills this corn was dropped liberally, no attention being paid as to whether it was right side up or otherwise.

"I then covered it about one-half inch deep. It was nothing unusual to find the corn up and growing the next morning; and this method alone insured me a crop at least a week in advance of all other planters who could reach the market.

"But this was not all. As I said before, the kernels were planted quite liberally along the drills. Some would show a very strong growth and some a weak growth. The weaker ones were pulled out after a few days, and the stronger ones left at a distance of about twelve to eighteen inches apart. Thus, by selecting the strong from the weak, and giving those best fitted the best opportunity to grow, I gained an advance of from ten days to two weeks over my competitors. The result was that I averaged fifty cents a dozen for my corn, with an eager market; where my competitors found their product, two weeks later, a drug on the market at ten cents or less per dozen."

May-Weeds Educated Into Shasta Daisies

Since these boyhood days I could not begin to tell you of the wonderful things he has done, changing the plants and trees and flowers.

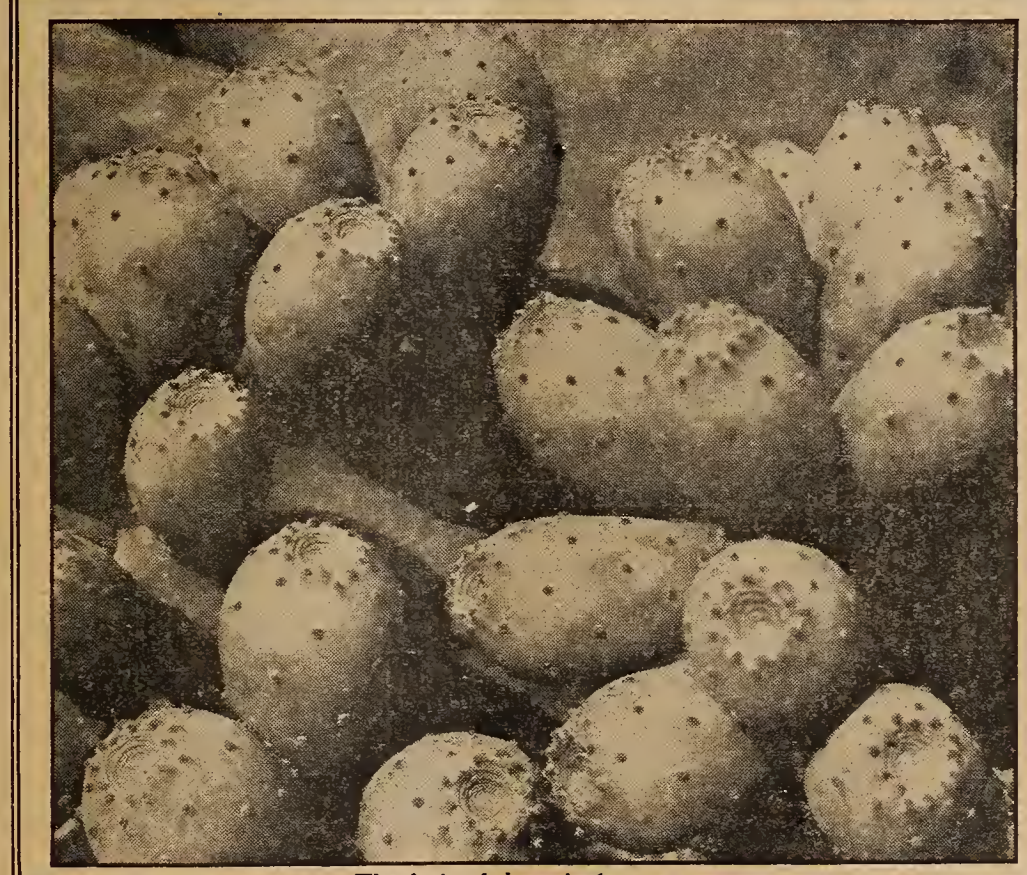
You know he does not believe there are such things as weeds. He looked one day at what I called a weed and, after giving me a look of disapproval, said: "It is only a flower out of place. It only needs help."

When I was a boy, the sides of the country roads where I lived were strewn all about with big, long-stemmed vagrants bearing little white flowers. We called them May-weeds; and the only use they were fit for was to tie onto the tails of our kites when the wind made them dive. Well, he has taken these and educated them until they are now known as Shasta daisies.

Burbank's new semi-double Shasta daisy

Perhaps, too, you have read about what he has done with the thorny cactus that grows in the desert. He has made its big spines and leaves as smooth as velvet; so tamed it that now it is being grown on thousands of arid acres as food for cattle, its young leaves being tender and luscious as a peach. He has made it over into a forage food. And it all began when he was a boy! "A cactus was his very first plaything," his mother told me; and she went on: "He always carried it about with him. It was to him what a doll is to a girl. One day it was, by an accident, broken into bits. And you would have thought his heart was broken. He tried hour after hour with his little hands to piece the fragments together.

"He was also flower-mad. When he was but a babe, I had but to give him a blossom, and he would, no matter what was his pain (and he suffered much, so thin and frail we never thought he would grow up), forget it all. A flower put in his little hands was always a cure and a peace. His cry would slowly change to a smile. His tears would drop on the petals, and he would wipe them gently off. These fingers of mine," she added proudly, "taught him to plant and just how to pinch the earth around the roots. He was not selfish about having things, but selfish about having his own way. But I did not mind, because it was generally the best way."



The fruit of the spineless cactus

Two-year-old spineless cactus in the foreground; three-year-old in the distance

And I thought, as she said it, how much like her he is; the same soft, dark eyes; the same low voice as of one wonted to silence and accustomed to being listened for; the same soft accent and quiet ways which gave no hint of their firmness.

A thin-waisted boy, living his little life in his narrow home, his childhood days hard to bear and, long before he was grown, having to make his own way, but bold and bright to do it; a lad who never loafed, and who won for himself from the gladness of his work a youth's spirits and joys!

He was so sensitive a child that often he would silently cry at the table if his grandfather looked at him. It was his habit to visit the dining-room before dinner and count the plates, to see if there were to be guests. If there was one extra plate laid, he would get his food from the kitchen and eat it in the shed.

"One day," his sister told me, "when he was five years old, I gave him some candy which Mother had taken from him and laid away. But he would not eat it. He held it and looked at it a long time. Then, with tears in his eyes, he said, 'Put it back, quick!' I remember I interfered once when he was unjustly punished, but he resented it. 'Go off, go off,' he insisted. Even when a lad, he would bear blame in silence when he might easily get off by telling the facts."

Plants Were His Best Playmates

When he was fifteen years old, one day, off in the woods, he broke his arm. He wrenched the bones into place, held them there until he finally set the fracture. Then he went home. The surgeon, when he arrived, said he could not have done it better himself. Afterward, Luther had the misfortune to break it again in the same place, and it has never been as strong since.

From the first he was very practical. Even as a boy his "gilt-edge butter" was in the spring market earliest of all. He was ingenious as well as practical, and generally any new tool he wanted he made for himself.

His father was a frugal man of the old Yankee stock, and gave him cow-hide shoes to wear. The school-boys called them "apple-boxes." Finally, the teacher bade him not to come to school again in those shoes. So he wore them to the door, and put on his father's slippers. New clothes were a rarity with him. He wore the elders' old ones made over.

He was very popular with his schoolmates. To those he trusted he was open-hearted and true as steel, but he did not seek many companions. He was a serious-minded lad and kept himself to himself. The plants were his best playmates.

Now Sixty-Three Years Old

In school he was so shy and retiring that it was difficult for him to recite, no matter how well he knew his lesson. He was so bashful that, though a good reader, he could not read aloud in his class, and he made an arrangement with the schoolmaster to furnish two compositions instead of declaiming, a trade he was sorry for when a man.

At eighteen he went to work for his uncle in a shop where plows were made. He remained there two years. Once a machine went wrong. The entire operations were stopped. An expert was sent for. He was puzzled. Luther, standing by said, "I think the trouble is here." He fell to work, adjusting the gear, and the wheels turned again. He invented a number of valuable improvements in the wood-working machinery that saved time and labor. He was offered an amount twenty-five times his salary and a position for life if he would continue, but he said, "No, my work is to make new fruits and flowers."

The original name of the Burbanks in Holland, where Luther's ancestors came from, was Bulbank. He was born in the village of Lancaster, Massachusetts, March 7, 1849. The day is kept as a public-school holiday in California, where he now lives.

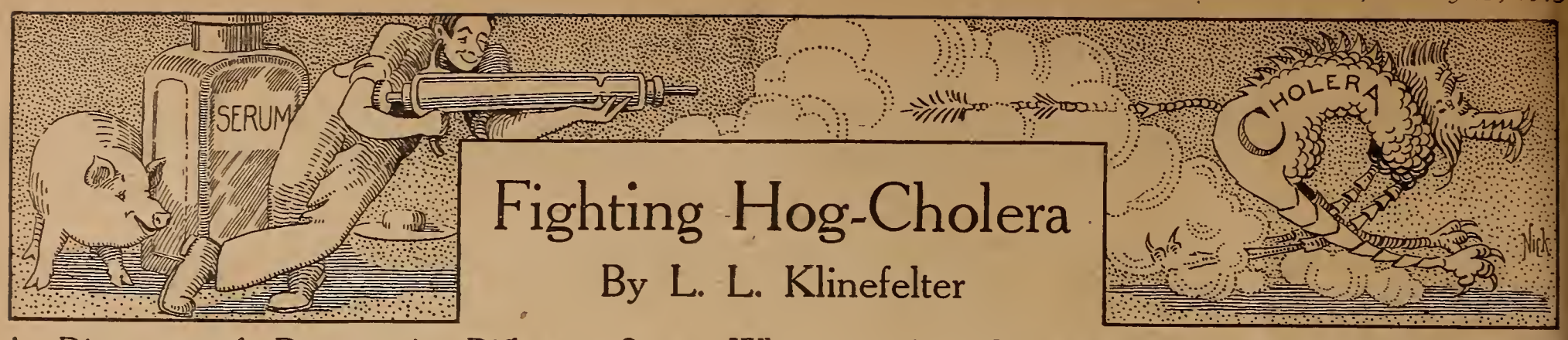
All over the land boys and girls and men and women (for love of nature makes all young alike) are now planting, selecting and experimenting for new and better fruits and flowers. And he who began it all is as quiet, as gentle, as modest, as a flower himself. So much of childhood there is in every genius.

Burbank has been to agriculture what Thomas Edison has been to the electrical and mechanical industries.

Both names will go down in history. Nevertheless, the opportunities for achievements in agriculture are greater to-day than when Burbank was a boy, because we know more about plants and animals, how they are made, how they breed and how they grow.

More Tasks are Waiting

We have more material with which to build and better tools to work with. The onion still retains its pungent odor. Who will succeed in taking it away? The radish has its sharp strong taste. To overcome that is another task. The bean still requires its bean-pole. Who will give it a stronger stalk like that of the sunflower? There is plenty of work ahead and time in which to do it.



Fighting Hog-Cholera

By L. L. Klinefelter

A Directory of Persons in Different States Who are Actively Engaged in Routing the Deadly Cholera Germ and from Whom Serum and Reliable Advice May be Quickly Obtained

Alabama—C. A. Carey, State Veterinarian, Auburn, Alabama. State does not make serum. Sends out list of manufacturers of commercial serums.

Arkansas—J. F. Stanford, State Veterinarian, Fayetteville, Arkansas. State makes serum and sells at cost. Furnishes syringe at cost. Cost of serum treatment alone, 50 cents per hundredweight of hogs, and 75 cents per hundredweight for serum-simultaneous treatment.

California—C. M. Haring, Veterinarian, Berkeley, California. State furnishes serum to farmers direct. Cost, 2½ cents per c. c. (about a teaspoonful), or about 50 cents per 100-pound hog. Write to office for application blanks, or apply to county live-stock inspectors.

Georgia—Dr. F. N. Bahnsen, State Veterinarian, Atlanta, Georgia, supplies serum at cost of 2½ cents per c. c. Demonstrations given free, and farmers taught how to use the serum.

Illinois—The serum is made at the expense of public taxation and furnished to the farmers free of charge. Requests for the serum should be sent direct to Dr. A. F. Peters, Live-Stock Commission, Springfield, Illinois. The commission will give the necessary directions in regard to the use of serum.

Indiana—R. A. Craig, Experiment Station, LaFayette, Indiana, says: "Vaccination against hog-cholera will not prove highly successful until the farmers are shown that the work must be carefully done and that everyone cannot vaccinate hogs." For these reasons the station furnishes farmers with serum through their local veterinarians. Cost to farmers, 1½ cents per c. c.

Iowa—Dr. James I. Gibson, State Veterinarian, Des Moines, Iowa, produces Dorset-Niles serum in laboratory, which is recommended as a specific for true hog-cholera, if full strength and administered at right time, not more than a week after exposure; in which case it will protect the hogs. Cost of serum, 20 cents per ounce, which is about half the cost of production. Production crippled for lack of funds.

Kansas—Dr. F. S. Schoenleber, Agricultural College, Manhattan, Kansas. Kansas has probably the largest plant for making hog-cholera serum in the world. It has a capacity of a million c. c. a month, and ordinarily carries several million c. c. in cold storage. They sell to everybody alike in or out of the State, at cost.

Kentucky—E. S. Good, Experiment Station, Lexington, Kentucky. So far have not been able to supply demand for serum, but are enlarging plant. Furnish veterinarians free to do the vaccinating, but charge 1 cent per c. c. for serum, which is about one half of cost.

Louisiana—Dr. E. P. Flower, State Live-Stock Sanitary Board, Baton Rouge, Louisiana. Serum is manufactured under the supervision of the board for about 25 cents a dose. Demand is very heavy, and board is sometimes unable to produce serum fast enough.

Maine—J. P. Buckley, State Commissioner of Agriculture, Augusta, Maine, furnishes information on swine diseases. State makes no serum.

Maryland—Dr. H. J. Patterson, College Park, Maryland. Serum made by State and sold for 2 cents per c. c., or about 40 cents per 100-pound hog. This serum is administered by registered veterinarian.

Massachusetts—Dr. Jas. B. Paige, Massachusetts Agricultural College, Amherst, Massachusetts. Very little hog-cholera in the State, and no provision is made regarding it except through Chief of Cattle Bureau.

Michigan—Ward Gittner, Laboratory Bacteriology and Hygiene, East Lansing, Michigan. Laboratory in position to furnish tested hog-cholera serum at any time. Makes Dorset-Niles serum, supplies it at 2 cents per c. c., or about cost. Fills out of State orders when home demand is supplied. Further information furnished on application.

Minnesota—Dr. M. H. Reynolds, Professor Veterinary Science, University Farm, St. Paul, Minnesota. State appropriated $10,000 to establish and $4,000 a year to operate a plant for producing serum. Sells at 2 cents per c. c. Only one serious outbreak in the State last year. Others promptly checked by use of serum. Further information on request.

Mississippi—E. M. Ranck, State Veterinarian, Jackson, Mississippi. State furnishes serum on application at 1½ cents per c. c., and advises assistant veterinarians to make injection when possible. Further information on application.

Missouri—J. W. Connaway, Veterinarian, Columbia, Missouri. The State appropriates $25,000 a year to furnish serum free to farmers. This year the appropriation was not sufficient to meet the demand, and after it was exhausted a charge of 30 cents a dose was made. No serum is sent out of the State.

Montana—W. J. Taylor, Professor of Veterinary Science, Bozeman, Montana. The State does not make serum. When needed, it is secured from outside sources.

Nebraska—J. H. Gain, Professor of Animal Pathology, Lincoln, Nebraska. The State established a $15,000 plant for making serum last year. Charges for serum, 2 cents per c. c. Much is administered by the farmer himself, but veterinarians preferred.

Nevada—C. H. True, Director, Experiment Station, Reno, Nevada. State produces some serum, and veterinarian is prepared to vaccinate hogs in case of an outbreak.

New Mexico—Prof. H. H. Simpson (P. O.), Agricultural College, New Mexico. State is not prepared to furnish serum to farmers. Hog-cholera is practically unknown in the State.

New Jersey—F. C. Minkler, Live-Stock Commission, New Brunswick, New Jersey. State does not manufacture serum, but buys a supply from other institutions that have produced in excess of local demand and furnishes it to farmers at cost on application.

New York—Prof. Howard J. Milks. Cornell University, Ithaca, New York. State Veterinary College is supplying farmers of the State with serum to be administered by veterinarians at 1¼ cents per c. c.

North Carolina—Dr. W. G. Chrisman, State Veterinarian, West Raleigh, North Carolina. The State manufactures serum and sells it direct to farmers at 2½ cents per c. c.

Ohio—Dr. A. P. Sandle, Secretary, State Department of Agriculture, Columbus, Ohio, or Dr. Paul Fischer, State Veterinarian, Pataskala, Ohio, will furnish information on request. Ohio is going into the manufacture of serum very extensively.

Oklahoma—L. L. Lewis, State Veterinarian, Stillwater, Oklahoma. Station furnishes serum, with directions for using, direct to farmers at 20 cents a dose, which is about cost.

Oregon—State Board of Health, Salem, Oregon. No serum manufactured in Oregon. Hog-cholera is a rare disease in the State.

Pennsylvania—C. J. Marshall, State Veterinarian, Harrisburg, Pennsylvania. Losses from hog-cholera have been heavy, and the State is producing serum and furnishes it free to farmers, together with free services of a competent veterinarian, except first visit, which is made at request of farmer to find out whether there is cholera or not. Full particulars furnished on application.

South Carolina—M. Ray Powers, State Veterinarian, Clemsen College, South Carolina. Serum is prepared by the Veterinary Division of Clemsen College and furnished to farmers throughout the State at 2 cents per c. c.

South Dakota—Dr. E. L. Moore, South Dakota Experiment Station, Brookings, South Dakota. State has manufactured serum for three years and distributes to farmers of the State on request at cost of 2 cents per c. c.

Tennessee—M. Jacob, Veterinarian, Tennessee Experiment Station, Knoxville, Tennessee. State does not produce serum, a bill for that purpose having failed in the legislature.

Texas—Dr. R. P. Marsteller, Veterinarian, College Station, Texas. Veterinary Department of A. & M. College is furnishing serum to citizens of Texas at 25 cents a dose for a 100-pound hog. Recommends any member of State Veterinary Association to administer the serum.

Virginia—G. W. Koiner, Commissioner of Agriculture, Richmond, Virginia. State Department of Agriculture will furnish serum to farmers of the State at the rate of 35 cents per dose of 20 c. c. Book of instruction and information free.

Wisconsin—Prof. F. B. Hadley, Agricultural Experiment Station, Madison, Wisconsin. State has just provided for the manufacture of serum, which will be sold at about 2 cents per c. c. to farmers in the State.

The United States—The Bureau of Animal Industry of the U. S. Department of Agriculture is in a position to furnish literature concerning hog-cholera and the serum treatment, but does not fill orders for serum. The actual treatment of the disease has been turned over to the different States. The reader will observe, however, that some States are not prepared to furnish serum. This is due partly to the small extent of the hog business in those States, and partly to the absence of the disease. We suggest that persons in such States and desiring help write to the nearest State which furnishes serum to non-residents.

Facts About Hog-Cholera and the Serum Treatment

TWENTY-FIVE or thirty years ago the hog was rather affectionately referred to as "The Mortgage-Lifter" by the farmers of the corn belt. Since then the name has fallen into disuse, not for want of hogs, but for want of mortgages to be lifted. Having successfully removed the mortgage, the hog did not go out of business. He is still on the job.

But these days he might more properly be called "The Bank-Account Builder," "The Other-Farm Buyer," or "The Automobile-Buyer," or "The Ready-Cash Provider." In all these capacities the hog is still working for the benefit of the farmer, turning more than seventy-five million dollars a year into the pockets of the farmers of Iowa alone. Forty millions more into the pockets of Illinois farmers. There is probably no State whose hog crop falls below a million dollars a year.

Cholera is a Germ Disease

And this in the face of a scourge that has destroyed more than half a billion dollars' worth of hogs in the half-century that has elapsed since it was introduced into this country. While it is true that these figures are beyond any man's comprehension, they serve to show the stupendous money cost of the scourge variously known as swine-plague or hog-cholera and to impress on the reader's mind the money value of any method or mode of treatment that will stop the ravages of the disease.

It is my purpose to sketch briefly the nature of hog-cholera and to outline the campaign which most of the States are now waging against it, and most important of all to put Farm and Fireside readers in a position to take up the study of the subject further by giving the address of the proper official in each State to whom the reader is urged to apply for further information and necessary supplies.

For want of space, we shall not describe hog-cholera in detail. It is enough to say that it is a deadly and highly contagious germ disease that is likely to break out anywhere at any time, because there are so many ways in which the germ may be carried from place to place. It may be in the reader's own herd next week!

As will here be seen nearly three fourths of the States have gone into a systematic campaign to fight hog-cholera by what is known as the "serum treatment."

It has been found that hog-cholera belongs to the same class of diseases as smallpox, rabies, typhoid and other germ diseases which may be prevented and often cured by giving the patient the disease in a light form, which it is found defends the system against the later attack of the disease itself.

What is Serum?

If you will take a glass tumbler full of fresh blood and set it away in a moderate temperature for a few days, you will find a thick red clot floating in a light straw-colored liquid.

This liquid is called "serum" and is an essential part of every kind of blood. It seems to be the part of the blood in which the fight between life and death is constantly going on.

Within its current the white corpuscles contend with the germs of the poisons that daily enter the system, and so it has been found that the germs of hog-cholera may be obtained from the serum of a sick hog, and by injecting them in very small quantities into healthy hogs the latter may be given just enough of the disease to make them safe against the disease itself.

Here we have the bed-rock idea which underlies the whole system of treating hogs for cholera, as it is carried out by the various States.

It was first worked out by the United States Department of Agriculture and is now in use in nearly all the States, each State acting for itself.

Not "Fool-Proof"

When an inventor has produced a machine intended to be used by all kinds of people, his work is not more than half done unless he has made it what inventors call "fool-proof"; that is, made it so that anybody can use it and nobody can make it go wrong.

Now the serum treatment for hog-cholera is far from being fool-proof, and it would be a great mistake for anybody to get the idea from what we have said, that all he needs to do, in case of hog-cholera, is to draw a little blood from a sick hog and squirt it into the healthy ones.

Properly used, the serum treatment is now saving millions of dollars' worth of hogs, but improperly or carelessly used the last condition of treated hogs will be worse than the first.

And right here we have the main reason why the States are going into the manufacture and distribution of the remedy. Under state supervision it is plain that greater care in the preparation is to be expected, since the process is an intricate as well as expensive one.

Applied in actual use, however, the remedy itself is not expensive. Write to the proper officer for your State, as shown in the accompanying list, for further information.

And tack up this page of Farm and Fireside in your hog-house so you will not lose the address. You may need it any day.

When ordering serum, state number and weight of hogs to be treated.

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5-Passenger Touring Car
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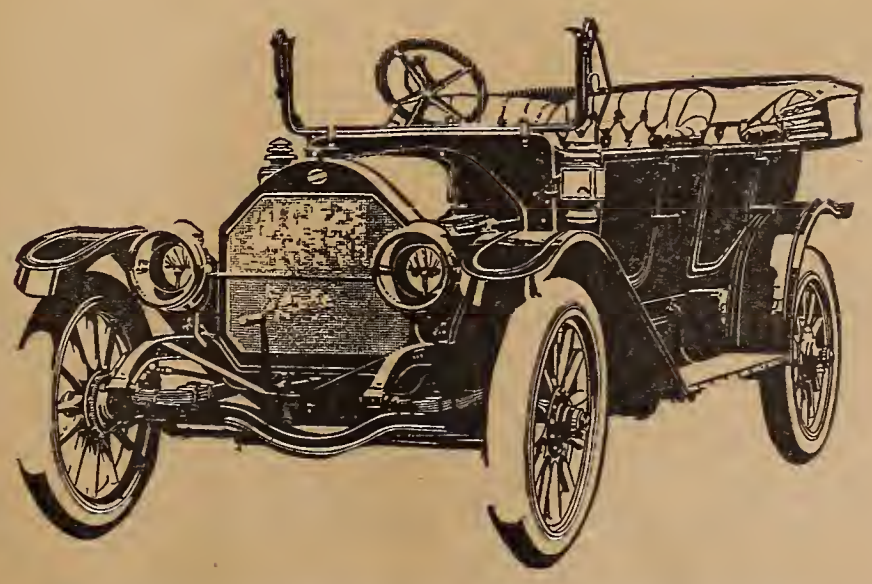

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AS TO FLAVOUR
Found Her Favorite Again

A bright young lady tells how she came to be acutely sensitive as to the taste of coffee:

"My health had been very poor for several years," she says. "I loved coffee and drank it for breakfast, but only learned by accident, as it were, that it was the cause of the constant, dreadful headaches from which I suffered every day, and of the nervousness that drove sleep from my pillow and so deranged my stomach that everything I ate gave me acute pain. (Tea is just as injurious, because it contains *caffeine*, the same drug found in coffee.)

"My condition finally got so serious that I was advised by my doctor to go to a hospital. There they gave me what I supposed was coffee, and I thought it was the best I ever drank, but I have since learned it was Postum. I gained rapidly and came home in four weeks.

"Somehow the coffee we used at home didn't taste right when I got back. I tried various kinds, but none tasted as good as that I drank in the hospital, and all brought back the dreadful headaches and the 'sick-all-over' feeling.

"One day I got a package of Postum, and the first taste of it I took, I said 'that's the good coffee we had in the hospital!' I have drank it ever since, and eat Grape-Nuts for my breakfast. I have no more headaches, and feel better than I have for years." Name given upon request. Read the famous little book, "The Road to Wellville," in pkgs. "There's a reason."

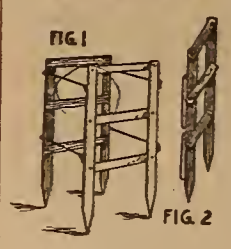
Postum now comes in concentrated, powder form, called Instant Postum. It is prepared by stirring a level teaspoonful in a cup of hot water, adding sugar to taste, and enough cream to bring the color to golden brown.

Instant Postum is convenient; there's no waste; and the flavour is always uniform. Sold by grocers—45 to 50-cup tin 30 cts., 90 to 100-cup tin 50 cts.

A 5-cup trial tin mailed for grocer's name and 2-cent stamp for postage. Postum Cereal Co., Ltd., Battle Creek, Mich.

The Headwork Shop
Its Motto: To Lighten Labor is to Lengthen Life

Better Than Stake or Trellis

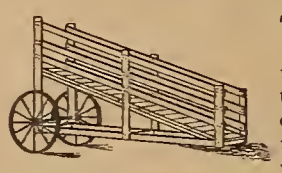


A COLLAPSIBLE rack for tomato-plants, bushes and vines can be made of plastering-lath (chestnut lath preferred). Fig. 1 shows a complete rack put together and ready for use. Fig. 2 shows a collapsed half rack ready to store away.

To make the racks, cut cross-bars sixteen inches long of lath, and nail them to the uprights with threepenny nails, using only one nail at each joint so that the rack will fold. The sections are fastened together with wire rods fourteen inches long, the ends of which are bent to fit into screw-eyes in the rack.

Cultivate the plants thoroughly until one and one half or two feet high before placing racks about them. When they are three feet high and have four or five good fruit-clusters, pinch or cut off superfluous foliage and fresh growing sprouts. When fruit-clusters get heavy, see that they are supported by the cross-bars of the rack. This is the advantage of the rack; the fruit has support on all sides and does not break loose from the plant-stem, as it often does when tied to stakes. When the season is over, the racks can be stored in a small space ready for another season. G. W. Starrett.

Chute on Wheels



THE old-fashioned chute is heavy to move about, although it saves a lot of heavy lifting. I think that the wheeled chute shown here is as great an improvement over the old-style chute as it was over the old way of lifting the hogs into the wagon. The chute should have at least "one-third pitch." It can be hooked on behind the wagon and hauled anywhere. I used old cultivator-wheels. Wm. Bond.

To Cut Iron

SET an old ax in the ground, blade up, lay the iron to be cut right on the blade and hit on it with your hammer or sledge. It cuts quite fast and used in that way, an old ax will last for the purpose quite a while.

It will, of course, give better results if you mortise a hole in a solid block of wood and set the ax in it. Paul R. Strain.

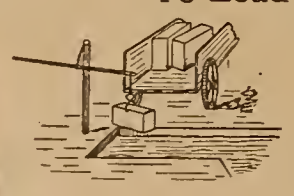
Cutworms Barred Out

SOME gardens are so infested with cutworms that many gardeners have almost given up in despair. Here is a device that fools the cutworms.

Take a piece of strong paper about sixteen inches long and five inches wide, cut slits in one edge about two inches deep and form in a hat shape as in A. Place around the plant with rim about one-half inch deep in the ground, and cover as in B, and you will stop the cutworms.

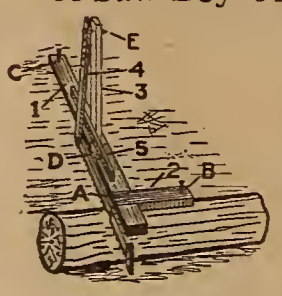
The slit edge should be at right angles to the rest of the paper. Lewis E. Leigh.

To Load Ice



FOR putting away ice on a large scale the question of tools is important, but if you have ice-tongs and an ordinary cross-cut saw the rest of the usual outfit can easily be dispensed with by those who wish only enough ice for family use. The loading device illustrated saves the labor of at least two men and enables the operator to avoid danger and inconvenience. Make a pole sharp on bottom end, drive through the ice, penetrating the soft bottom of stream or pond, and allow to freeze fast. Arrange another lighter and somewhat longer pole to act as a lever by means of rope or chain. Attach ice-tongs to large end of lever by rope or chain, and cut a channel in the ice in which the blocks of ice are floated up to hoisting device and quickly and easily lifted to wagon or sled. First take a measure of the ice-house and then endeavor to cut cakes so they will come out right. Have cakes as large as convenient to handle, taking care to preserve the proper dimensions, and cut each cake plumb. J. G. Allshouse.

A Saw-Boy That Works



THIS saw-boy costs a few cents, but will help saw wood or logs without wages, meals or bed. One man can do two men's work.

Parts numbered: 1, 2x4 8 feet long; 2, 2x4 2 feet long; 3, ⅞x4 6½ feet long; 4, ⅞x3 7 feet long; 5, ⅞x3 3 feet long. Six inches from end of 1, make two saw-cuts one inch deep and four inches apart. Chisel out. Four inches from end of 2 make one saw-cut one inch deep. Split out. Lay this notch in the notch in 1, and nail at A. At B drive a four-inch spike through. At C put an eight-inch bolt or rod of iron through, and sharpen.

Nail 3 to 1 at D, three feet from A. Drive a three-and-one-half-inch bolt through top at E, and hang saw-pendulum 4, after boring several holes at top and making an edge-wise saw-slot at lower end to admit cross-cut saw. A small nail will hold saw. Nail guard 5 to 3, one foot up, as illustrated.

Place saw-boy on log, drive peg C into the ground, and spike B into log.

This will work on any stick large enough to lie still up to four feet through and is worth its weight in eggs at the prices prevalent to-day. D. Andrew McComb.

Safe Roof-Ladder

THE best roof-ladder I ever used was one I had to make myself in order to be able to paint the iron roofs of my buildings. One roof was five-eighths pitch and two were half pitch.

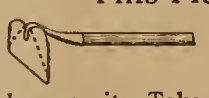
I had long saved for this purpose a choice eighteen-foot yellow-pine board, six inches wide and the usual scant inch in thickness after being surfaced on both sides. I nailed fourteen blocks, one and three-quarters inches thick and as long as the width of the board, at intervals of fifteen inches on the long board, to serve as steps up and to cling to while painting. All nails must be clinched and any cracked or split blocks rejected.

On one end I carefully bolted on with small bolts an iron hook for grappling and holding onto the ridgepoles of the roofs. The ridgepole hook on a roof ladder is the most important thing about the ladder. It must above all else be safe and dependable, or else a serious accident may result. It is torture to work in constant fear of your hook slipping. After trying several plans, I found that the best hook of all was one made from the iron from the end of an old wagon-tongue. It is so light you can readily handle the roof-ladder standing on the ground with ladder at the eaves, even with one hand if necessary, and its grip is safe.

The lumber mentioned above is quite heavy enough for safety. The ladder might be lengthened by bolting on another board.

Anyone can make the hook without being a blacksmith, as the holes for the bolts are already in tongue-irons; all that is to be done is to cut off the strap from the under part of the tongue, leaving the hook thus formed attached to the upper strap, which is then bolted to board. Paul R. Strain.

This Hoe Will Scour



THIS is a way to fix a hoe so it will scour and so big weeds won't hang on it. Take a common hoe, and chisel the two top wings off at the lines shown in the illustration. The hoe is also made considerably lighter in weight. Jesse Rahn.

FEW Farm and Fireside readers need an introduction to the Headwork Shop. Its success in interesting its readers can easily be attributed to the ingenuity of the American farmer.

In order to make it better and brighter than ever we invite you to tell in a few words about your newest home-made contrivance for lightening labor. Make a clear pencil sketch to illustrate it, and send it to Editor, Headwork Shop, Farm and Fireside. No hackneyed ideas can be used.

Only new and original ideas are solicited, and as further encouragement we offer a prize of $3 for the best contribution used in each issue, and $1 each for all others of Headwork Shop caliber. The right is reserved to use contributions in any department of Farm and Fireside, paying for same at the usual department rates. No manuscript will be returned unless accompanied by stamped and self-addressed envelope. The Editor.

Adventures of Sir Hubert

He Gallantly Helps a Housewife with Her Marketing

By N. T. Frame

In the middle ages, when man proved himself especially courageous in battle or made himself conspicuously worthy because of a noble deed or a great service to his people, his manly qualities often won for him royal favor, and he was made a knight. A knight was pledged to protect the weak and to battle for the right. Frequently his conquests took him into other countries, as in the case of the Crusades. Mr. Frame has here ingeniously represented such a knight, in his medieval costume, on a visit to a great city of the United States for the purpose of righting the wrongs in marketing and setting an example for twentieth-century men to follow. He finds a plenty for them to do.

THE crowd of marketers who had with much approval watched Sir Hubert mete out the deserved punishment to the seller of the unfit apples and had protected him from the flank attack of the ragamuffins began promptly to gather together into little groups of acquaintances as they watched for Sir Hubert to disappear around the corner of the market square.

No sooner was he out of sight than a rapid fire of questions, answers and expressions of opinion began in and between the various groups. "Was he a pure-food inspector hunting for misbranded barrels of apples?" "No, his badges seemed to be those of horticultural societies only." "But I never heard of any horticultural society expelling a member because of his fruit being dishonestly packed." None seemed able to comprehend that Sir Hubert was but a solitary Knight having within him a touch of chivalry that had caused him to swear always to protect the good name of anything that was worthy whether the worth be found in people or in things.

He Enters a Corner Grocery

The boys in the crowd cared little who he was, but were mightily interested in where he was going and what would happen next. For some blocks they followed him until signals from their stomachs, announcing the approach of the hour for their noon meal, caused them to abandon the chase and take the shortest cuts for their homes.

When his own hunger caused the Knight to cast his eye around for a source of food, he was again in the outskirts of the town, known as the city of the ultimate consumer. Ahead, at the turn of the street, he espied the usual helter-skelter display of cigar-signs and chicken-coops, and crates of vegetables and fruit, indicating beyond question the suburban corner grocery, whence might be procured cheese and cakes and pop and fruit. Sir Hubert dismounted and stepped quietly into this store. A bare-headed young woman with a baby in her arms was standing watching the grocer measure out the peck of apples for which she had called.

The grocer, advised by the shadow made as Sir Hubert entered of another possible customer, glanced up merely and then proceeded with the filling of the measure. Sir Hubert was a bit surprised to note that Mr. Grocer filled this measure only about even full; in other words, that he did not heap the measure, as is generally customary with apples.

As the woman made no protest, he assumed that such measure must be the local custom based upon a low price for this short peck. While the grocer stepped behind his counter for a string with which to tie the bag into which he had poured the apples, Sir Hubert quietly walked over to the barrel from which the apples had been taken.

In answer to the question of the woman, Mr. Grocer named a price for the peck of apples enough to have bought a heaping peck of fine apples, even allowing for a very liberal retailer's profit. This price reached the Knight's ear, just as something stenciled on the barrel in question caught his eye. Instantly his demeanor changed. He suddenly became aware of a wrong of the worst kind, of an insult of the most insidious character against the reputation of fruit he was pledged always to protect. Seizing from the barrel as many apples as his broad right hand could get at one time and pointing with his left to the, as yet, untied bag on the counter, he exclaimed,

"These belong in there."

Whether due to the fear of physical violence from the Knight or to the prickings of his own conscience, at any rate the grocer meekly admitted the extra apples to the bag, tied it and handed it to the woman, who swiftly departed out of a side door with her baby and her apples. Returning then to the barrel and pointing with extended arm to the tell-tale marks on it, he demanded of the grocer, "Come here." The grocer came. "What did you pay for that barrel?" The grocer named a price something less than the prevailing price for standard barrels of similar quality as Sir Hubert had heard them quoted that morning in the wholesale market. "So this is the way you add to the high cost of living, hold back the marketing of our fruit and tarnish the reputation of the very fruit itself.

"So this is the way you add to the high cost of living"

He Seeks the Ideal Market

"You saw the words 'Short Barrel' on this package before you bought it. You, therefore, paid less for it than you would have paid for a standard barrel, because you knew its staves to be only twenty-seven and one-half inches long instead of twenty-eight and one-half inches. This short barrel, purchased at a short price, you bring into your store, and out of it you sell at full price not less, but probably more pecks than you could have sold out of a standard barrel had the pecks been each a full one-twelfth of a barrel. You scoundrel, I shall not bother with you myself; I shall report you to the officers of the law!"

The grocer had regained his composure, and thus reassured by the Knight himself that he was in no danger of personal violence smiled broadly at this last suggestion of Sir Hubert. Never during his long experience as a grocer had he ever heard of anyone being arrested for giving short measure. In fact, he knew of no standard measures by which to judge of the amount of heaping necessary for a full peck of apples. He was well aware that he was accustomed to sell twelve pecks out of a short barrel, but what of it? So long as the customers knew not the difference, why should he not do so? His competitors did.

Sir Hubert heeded not the grocer's smile. Nor did he even remember the crackers and cheese which he had entered the store to get. The use of the short measure by the grocer had called up before his mind's eye an orderly and clean market-house, governed by commissioners who regularly inspected all weights and measures in use and severely punished any sellers who were found giving short measures. Sir Hubert believed that he had seen this model market in this very city of the ultimate consumer. He proposed to find it if possible, and demand that the standards and methods of inspection there in use be also put into practice over such scoundrel grocers as this one, even if located in the outskirts of the city. With the vision of this market before him, Sir Hubert forgot hunger, forgot everything else but his eagerness to get back at once to the center of the city in his quest of the ideal market-place.

On arriving in the down-town section he sought out the city hall and the mayor's office. His impressive bearing won for him an immediate audience with the mayor. But this official was too deeply engrossed in bond issues and the impending city election to be interested in markets. "Go see the health officer; he looks after the foods," were the words with which the mayor sped his parting guest. The health officer and his department had all been busy preparing an exhibit for the museum, and none of the inspectors had had time to visit the markets. "Sorry," remarked the health officer, rising from his comfortable chair, "but I must catch a train for our state pure-food convention, which I address to-day. Talk to the sealer of weights and measures. He visits the markets once in a while."

The office-boy was the sole occupant of the latter official's office. "The sealer's on his vacation this month," the boy cheerfully informed him. "He won't be back till the night of the milkmen's ball. The milkmen give one every year in his honor. They say it makes him good-natured for the rest of the year."

He Learns the Commercial Evils of the Twentieth Century

Sir Hubert turned away with a sad look of disappointment on his face. He was thinking of men and women and children.

He had seen enough of official life to know that there was no hope for aid from that source. Other observations, strengthened by his experience at the corner grocery, had made him aware of how little the ultimate consumer knew of peck measures and short barrels.

He pictured to himself the farmer planning and toiling to produce food for his fellow man in the city. The farmer who produced the food was surely entitled to a living. And his city brother whose work made possible the wonderful manufactured articles needed by the farmer and all the rest of the world was also so entitled.

The grocer and all his commercial kin were supposed to help in the speedy distribution of the earth's products, but it looked as if they had violated their trust. The temptation to live easily by making just a few more cents off of many transactions had become a habit with too many.

He suddenly became aware of a wrong of the worst kind

Farm Notes

What is a Gas-Engine?

By James A. King

This is the First of a Series of Short Articles on the Gas-Engine, Its Construction, Uses and Fuels

A GAS-ENGINE is an internal combustion engine. It is a machine in which heat is used to do work. This heat is generated inside the engine-cylinder itself. This heat is obtained through the burning or the combustion of fuel; hence, the general name "Internal-Combustion Engine."

Gas-engines may be grouped according to the natural condition of the fuel which they burn. These groups are the gas, gasolene, oil and alcohol engines. But to avoid confusion we will use the name "gas-engine" in its broadest meaning.

Names of Parts

There are certain things that are found in all gas-engines. Their exact form, number or arrangement may vary infinitely, and yet they will all be found there.

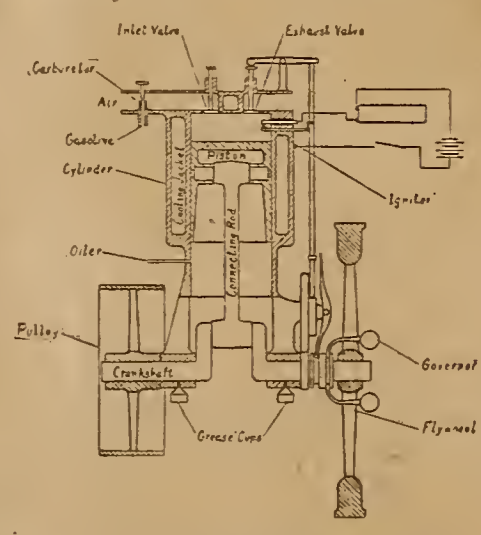
(1) A fuel-tank, to give a constant supply of fuel at all times. It may be mounted directly onto the engine-frame, or the fuel may be piped from a distance, as for one which burns city gas. When using a liquid fuel, this tank should be large enough to hold fuel for at least a half-day's run at heavy work.

(2) A carburetor, or mixing device, for mixing the fuel with the proper amount of air to give good combustion. Where the fuel in its natural state is a gas, this is simply a "mixer," to give the proper proportions of fuel and air. Where the fuel is naturally a liquid, this is called the carburetor, or the feeder. In this case the fuel must be broken up into a fine spray and then mixed with the proper amount of air.

(3) A valve system, to control the time and the direction of the movements of the gases. One set controls the admission of the fresh charges, the other controls the expulsion of the burned gases. This control may be had by means of valves, ports or openings.

(4) An ignition system must be supplied for igniting, or starting the combustion of the charge at the proper time. Ignition may be had from a jet flame, a hot surface, an electric spark or by spontaneous combustion. But the system must be reliable, efficient and sure. It must be under the complete control of the engine and the operator.

(5) The cylinder and piston control the energy generated by the explosion of the charges. They may be compared to a barrel with one end or head stationary, while the other, which is the piston, is movable. The expanding force of the burning fuel causes the piston to move back and forth.



The principal parts of a gas-engine and their names

(6) The crankshaft and connecting rod utilize the force imparted to the piston. The rod connects the piston to the crankshaft so that the moving piston causes the crankshaft to turn. It is much like a man turning a windless, his arm is the connecting rod, and the windlass is the crankshaft.

(7) A heavy fly-wheel is mounted on one end of the crankshaft so as to give it a steady, uniform motion. This fly-wheel stores up the energy of an explosion and then gives it out again to the crankshaft during the time that no explosion is taking place. It is similar to the action of the fly-wheel on a hand sheller. It prevents a jerky motion of the shaft.

(8) On the other end of the crankshaft is mounted a pulley, a gear or a chain, or even all three of them. By means of these some other machine, such as a grain-separator, can be connected to the crankshaft and driven by the engine.

(9) An oiling system is necessary to feed a constant supply of oil or grease to every place where two surfaces rub together. This is necessary so that they will rub smoothly and evenly without cutting or heating or wearing excessively.

(10) A cooling system must be provided to keep the cylinder from getting too hot from the repeated explosions inside it. Otherwise, the cylinder would soon become so hot that it would grip the piston so tightly it could not move. Air, water or oil may be used as this cooling medium.

(11) A governor must be used so as to keep the crankshaft running constantly at a uniform speed so the engine will do its work smoothly and evenly. Otherwise, it would run fast with a light load and slow with a heavy one. One way is to control the frequency of explosions, the other is to control the size, and so the strength, of each explosion.

These are the things necessary to make an engine. Some are quite uniform in type as used in various engines. Others vary so much that it is practically impossible for the average man to be familiar with all their varying peculiarities.

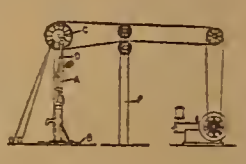
Many of these variations have their chief value in giving a salesman a talking point. On the other hand, certain conditions and problems demand special designs of certain parts. Here the value of an engine will depend greatly on the success of its manufacturer in making the proper design to meet these special needs.

Device for Pumping with Gasolene-Engine

By. J. E. McMahon

THIS device enables one to drive a pump with gasolene-engine or other power where it is inconvenient to move the power to the pump. I have tried the windmill and power quadrants, but owing to the lost motion and jerk they are not satisfactory; therefore I allow the line shaft to protrude from the power-house, using a sheave wheel about twelve inches in diameter.

At the pump, which may be half a mile away, I set upright a six-by-six securing it to well-platform and guying top. Get an old windmill head, remove all but pump-shaft and stroke-wheel bearings and the hub to which spokes were bolted. Now, take a rubber-tired buggy-wheel rim, use flat bar-iron (C) as spokes to connect rim to hub of windmill-wheel, and you now have a direct-drive pump-jack with sheave wheel. If it is inconvenient for you to get the part from a windmill, you can order a pump-jack with sheave wheel.



Now, bolt pump-jack near top of post (A). Connect pump-rod to wheel with a pitman (D), and you are ready for the endless belt, which should be a common galvanized clothes-line cable made of six No. 18 wires twisted. To support the wire between well and power, use posts (F), each having two small sheave wheels to hold wire. If any building is in line, run over it, setting an upright on roof of same with sheaves attached. This kind of belt can be run around curves, but it is better to avoid abrupt turns, as it would require more power to run pumps. The cable will not slip. I know of one outfit of this kind with pump and power six hundred feet apart that has been in use a year, pumping four barrels of water in five minutes. The pump runs at eighty strokes per minute, the water is forced four hundred feet away, up a grade of about thirty feet, requiring twice the power necessary to place water at top of well. The clothes-line has never broken.

Cage for the Feed

By D. S. Burch

A MAINE farmer who had been losing a large amount of grain and feed from the depredations of rats and mice reasoned that a cage which would keep them from getting out would also keep them from getting in.

So he selected a large room in his barn and covered all sides, floor and ceiling with quarter-inch-mesh galvanized wire screen. The one door and the two windows were covered, also. Into this room he then put his sacks of grain and feed.

The room proved to be absolutely rat-proof. Corn-cribs and granaries may be similarly covered with coarse screen. The doors should, of course, fit well and be "armor-plated" on the edges. Strips of thin wood may, if desired, be nailed over any rough edges of the wire on the floor to protect sacks against wearing and tearing if they are to be moved frequently.

Beware of the coughing cow. Tuberculosis is found most frequently in the lungs and throat passages.

Concrete Lumber for Fences

By Marc N. Goodnow

THE up-to-date farmer who desires to build substantial and permanent fences is now offered in the use of concrete a material which has the three advantages of economy—time, cost and labor in handling—to say nothing of permanence and stability. The simplest way in which to handle concrete for this purpose is in the form of lumber, the manufacture of which is a simple matter, though one may never have attempted it before. Another big advantage in its use

is that the work can be done during cold weather in the shelter of the barn or a closed shed.

Fig. 1 shows an adjustable form which was used in the construction of many thousands of linear feet of concrete lumber by men who were not skilled in the use of the material, but who, nevertheless, produced highly satisfactory results. In the construction of a fence, such as is shown in Fig. 2, this one form is all that is necessary for the manufacture of both posts and rails. The length, width and thickness of rails and posts will be limited only by the breadth, length and depth of the adjustable form.

Fig. 1

The form is constructed of two-inch boards ten to twelve inches wide and any length, preferably about ten feet. The end pieces (BB) should be thirty-six to forty inches in length, according to the width or breadth of material to be made in the form. All surfaces coming in contact with the concrete should be covered with zinc or galvanized iron. The long sides of the mold should be fitted with strong brackets or braces (EE) with screw attachments, so that they can be securely fastened to the end strips as well as be easily removed. The end strips should be fitted with any sort of a swinging lock or screw (DD) which will prevent any slipping when screwed up tight. In addition to these locks, the long boards should be fitted with an iron rod (A) from tip to tip, which may be tightened by means of a wedge in the center to prevent any bulge or belly of the long plank during the tamping process.

Oil is Used to Prevent Warping

The height of the form is purely optional, though for ordinary purposes it will be found that twelve inches is very serviceable. If the post is to be eight inches square, the form should be at least two inches deeper than that to allow for the insertion at the bottom of a two-inch plank, which will act as a support for the post until it has thoroughly hardened and cured.

In making the concrete rails, or lumber, ten inches in width and eight feet seven and one-half inches in length, it is only necessary to adjust the form to these dimensions and insert at least two small blocks (CC) upon which a two-inch plank of the same dimensions as the form may be placed to form a basin for the concrete. The depth of this basin will be the thickness of the lumber—two inches in the fence described.

This bottom plank should be coated with linseed-oil or kerosene to prevent moisture from the concrete or the drenching warping it. When the concrete has been tamped into the basin, it should be allowed to remain upon the plank and the entire plank and concrete load lifted bodily out of the form and set upon a rack to cure.

Concrete fence-rails should be reinforced with quarter-inch twisted iron bars. Four bars are ample for ten-inch boards and can be imbedded lengthwise in the concrete as it is tamped into the form. Four-by-fours should be reinforced with the same size bars. Posts should have at least four twisted bars.

How the Panel Effect is Given

If there is to be a large number of posts, it is better to have a number of molds made especially for posts, for these should be of poured concrete and allowed to stand until thoroughly set. The construction of separate molds for posts is a simple matter, consisting merely of constructing a box of the desired width and length with detachable sides and no bottom. The slots for the rails are made by nailing blocks of wood to opposite sides of the post mold the width and breadth of the fence rail; in this instance ten inches long and two inches wide. These slots should be at least two inches deep.

If it is desired to use a cap over the post, the top slot should be only nine inches, so that an inch of the rail may project into the slit in the cap. The caps can be made cheaply in a number of easily made molds.

If panels are desired in the sides of the posts, these can be made by merely tacking one or two boards on opposite sides of the post mold. This same post construction can be done in the mold shown in Fig. 1 by nailing blocks of wood to the sides of the mold, though care must be taken in removing these forms. In using this form for posts, the paneled sides would necessarily need to be top and bottom and the slotted sides in contact with the form sides.

For ordinary farm work a satisfactory mixture is composed of one part cement, two parts sand and four parts stone or gravel. Small gravel or crushed stone should be used in lumber. The mixture for the lumber should not be too wet to tamp well. The mixture for the posts should be wet enough to be poured. After removing posts and rails from the forms, they should be set carefully away and drenched at least once a day for a week. They should also be protected from freezing. After a week's curing the pieces should be treated with waterproofing.

Figuring the Expense

On the farm of O. C. Barber, near Barberton, Ohio, 30,000 rails were cast in four molds for use in five and one-half miles of concrete fence. Two wooden molds were used for the posts. These were set thirty-eight inches in the ground and supported at the base with a mixture containing heavy gravel mixed with cement. Fig. 2 explains the spacing of rails and other dimensions.

The total cost of this fence was forty-three cents a foot; the total sum for the aggregate distance of five and a half miles being $12,487.20. Though this figure seems a large one, still the owner has five miles and a half of fence which will stand for generations.

Forty rails a day were cast by two men, working for $1.90 and $1.75 a day. The caps cost two and one-half cents each for molding. Thirty posts were made each day by a molder at $2.50 and a helper at $1.75. The cost of the fence per running foot, piled in the yard, was twenty-eight cents.

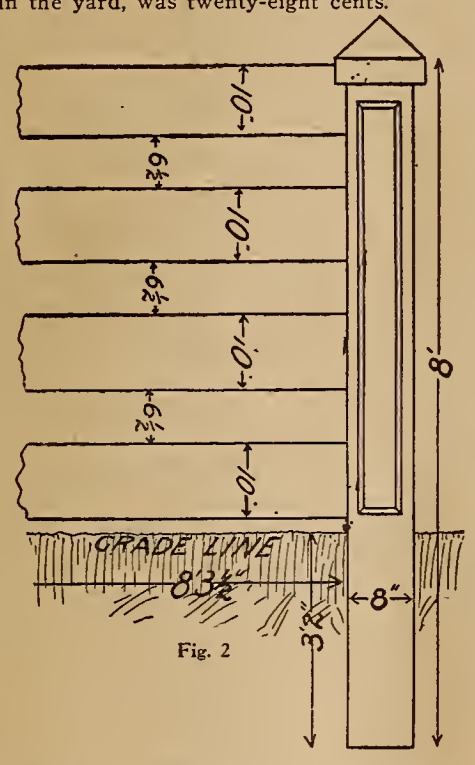


Fig. 2

The work of setting up the fence was done by a crew of fifteen men at $1.75 a day each, with one team of horses and a foreman at $2.75 a day. This gang of sixteen men erected 280 feet of fence per day.

Preparing Honey for Market

By N. F. Gute

THE greater share of bee-keepers are farmers who give but little thought to the marketing of their honey crop until the cold weather comes, when they have more time to give it their attention.

The earlier fancy comb-honey is marketed, the better price it brings. Honey is not in very heavy demand, however, until berries and small fruit are off the market. Cold weather increases its consumption. The home market is the best except when there is a limited outlet and a large crop. Comb-honey costs eight to thirteen cents per pound to produce; extracted, five to eight cents per pound. The producer should receive not less than fifteen cents for comb and ten cents for extracted honey. The best returns can be obtained by putting up honey in small neat packages.

It is possible to stimulate the home demand by seeing that all honey put on the market has been graded thoroughly and is inviting in appearance. No leaky sections should be sold. See that your grocers have honey constantly on hand. Sell to several. If some grocers are backward in starting to handle it, leave it with them to sell on commission, but have them put it in conspicuous places. Put large neat labels on all honey packages. Instruct dealers how they may arrange the honey to show best effects and thus captivate the purchaser by sight alone.

Many bee-keepers sell their honey from house to house, getting a large number of regular customers and receiving a good price, as well as orders for future delivery.

Methods of preparation for market depend on kind of honey and the market. Extracted-honey sales will have a big boost when people learn how neatly it is produced, how wholesome it is and that it is not what many people call it—strained. When selling, explain the method of obtaining it. Put it up in small tumblers or pails. Tumblers holding six ounces sell to grocers for ninety cents per dozen; nine-ounce glass jars having glass caps, rubber rings and spring tops sell for $1.40 per dozen, and fourteen-ounce jars of similar make for $1.80 per dozen. The tumblers have a circular disk of paraffin paper which is put on top when cap is pushed on, to make it air-tight. Tin cans holding one, three, five and ten pounds are good. Many use ordinary pint and quart Mason cans.

How to Prevent Granulation

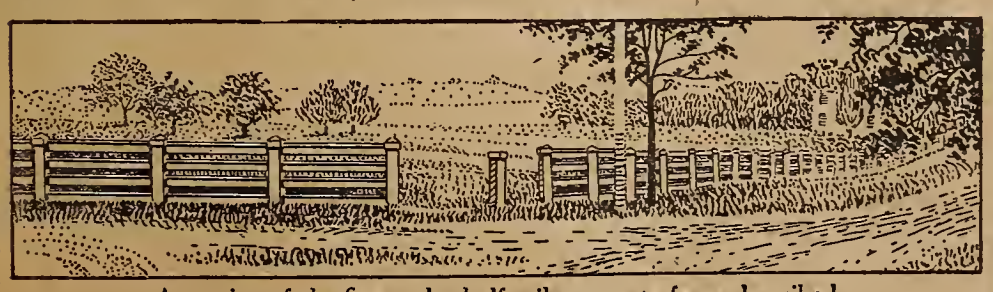
Honey bottled at 160 degrees and sealed air-tight is not likely to granulate. Supply labels and directions for re-liquifying granulated honey by placing the honey receptacle in a basin of hot water. Explain that granulation is a certain test of pure honey. Honey mixtures or syrups will not granulate. If honey is to be sent to a distant market, it may be put in soft-wood barrels or kegs. Test first with hot water for leaks. If hardwood barrels are used, coat inside with paraffin wax or beeswax by melting a quantity of it, pouring it into barrel, then rolling it around until all parts are coated. The remainder can be poured out. Five-gallon square cans, two in a case, are favorite shipping receptacles.

Shipping Honey in Cold Weather

Comb-honey should be thoroughly cleaned and put into neat shipping cases. Instruction should be given purchasers to keep it in a dry, moderately warm place. If honey is to be shipped, these cases should be put into a carrier with cushions of straw on bottom and sides. Nine large cases or twelve small ones are the proper number for the carrier. These should be made like a crate with projecting side sticks which serve as handles. "CARE—THIS SIDE UP" should be marked in large letters on top.

If comb-honey is to be shipped in cold weather, leave it in a warm room twenty-four hours before shipping. Cold weather makes the wax brittle. Load crates in wagons with combs running opposite the direction of wheels. When loading in cars, place combs parallel to the track.

Honey sent to a commission merchant should bring at least three cents per pound more than in the home market. Send to only most reliable houses. Always state a price below which they are prohibited from selling. Cutting rates is a bad practice.


A portion of the five-and-a-half-mile concrete fence described

GARDENING
By T. Greiner

Onions Much Asked About

PLANTING an acre of onions is too big an undertaking for a person who does not know when it is time to plow and to sow the seed and how onions are cured.

First of all, read and study books and bulletins on onion-growing; then plant a fraction of an acre for a start, and thus find out what you can do with onions. For open-air sowing in the Northen States, the right time is the first chance in early spring that the land can be brought in perfect condition for the operation of seed-sowing. We must have a nice clean seed-bed, neither too wet nor too dry.

Fall plowing and early spring working will often secure these conditions. In most cases spring plowing or replowing will be found necessary or preferable. We put the seed in with a common garden seed-drill, sowing about one inch in depth and four or five pounds of good seed to the acre.

A comparatively large amount of hand labor, by means of hand wheel-hoe, is required in order to keep an onion-patch properly cultivated and free from weeds. And this work must be attended to in good season and with great thoroughness. If you do not propose to do that, better not plant many onions.

Lime Effects

Much of my success in growing big onions, many specimens weighing a pound and a half apiece, I attribute to a free application of lime to the land in spring. Likewise, I believe that similar applications just before sowing the seed of the Portugal onion early in August have helped me to get a remarkably fine stand and growth.

I have used manures right along, year after year. The land is rich. The fine and almost spontaneous growth of clover on any patch that is left to itself for a while would hardly show that there is any need of lime. Yet, owing perhaps to faulty drainage, the land often turns up rather soggy, with close texture. Lime seems to make it looser, and therefore more productive.

I think if I had used lime on my cucumber and melon patches, I would not have had to record such a complete failure. I shall use lime more freely next season.

The Slug Nuisance

"What can be done for snails on celery?" I am asked. The slimy creatures often manage to get on our lettuce and celery in the garden, and I have known them to do much damage even to corn, peas and other vegetables. Sometimes they are found on lettuce in frames and celery in trenches, and they are likely to spoil our appetite for these succulent green vegetables.

Among the common substances invariably fatal to slugs or snails when brought in contact with them are salt, lime, ashes, potash compounds and kerosene emulsion. If we can manage to reach the creatures with an alkaline solution, or with salt or lime or ashes in dust form, the task is easy. But when they are hidden in the folds of lettuce-leaves or among celery-stalks we must try to use such solutions or dusts very liberally and persistently and thoroughly in order to get rid of the pest, and then may not be wholly successful. But if you keep working along these lines you will reduce the snail or slug crop materially.

Sweet Peas for Money

"Could a person sell sweet-pea blossoms?" asks a subscriber. Yes; some persons can. Some do at least, and do well with it in a small way. There are plenty of people in our cities and larger towns who are just aching to buy and take home a nice bunch of sweet peas, of asters, of dahlias and of many other showy flowers, if such can be had fresh and for a reasonable price. We have a big lot of lilacs of many varieties, some single, some double, some white, some purple and some of various other colors. They are usually in full bloom about Decoration Day. We conld sell all we have, and wagon-loads more every year, at good prices.

I know of no other flower that could be grown more easily for cut flowers than the sweet pea. But there are certain requirements that are indispensable to best success. In the first place, the ground must be rich. We usually spade or dig a good lot of old compost into the row, if along a woven-wire fence, which is a good place to have them. Possibly less compost and a good lot of commercial fertilizer would do.

The plants must also be given some support. This may be brush, poultry-wire netting or any woven-wire fence three or more feet high. They should be planted very early in spring. This is essential. The blossoms should be kept quite closely picked off. The more you pick, the more will grow. If many are left to make ripe pods, the vines will soon give out. For general marketing purposes the ordinary good mixture (of colors) offered by responsible seedsmen will do very well. It may be well, however, to have a separate patch, row or part row of white and the different colors. By all means plant *some* sweet peas. Plant them early. Plant them fairly deep, and use plenty of seed in the row.

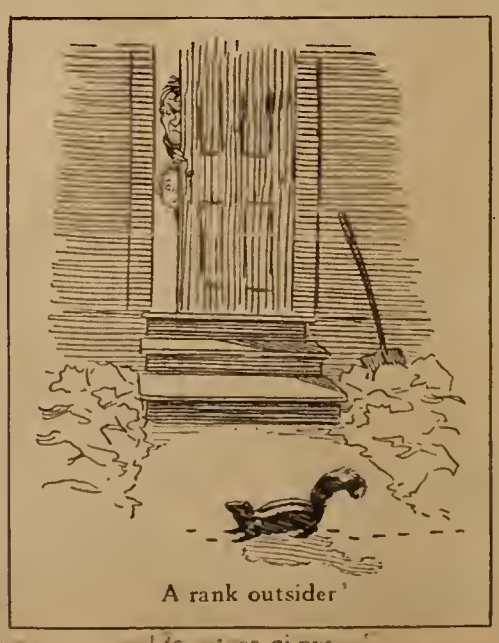
Dry Onions from Seed

Again I have some inquiries about onion-growing, this time from Ohio. Muck-land farmers everywhere, and people having other bottom-lands, usually prefer the Southport Yellow Globe for a yellow onion, and Round Red where that is wanted or thought to do better, for a red sort. The land, whatever its character, cannot be prepared too well. It should be very rich, and the surface made very fine and smooth. If muck, apply six or eight loads of good old stable manure. This is enough to inoculate the soil and start bacterial action.

For the balance of plant-foods you can rely on commercial fertilizers, mostly of a mineral nature, such as acid phosphate or other forms of superphosphate, and muriate of potash, say six or eight hundred pounds of the former and half as much muriate, or, in the absence of these chemical manures, a few tons of wood-ashes. All manurial substances, of course, must be well mixed in with the soil. Make it a particular point to sow the seed early. You will need about two and one-half pounds of fresh water-cleaned seed to sow your one-half acre. Sow it with a garden drill, making the rows about fourteen inches apart. Some have the rows only a foot apart, and some make them sixteen inches apart. Then use the hand wheel-hoe diligently, beginning as soon as the first seedlings make their appearance. Keep it going, and hand-weed before any of the weeds get large. Clean culture right through is a matter of vital importance. Thin where necessary. Do your work well and thoroughly, and you will have a crop in the fall worth harvesting.

Blanching Celery in the Cellar

In reply to an inquiry on blanching celery, I would say: Always take up the celery-plants when the soil is wet so that a fair amount of earth will adhere firmly to the roots. Some sand or soil—muck soil is as good as anything, if well broken and fine—may be put directly upon the cellar floor, in some out-of-the-way corner, no light being required or wanted, or into a large box placed there, and upon this layer of soil, well dampened, the plants should be stood, always upright, and as close together as they can be crowded. More sand or soil may be packed over the roots and around the stalks; the more the better, in fact. If the roots are allowed to get dry, the stalks are likely to lose their brittleness and succulence, yet water should not be brought in contact with the leaves, as rot would be the sure result. The green leaves, of course, will not get white. It is the new growth, the heart, that comes out nice and white and tender. Celery makes some growth at a low temperature, even if not much above freezing, and the new growth comes out nice and white, and deliciously sweet and tender. But be sure to have the plants upright and in the dark.



A rank outsider

Hen-Manure for Rhubarb

An East Providence, Rhode Island, reader says he has some rhubarb-plants four years from setting. The stalks now begin to get spindling, hardly fit to peel. He is told that covering with hen-manure in the fall would make stalks large. Hen-manure is good for any garden crop. Rhubarb can stand a good deal of it. It will improve the stalks in size and tenderness. Put it around the plants freely, in the fall or at any other time of the year. You can dig it in with hoe or cultivator, or you may let the rains soak out the plant-foods and wash them down to the roots. It will matter little which course you pursue.

Raising Early Potatoes
By M. Coverdell

WE AVOID the great mistake commonly made by many farmers in trying to raise early potatoes, which is that of deep planting; we always see that our potatoes are deep-rooted. This is essential to a heavy yield, but the seed is not placed in the ground so deep right at the time of planting. Where they are covered too deep at this time, they are much more apt to become chilled or damp, either of which will promote rot, many times before the potatoes are even sprouted.

Here in Missouri we mark off furrows about eight or ten inches deep, dropping the potatoes in them and covering to a depth of only about two inches. Unless the patch is of considerable extent, we cover the potatoes with a hoe, as it can be done more uniformly than by covering with the plow.

Nothing more is done to the planted potatoes till they begin to come through the soil, when they are given another covering of from one to two inches. We usually do this by harrowing, which will also dig up and destroy the weeds that have sprung up in the meantime. This gives the potatoes a good, deep covering, yet insures the plants coming right on through the ground. By rolling a little fine soil down in the furrows against the vines at the first and second cultivation, then hilling up well at the laying-by, the main roots on which the tubers form will be well down in the ground, where they will have ample space, moisture and soil elements for developing a heavy crop of potatoes.

Pick Cucumbers When Small
By C. J. Griffing

I MAKE the growing of cucumbers an important and profitable feature of my garden. In dry seasons, as last year, I had healthy, thriving and prolific vines, while those of my neighbors were stunted or dried. This is my method of watering: In each hill I place a tomato-can with several holes in the bottom and containing a quantity of manure. It takes a little time to keep these cans filled with water and it certainly is worth while, and I attribute my success to this method.

I do not attempt to grow very many early cucumbers, as they are made uncertain by frost, cold and bugs. I have a cheap way of protecting these early plants, which lessens the danger considerably. I make wooden frames eighteen inches square and six inches high and tack wire screen over the top. These are placed over the hills and protect them against both insects and cold. If well cared for, these frames last for years. I grow a large quantity of late cucumbers for pickles, both for home use and market. These I plant about the tenth of July as a second crop after some early vegetable such as lettuce, radishes or early peas. Weeds are not so troublesome after this date, and the seeds sprout and grow very fast. I think that cucumbers picked in the fall make better pickles and keep better than those picked in the summer.

Care should be taken in picking and the cucumbers picked often. They do not make as good pickles when too large. In the fall the insects do not trouble the vines, and they make a very fast growth, thus I think it is a mistake to plant cucumbers intended for pickles too early. I prefer home-grown seed and save it early, selecting from vines which appear to be most prolific. In this respect I have found that seed from large green cucumbers is equal, if not superior, to seed from yellow ones.

Fighting Cutworms

CUTWORMS sometimes ruin the sugar-beet crop. The National Department of Agriculture recommends a poison bait for them which ought to work well in any garden. Mix a pound of Paris green in a bushel of bran, with eight gallons of water and half a gallon of cheap molasses. Late in the day put lumps the size of marbles about the bottoms of the plants. Repeat if necessary. For gardens a smaller amount may be mixed in the same proportions.

Sometimes the cutworms migrate in great numbers and are called "army" worms. Plow or dig ditches to head the armies off and drag logs or brush through to kill the worms after they have fallen in. If the ditches can be filled with water, a scum of kerosene will kill them. Any migrating worm can be fought by this means with beneficial results. ANONYMOUS.

Poultry-Raising

Guaranteed Eggs Bring a Premium

By A. J. Mack

Reported by Claude Chamberlin

MY POULTRY receive my personal attention. I do not allow anyone else to feed them or gather the eggs unless it is unavoidable. The birds are more quiet and less inclined to range widely if they are never disturbed by the presence of a stranger.

The eggs are gathered once a day, late in the afternoon, except in warm weather, when they are also gathered at noon. I use a large market-basket and take them at once to the storage-room which is a part of my dairy building, for high-grade dairy butter is also a product of my farm. This room is built of hollow concrete blocks with solid floor. It is carefully ventilated, kept cool in summer by means of three ice-boxes and the temperature maintained well above freezing in winter by means of a pipe from the furnace in another room of the same building. By means of the furnace and the ice-boxes I can keep the temperature where I want it at all times. At no time in summer does it run above 70 degrees, and I try to maintain an average of 55 to 65 degrees the year around.

The Different Grades are Kept Separate

On one side there is a doorway leading to an outside platform, from which crates are loaded directly upon my light spring wagon. Inside are wide shelves for the storage of filled crates. They are the common shipping crates that dealers use. In warm weather I have a grated shelving on which to lay all first-grade eggs as soon as gathered. Here they do not come into contact with each other. At ordinary times I pack the eggs in crates as soon as gathered.

When gathering, if I find a nest of eggs not visited the previous day, even though samples show them to be perfectly fresh, I do not place them with those from nests emptied at the previous gathering. If they are found in a stolen nest, particularly if the hen is beginning to brood, I take the nestful to a convenient feeding-trough and break them, usually mixing with some other food. Many exclaim against this practice, but I have never been troubled by the fowls eating eggs from the nests. I always break them in the feeding-troughs and usually mix them with other food. However, this disposition is not made if the eggs have incubated several days. Only eggs of unknown age or very early incubation are thus fed. I feed eggs that nine tenths the farmers would sell at the local dealer's. I neither use nor sell doubtful eggs.

How They are Graded

When the eggs are all collected at the storage-room, they are separated into three, sometimes four, lots. First, are the clean, well-shaped, absolutely fresh eggs gathered from nests emptied the previous day. They are all perfect eggs. These are my "Firsts" that go to the high-grade city trade. They are the only kind that I ship to the city market. Grade two are smaller or larger, of peculiar shape or sometimes slightly discolored, but all sound for shipping. This lot goes to the local dealer at ordinary prices. The merchant knows what he is getting, but, as he also knows they are fresher and better than most that he buys, he willingly takes them at local prices. The third lot consists of those with unsound shells, or in other ways unsuitable to ship. There are but few of these, as the birds are always well supplied with shell-material. Some fowls seem disposed to lay eggs defective in shell or shape, and these are among the first marketed in the fall. These eggs are used in my family, which, with the hired help boarding with us, is not small. A few go to the neighbors or to the local dealer at about half price. I have made some study of food values for human beings as well as poultry and cattle. I find that eggs contain more nutriment, bulk for bulk, than any other food usually found on the farmer's table. Our family uses eggs in place of meat.

Occasionally eggs are rendered unsalable at best prices on account of stains. Discolored shells are to be prevented rather than remedied. By keeping plenty of roomy nests well filled with hay or straw always within easy access I avoid most occasions for stains. Stains are not only unpleasant, but really unhealthful. The foul matter causing the discolorations passes through the pores and contaminates the inside of the egg. Washing off the stains with ashes and water or vinegar is only making things worse, since the liquid operates to open up the pores and admit bacteria which soon bring about one of the many conditions resulting in a spoiled egg.

I induce laying in clean nests by means of nest-eggs. What kind? Just the home-made kind made by filling an empty shell with a mixture of plaster of Paris and water, which hardens, making a solid inside, a nest-egg not easily broken or thrown from the nest.

A Dollar Apiece for Spoiled Eggs

On Tuesday and Friday of each week I drive in my spring wagon with the crated "Firsts" to the nearest railroad station, nine miles distant, from which place they go to the city sixty miles away. After experience with retailers, commission men and consumers, I settled upon the larger retailers, as they give best results as buyers. At first they doubted the high grade of my product and paid me only the regular market price for eggs. Then I devised a small rubber stamp, marking the letter "M," my initial, from a concave surface, and marked my eggs with this. When I offered the retailers one dollar apiece for every spoiled or tainted, even discolored or not quite fresh, egg with this mark on it, they began to take notice.

RESULT: My buyers paid me more than the regular price for my eggs because they used them to fill their top-notch trade and received no complaints from the most critical club and hotel chefs. Now I get three to six cents a dozen more than the regular price for so-called fresh eggs, since my buyers themselves get a substantial bonus for them from the gilt-edged class of consumers.

There are many chances in smaller towns where the farmers could work up a demand for absolutely dependable fresh eggs and clean, untainted dairy butter if they cared to make a little effort. The resolution must be made and strictly adhered to never for an instant to relax the care to maintain the high grade. Recently I found a stolen nest containing twenty-seven eggs, all clean and apparently fresh. Samples showed them unchanged. It happened that a number of eggs were wanted for home use, and these were taken.

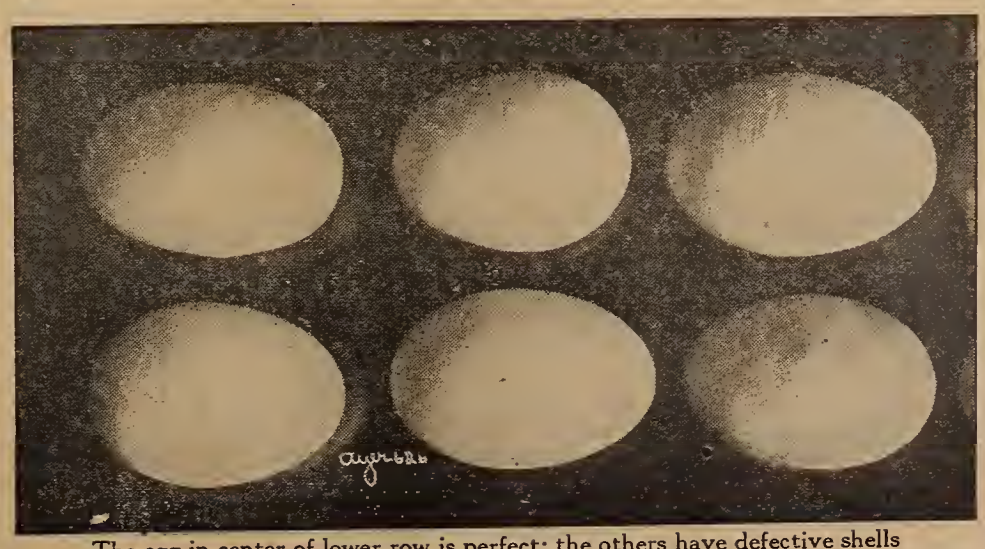
Just two eggs showed signs of incubation just begun. Many would have placed the nestful among the "Firsts," and had I done so and those two eggs appeared under my stamp in some café, my standing would have suffered immeasurably. In fact, I would gladly have given a hundred dollars apiece to have kept them out. I must know when every egg is laid. There can be no guesswork. And this care in grading has built me a very remunerative egg trade.

A Successful Concrete Poultry-House

By A. E. Vandervort

I HAVE recently completed an experiment with a solid-wall concrete poultry-house, which may be of some interest to the readers of this article, as well as of some profit to those who have been contemplating the construction of a poultry-building of this material. Much has been written lately concerning concrete for poultry-houses, but this discussion has been mostly confined to the hollow-walled house built of concrete blocks, which is naturally too expensive to be thoroughly practical.

My chief objection to the solid-wall type of house at the beginning was in regard to dampness which I feared would be the result



The egg in center of lower row is perfect; the others have defective shells

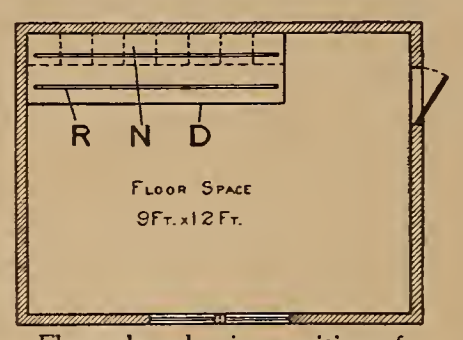
of a wall with no air space. To offset this, I concluded to construct a wall as thin as was possible to still preserve the necessary strength and rigidity. Six inches I found to be as thin as was consistent with strength, and though eight inches might be more desirable, six inches answered admirably.

I also understood the necessity of sunlight and air to dispel any lurking moisture, and I designed a building with a front practically open to the south. Into this front I inserted glass during the winter and a curtain is provided to be let down inside the glass at night during the coldest weather, as glass, though warm when the sun is shining on it, gives off a great deal of cold at night.

The house is nine by twelve feet, inside measurement, which allows ample space for one pen, giving plenty of room for a scratch-

Front view of the concrete house

ing-floor. The rear wall to the north is left without any openings, and against this the roosts (R), dropping-board (D) and nests (N) are placed. This insures the necessary warmth and lack of draft, at the same time



Floor plan showing position of roosts, nests and dropping-board

allowing a circulation of fresh air from the open front. The floor is of dirt and ashes, which, to my idea, besides being infinitely cheaper, is better than concrete. The roof, although gable style, could be modified to suit any conditions. In fact, this type of building could be enlarged or altered to suit the desires of the builder, and still results would be uniformly good.

The Proper Concrete Mixture

The proportion of mixing the material for the wall is: one part cement, one part sand and two parts gravel, all thoroughly mixed to a thin, sloppy fluid. The thinner the consistency when put into the wall, the less will be the dampness later on, as an excess of water destroys the absorbing quality of the cement when dried.

It is necessary to form molds for the walls of the house by fixing boards horizontally against uprights, which must be thoroughly braced so that they will not yield to the pressure outward as the material settles. The standards are set in pairs around the building where the walls are to stand, from six to eight feet apart and so wide that the inner space shall form the thickness of the walls. Into the molds thus formed the concrete mixture is poured. In a short time the walls will be as hard as solid rock.

This poultry-house has now been in use over a year, during the fall and winter as a brooder-house and in the early spring and summer as a breeding-pen, and I believe it has been given a fair test in all sorts of weather. As far as the dampness I feared is concerned, I will say I am sure that no more moisture exists within its walls than could be found in a tar-papered wooden house. In fact, the floor is dry and dusty at all times and is an ideal dusting and scratching floor for fowls in winter.

Most of All, It is Rat-Proof

The permanency of this building and the fact that the walls are rat, lice and germ-proof make a very desirable feature, aside from the cheapness of construction, which, on a farm where sand and gravel are abundant, is reduced to a minimum. The only necessary expense is for cement and for the lumber for the roof.

I believe, under the majority of conditions, that this house will prove an effectual substitute for the board house so much used, where drafts, rats, and lice cheat the poultry-raiser out of his profits. Since it is so cheap and permanent, I cannot see why it should not become more universally used among those who love their feathered flocks and wish for their comfort.

Hog-Hair Dangerous for Chickens

By O. R. Abraham

AFTER butchering-time, did you ever notice any of your hens drooping around, combs pale, sleepy-eyed, trying to eat and giving up the job as a bad one after swallowing a few grains of corn, yet twisting their necks as though they were full of feed? If you had caught them and examined their crops, you would have found them packed with hog-hair.

It was some time before we learned this, in fact we had lost several hens, and we were getting uneasy, for hens were worth twelve cents per pound, and every hen that "went over the road," as the saying goes, was about seventy-five cents out of our pockets, so we concluded to investigate.

The Crop Was Full of Hair

We concluded to try a hen that was "pretty well gone," as we say, so that if we killed her we could say that she would have died anyway. This particular hen was about like several others, but a little worse. Her crop had been packed with hog-hair for about two weeks, though we didn't know it until we examined her.

With a sharp knife we made an incision in the crop, and with a button-hook we pulled out hookful after hookful until the hair had all been removed, then the incision was sewed up, and the hen got well—but several others we operated on didn't get well.

Since that time we have made it a special job to clean up the hog-hair after the day's butchering, and we have had no trouble since from this cause.

You that have butchered take note, and look around your hens and see if you can discover any pale-combed, sleepy ones. If you do, catch them, and feel of the crop. If hair is packed in their crops, you can feel it—not unlike an old greasy rag.

Scales in the Poultry-House

By D. S. Burch

MR. OTTO GLOYER of Milwaukee, Wisconsin, is a firm believer in keeping scales in the poultry-house and using them. He had six nice ducks of about equal size which he was preparing for an early market.

At the end of four weeks he put the six ducks on the scales, and they weighed four pounds apiece. At the end of the sixth week they weighed six pounds apiece.

At two months of age they weighed eight pounds, and at three months eight pounds and just a few ounces. Then he sold them.

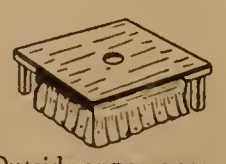
"There are always stages in the growth of ducks," said Mr. Gloyer, "when they grow rapidly and when they scarcely grow at all. As soon as the cost of feed exceeds the gain in the value by increased weight, that's the time to sell. Scales are the only means of knowing just when profitable growth ceases."

Experience with Fireless Brooders

By A. E. Vandervort

SOME four years ago I purchased six outdoor brooders. They had been used considerably, and that season they became infested with lice, which I found were very difficult to get rid of in a building of such makeup. The next season I tore out the whole inside of the brooders and applied a good coating of hot whitewash and lice-killer

Cross section



Outside appearance

and got rid of the lice. Three of them I used for brood-coops, and the others were made higher and used for colony coops for the growing pullets.

Having heard much about fireless brooders, I thought I would give them a trial, so I took

one of the old brooders which I had used for brood-coops and converted it into a fireless brooder. About seven inches from the floor and in the higher half of the brooder I built a platform of matched half-inch pieces. For a hover I took four pieces 1x2x24 inches, nailed them together to form a frame, on top of which I tacked a piece of building-paper (A). Over the paper I nailed half-inch matched boards (B). Under the frame I nailed four legs so as to raise it about five inches above the floor. I then took some heavy outing flannel (D) and tacked it underneath the frame so it would lack about half an inch of touching the floor in the center. A ventilator hole (C) was cut in the top and strips of flannel tacked all around the edges of the frame and afterward slit every three inches. This completed the hover, and this was placed upon the platform, described above, in the brooder.

This Brooder Raised Thirty-Four Out of Thirty-Five Chicks

A board with small strips nailed on it allowed the chicks to run down from the hover to the other part of the brooder. This was hinged so as to be raised at night. The other half of the brooder makes a good space for feeding and exercise. This brooder proved very satisfactory..

The first brood I tried in it was a brood of thirty-five Leghorn chicks. They were hatched with hens and when three days old were placed in the fireless brooder. I never had chicks grow better, and I lost only one out of the thirty-five.

Pullets for Profit

By James B. Morman

MOST farmers keep both hens and pullets. For egg production, which is the more profitable? With a view of answering this question, I made a test last year. The results were both interesting and somewhat surprising. The flock consisted of fifty-four fowls, of which twenty were one-year-old hens and thirty-four were pullets. The test began November 1, 1911, and closed October 31, 1912.

The pullets of the year 1911 were hatched later than usual, so that the hens had a start of fifteen days in November, with an egg yield of sixty-one eggs before the pullets began to lay at all. In fact, only seventeen eggs were laid by the pullets altogether in that month, as compared with one hundred and fifteen eggs laid by the hens.

Notwithstanding this handicap, the greater egg-laying power of the pullets made itself felt before the next month was over. The following table gives a comparative record of egg production by hens and pullets and the computed profitableness of the latter:

Month	Hens Laid	Pullets Laid	Gain in Eggs by Pullets
1911			
Nov.	115	17	...
Dec.	81	144	6
1912			
Jan.	63	423	316
Feb.	154	563	301
Mar.	293	633	135
Apr.	328	565	7
May	271	621	160
June	181	578	270
July	120	533	329
Aug.	119	452	250
Sept.	70	318	199
Oct.	42	264	193
Total	1,837	5,111	2,166

The gain in egg production by the pullets was calculated on the basis of the same number of hens as pullets, the difference showing how many more eggs the pullets laid than would the same number of hens. The gain in profitableness of pullets was determined by calculating the value of the eggs in accordance with the average price received per dozen for eggs during each month of the test. The pullets were much more profitable.

Study the Hen-Markets

The essential facts of this experiment, therefore, are that, on the assumption of an equal number of pullets and hens, the pullets laid 2,166 more eggs than the hens; at prevailing prices received for the eggs they were worth $55.93, and that this increase in profit was secured without additional expense. While there are some advantages in keeping hens into their second year, such as the greater fertility of the eggs and possible greater vitality of resulting chicks, this experiment shows that pullets are about one hundred and eighteen per cent. more profitable for egg production than hens.

These results would appear to indicate that there are times when it may be more profitable to sell a hen for meat than to keep her for egg production. By watching the markets, it will be found that wholesale prices differ as much as fifty per cent. for hens throughout the year. If selling hens at the time when prices are highest is not likely to diminish to any great extent the egg yield of a flock, it may be more profitable to sell some fowls than to keep them for egg production. By studying these points carefully, the farmer or poultryman may increase his profits quite a little without much effort on his part, except to watch the markets.

Selecting Eggs for Hatching

By Archie E. Vandervort

THE majority of troubles and difficulties in hatching eggs can be traced to the improper selection and care of the eggs we incubate. In selecting eggs for hatching, never use one that is small for the variety of the bird, and never set an egg that is long and out of proportion, or one that is nearly or quite round. Never set one that is flat, that has a thin shell or a lump or ridge in the shell, or one with a thick, rough or wavy shell. Such eggs never bring forth prize birds, much less birds fit for the table. If they do not die during the period of incubation, most of them will die soon after, and if by chance some do survive, they will be invariably worthless. If you have a bird in your breeding-pens that lays an imperfect egg, take her out, for she will never prove to be a good breeder. If any of you doubt this, try it for yourselves. You will be convinced if you mark these imperfect eggs and mark the chickens, provided any of them hatch.

Another serious mistake which we make in selecting eggs for hatching is in keeping them too long. They should not be over two or three weeks old. The fresher the egg, the stronger the chick. Some of you may have a choice breeding-pen, and in order to get enough to fill your incubator will keep the eggs until they are three or four weeks old and then set them. After the first test, you will find many with dead germs. After the tenth day, if you go over them again, you will find several more that fall short of the proper test, and when the time comes for them to hatch you will find a few plump little fellows all out on the twentieth day. I have had many come out on the nineteenth day. Then there will be others just breaking the shells, while still more do not come out until the twenty-third day. Moreover, you

Select only medium-sized eggs—avoid both of the extremes above

will find a few that were fully developed, but did not have strength enough to break the shell.

Now when you have a hatch like this you are apt to attribute the fault to the incubator rather than to the eggs or, more correctly, to yourself. Why do the eggs hatch so unevenly? The machine seemed to regulate perfectly, but we say there must be something wrong with the ventilation, or we assign any reason other than the right one. But many times the trouble is with the eggs. The newer the eggs, the shorter time it takes for them to incubate and the stronger are the chicks. The longer it takes the eggs to hatch, the older they are. The reason for this is that an eggshell is porous and is constantly evaporating and the germ is gradually weakening until there is not enough strength left in the chick to enable him to help himself out of the shell. If you wish to be convinced of this, I suggest that you try it. Take a setting hen, put under her one egg that has just been laid and still warm, then take two eggs that are a week old, two that are two weeks old, and so on until you have reached the sixth week. This will give you thirteen eggs. Mark the dates on these eggs, and when the time comes for them to hatch keep close watch. You will find that the egg that never got cold will be the first to hatch, and so on through the different ages. If the oldest eggs hatch at all, they will be always behind the rest, and the chicks will die sooner or later before they are weaned.

I find it a very good practice to date the eggs as I bring them in, and then I am able to distinguish the new from the old ones even if they are put together. If you want the best results, do not set eggs that are over fifteen days old. And don't always blame the incubator for a poor hatch.

Exercise for Poultry

By E. I. Farrington

THE fact has been pretty well established that while a busy hen may not necessarily be a heavy laying hen, an idle hen will lay few eggs if any at all. How to keep their hens busy is a problem many poultry-keepers have tried to solve. Probably the use of deep litter on the floor of the houses is the best expedient, although exercisers which drop a little grain when a hen pecks at a baited bar are excellent devices for use in small flocks, especially in towns where straw is expensive and leaves hard to get.

The cost of straw is always to be considered, for it may become a large item. Leaves make excellent litter, and the saving to be found by using them is often well worth while. Pine-needles will answer if dry, and sawdust is sometimes used.

The simplest plan is to start with a light litter, throwing in more as it is tramped down and broken up. The litter is of little use if it is so hard that the grain remains on top. It need not be removed until it becomes damp, perhaps not until spring, if a new lot is added at frequent intervals.

Some poulty-keepers use a fork to open up the litter every morning, so that the grain will work into it. Others feed liberally at night, so that much of the grain will be buried by the hens, with the idea that the birds will unearth it when they begin scratching in the early morning. That is a good plan for the man who does not want to feel that he must be out of bed as soon as it is daylight to give his pullets their breakfast. A little hemp-seed scattered in the litter will induce especially energetic scratching, and it is evident that more work will be required to find small than large grains. There must always be something in the litter, though, or the birds will get discouraged.

On one large plant grain is given five times a day or more, a little each time. The extra work is considered justified by the fact that the hens are kept constantly at work. They will always work harder when fresh grain is given. A man with a few hens may promote exercise by warming the grain before it is thrown into the litter in cold weather. Hens greatly relish warm mash, and the work involved is small when only a few hens are kept.

Warm Mashes Make Hens Lazy

Amateurs sometimes are puzzled to know how much to feed when throwing grain in the litter and are prone to overfeed, making it so easy for the hens to fill their crops that they will not work long. If a dry mash is kept before the hens at all times, the poultry-keeper may comfort himself with the thought that his birds need never go hungry even if they have difficulty in finding all the grain they need to satisfy themselves.

The use of warm soft mashes sometimes has the effect of making hens lazy. If a heavy feeding of mash is given in the morning, the hens will fill up on that and then stand around for several hours. If the amount of mash is made so small that their hunger is not satisfied, no damage will result. A mash at the close of day is not advisable, in my opinion, but it may be given an hour or two before roosting-time and followed with a feeding of whole corn. The corn will almost always be eaten, in spite of the

mash feed just consumed, and the hens will go to roost with full crops, the digestion of the two kinds of feed taking a long time.

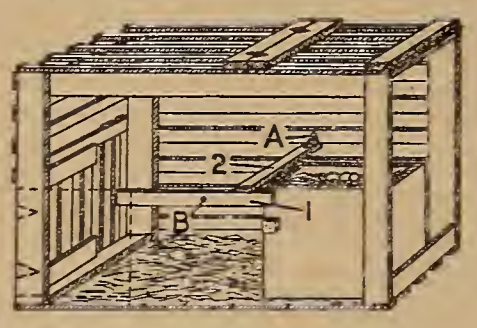
A hundred hens in a long house will get more exercise than ten in a small house, although the amount of floor space per bird may be the same. More hens may be kept proportionately in large flocks than in small ones. The fact that she can walk fifty feet in one direction instead of five or six is the important point to the hen. That there are a lot of other hens with the same privilege does not concern her. More room per bird is needed in small houses, for the hens are obliged to turn around oftener and get in each other's way to a greater extent. Hens will exercise more when they have a comfortable amount of room; that is to say, when they feel contented and happy, and not nagged and irritated. Keep a cow in good humor, and she will give more milk, and the same principle applies to a large extent to a hen.

How to Make a Trap-Nest

By J. S. Underwood

THE box shown in the sketch is made of strips three eighths of an inch thick and one inch wide, the strips being placed about one inch apart. In the rear of the box the nest is made some six or eight inches from the bottom. In front of the nest is a one-by-two-inch piece (2) hinged at A. The end of rod 2 rests on rod 1, which is pivoted at B, the long end being to the front.

The door is hinged at corner of box with spring hinges and closes itself when set



free by rod 1. The door opens on inside of box position shown by dotted lines and is held open by rod 1 until hen steps on rod 2 when the door is released and closes itself.

When the hen enters the box in getting on nest, she will always fly upon rod 2.

These boxes can be made double; that is, several partition walls built in the same frame. The dimensions are: length three feet, width one and one-half or two feet and height about two feet. A door is made in top of box for taking out the hen. We have used this style of nest for some time with very pleasing results.

A Pen of Ten That Made Good

By W. E. Griffith

I HAVE a pen of ten Single-Comb White Leghorns that were hatched in March, 1911. The first egg from these pullets was secured November 14th, and during the year ending November 13, 1912, they laid 2,030 eggs, an average of 203 eggs each for the ten pullets.

The production by months follows:

November, 1911 (17 days)	29
December	133
January, 1912	120
February	160
March	178
April	211
May	272
June	252
July	240
August	222
September	163
October	40
November (13 days)	10
Total	2,030

These pullets were housed in a piano-box covered with prepared roofing, and had for an outside run a yard six by twenty feet in the rear of a city lot in Ohio. The birds were kept continuously in the quarters described during the year, but the house was cleaned every day.

They were fed as follows: The morning feed was one pint of ground corn and oats and one pint of bran and middlings mixed with two ounces of beef-scrap, made into a mash damp enough to crumble. The noon feed was one pint of wheat and oats mixed, also the table-scraps. The evening feed was one quart of grain mixed as follows: one part cracked corn, one part wheat and one part oats. This was scattered in the pen with the litter. They had access to charcoal, oyster-shell and grit all the time, and fresh water three times a day. We also kept a dry mash constantly before them composed of five pounds of middlings, five pounds of wheat-bran, one pound of oil-meal and one pound of corn-meal fed dry in a hopper. The green feed in summer was lawn-clippings, and in winter sprouted oats.

The value of the eggs, at twenty-five cents a dozen, was	$42.25
The cost of the feed was	16.25
Net profit	$26.00

Successful Machine Incubation

By G. Walters

THE title of this article naturally leads one to believe that the incubator is the all-important thing in securing good hatches. The success lies principally on the good judgment used by the incubator-operator and the care taken of the flock.

Hatching Eggs Must Not be Chilled

To secure good hatches we must first have hatchable eggs. Many are the ways in which eggs can be made unfit for hatching purposes. Fat hens and no exercise of the males will do it. Late-hatched chickens or immature stock often results in not only poor hatches, but weak chicks, with many dying in the shell just before hatching-time. This is also often the case with older pullets which have laid well and steadily all winter. The best remedy is that practised on most successful poultry-farms.

Only two-year-old hens mated with vigorous one-year-old males are used for breeders. These hens have a rest during the molt in the fall and early winter. As they are mature and have had a long rest, they lay large fertile eggs that not only hatch well, but give large sturdy chicks that thrive. When saving eggs for hatching in cold weather, gather them at least twice daily to prevent their being chilled.

A very common but bad practice among breeders having a small flock is the saving of hatching eggs for two weeks or more and storing them in a room having a high and widely fluctuating temperature. The sooner eggs are incubated after laid, the better the hatch. All hatching eggs should be kept in a room with a temperature of from fifty to sixty degrees for best results, and all eggs two days old or older turned daily.

Select a Cool Room of Uniform Temperature

All authorities agree that the best place for operating an incubator is in a cool room having a uniform temperature. It will be seen that a cellar, well ventilated, is a fine place. The least desirable place, and one so often used, is the kitchen. The disadvantages of the kitchen are the excessive heat throughout the day, the constant jarring of the machine, the possibility of children meddling and the danger of placing objects on top, as well as the pet cat sleeping thereon, which so often interferes with the regulating apparatus.

We all know the evil effects of thunderstorms and explosions on hatching eggs, so, to overcome them, put a piece of hard rubber under each incubator leg. The machine should be placed absolutely level, and failure to do this will result in varying temperatures in the egg-chamber. It is easily determined by applying the level to the four sides of the top of the machine.

The manufacturer of your incubator should know best how to operate that particular machine, therefore follow their instructions, unless you know by experience that you have a better way of handling it. Be sure to run the incubator several days and have it well regulated before putting eggs in it.

Use only clean, well-shaped, good-sized eggs such as you would have your next season's pullets lay.

I begin turning the eggs the second day and have never had any "germs stuck to the shell." The cause of this is that the germ, or embryo, being lighter than the rest of the egg, floats to the top, and if there long it sticks to the shell and dies.

Remove the Unfertile Eggs

All unfertile eggs are tested out about the tenth day and fed to the hens. The eggs are all turned carefully twice daily from the second to the eighteenth day. The egg-trays are turned end for end mornings, and side for side at night, thus insuring a uniform quick hatch. The length of time to cool depends largely on the temperature of room and kind of incubator used.

With slatted-bottom machines I begin cooling the eggs on the seventh day of incubation from three to five minutes twice daily, when the time is gradually increased about one minute a day to the eighteenth, with a room temperature of forty-five to sixty degrees, while with a temperature of sixty to eighty degrees the length of time for cooling is about doubled.

The moisture problem I consider even a more important item. Since there are so many hundred makes of incubators and located in every locality in the United States, it is impossible to give directions for applying moisture to the incubator in each individual case, for the climatic conditions vary so. If your incubator instructions have but one rule for both high and low altitudes and you get poor hatches, I would advise writing the manufacturer of your machine for information which he will give freely. High altitudes usually need more moisture for hatching because of the greater dryness.

How to Know When Moisture is Needed

There are two characteristics of a good hatch. They are, first, that moisture collects on the inside of the glass door at hatching-time, and, second, the membrane surrounding the chick is wet and can be easily broken or torn by the chick when coming out of the shell. If the moisture on window is absent and the membrane dry and white, you may be sure that moisture is needed. I begin to apply moisture the seventh day and keep it up until the twentieth by sprinkling the incubator-cellar floor daily, or, if this should be impossible, pans of water are placed under the machine. If this is found to be insufficient, a piece of burlap or a sponge is soaked in warm water and placed in the nursery drawers or bottom of machine and is wetted daily from the fifteenth to nineteenth day.

The door of the incubator should not be opened during hatching-time for fear of chilling chicks.

Evaporation is a cooling process, therefore, while the chicks are hatching, the thermometer should register from one hundred and five to one hundred and six degrees, and as near as possible to one hundred and three degrees from the first to twentieth day. I like to see the chicks begin to hatch quite lively by the end of the twentieth day, because it gives us the best chicks. If they hatch much before or after this when run at one hundred and three degrees, it probably is due to a faulty thermometer; if so, an accurate one should replace it, or, if the chicks hatch too soon, the thermometer should read less than one hundred and three degrees, and if the hatch is late have it read above one hundred and three degrees. When the chicks are all hatched and dry, the shells and unhatched eggs are removed and the incubator run slightly lower, when at the end of twenty-four hours' time they are removed to the brooder.

Mending Eggs with Paraffin

By J. B. Rogerson

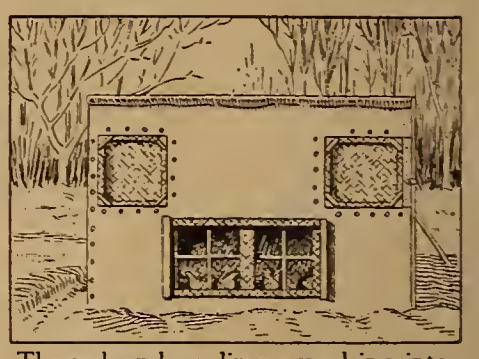
DURING the hatching season last spring I had placed a setting of fine eggs. A few days before the chicks were due to hatch, two eggs were accidentally cracked and began to bleed, showing that the chicks were fully developed and alive. I took the eggs from the nest very carefully, melted a little paraffin, and when it was slightly cool I poured it over the broken places of the eggshell, being careful not to cover any more surface than was necessary.

Both the eggs produced fine, healthy chicks that were raised to maturity.

Hen-House Ventilation

By Chesla Sherlock

VENTILATION, proper ventilation, is most important in building a poultry-house. A house may have all the qualities necessary to make it an ideal habitation for

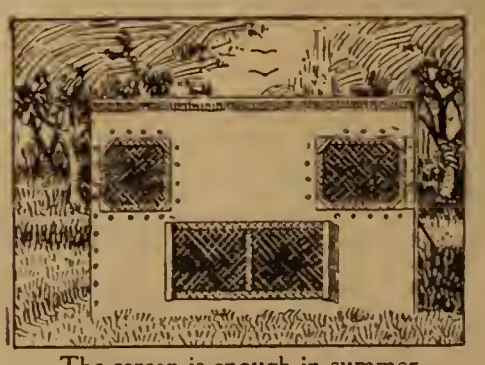


The sash and muslin are used in winter

fowls, but fail to provide proper ventilation. Hens must have fresh air and lots of it. The manner in which it is provided is of little consequence if it is made possible without causing drafts on the fowls, especially at night.

We have experimented with ventilation in this respect and have found muslin frames to be the best and safest means of providing plenty of fresh air, and at the same time in a way that cannot possibly injure the fowls. These frames, we have found, will do better service if they are placed somewhat near the top of the south wall of the house. We tried placing them near the ground, but that proved very dangerous. The air came in through the frames, when they were near the floor, and caused excessive drafts, which were decidedly injurious to the fowls in cold weather, causing colds, and in one case roup.

All the windows and muslin frames are on hinges and open inward, so that they can be changed in the space of a few seconds to any desirable position. It is not necessary to have all the frames and windows completely open at the same time, as is the case with other methods of ventilation. A win-



The screen is enough in summer

dow may be opened only an inch, if it is so desired. Everything is so regulated that perfect ventilation can be secured in all manner of weather.

Live Stock and Dairy

Farm Fables—The Horse

Myself

I AM Old Bill. Being just Old Bill is more of a tragedy than you can possibly imagine, for while you are certain that you know more than I know, you must acknowledge that I understand you and that you do not understand me.

Therefore, I have some reason and authority for lecturing.

I was born on a stock farm. When I was young, my feet were fleet, and I was celebrated, for I won great races and money for my master. Then my joints grew stiff, and I began to finish behind, and I was sold to a farmer. Not having been taught to drag the plow, I made a bad job of it. Soon I became the go-to-the-village-and-church horse.

But won't you please remember that I do my best? I am careful when the children drive me. I am often left without hitch or hindrance in front of stores or the post-office, and I do not wander away—or run away, for I can still run, if you please.

Please keep it in mind that Old Bill has pride, the pride and dignity which come of advancing years and past performances. I do not like to be considered "hired help." I am one of the family, and if you will treat me as such, you will find me a valuable member of the family.

OLD BILL THE HORSE.

Doctored Heaves

By David Buffum

"IN BUYING a horse, how can one tell whether it has the heaves? I have heard it said that when a horse having the heaves has been drugged or doctored in some way, no one can tell if it has the heaves. Is that true?"

In answer to these questions, which I am asked by a New York subscriber, I have the following to say: A horse that has the heaves will breathe in rather long breaths, and in expelling the breath his flanks and belly will be drawn in a little. It is one of the easiest diseases to detect. I would advise anyone unfamiliar with the disease to examine some horse that is known to have it. After one such examination one should have no trouble in recognizing it again.

Heaves can be "covered," as it is termed, temporarily by the use of drugs, and in such cases one probably would not detect it. Reputable dealers who handle new stock rarely do these things. They are more often practised by those who deal in second-hand horses. The best way for anyone who is not interested in playing the horse-swapping game, especially if he is inexperienced in the dark and dubious ways of horse-trading, is to keep out of it and deal only with reputable men. I do not say that all dealers who handle old horses do, but to learn who will do them and who will not is often rather expensive for the inexperienced horseman.

Money from the Mule

By George H. Dacy

THE existent keen demand for high-grade mules and the relatively high prices which these animals command on the general market should make mule-raising a particularly attractive side-line business on the general farm. For foundation stock good grade mares and a pure-bred jack of the desirable type are essential. A good jack will cost about $1,000, and this expense can be minimized per farm by four or five neighbors combining and purchasing a jack on the coöperative plan. In addition to using the male for service in their private herds, these owners may also stand the jack for public service, and within a couple of seasons the animal should be able to pay for himself in service fees.

Good mares must be mated with a good jack where the desire is to secure good mules. The prevalent idea that any sort of a scrub female is suitable as a mule mother is wholly erroneous. Strong, vigorous farm mares that stand about fifteen or fifteen and one-half hands high and weigh from fourteen to seventeen hundred pounds are the variety of females adapted for the production of top-quality mules. The jack should weigh from ten to twelve hundred pounds and should stand about fifteen and one-half hands. Practical results indicate that the jack will type the external characters of the mule, while the mare will influence the internal dispositions of the offspring.

During the first six months of life the mule foal requires as much care as does the horse colt, but after that the mule is pretty well able to take care of himself. One special feature of the mule-raising business that should appeal to the average farmer is the ready opportunity that is afforded the producer for realizing on his mule-colt crop. Farmers who do not wish to raise the mules to maturity can readily sell the foals subsequent to weaning for about $75 or $80 per animal. The farmer who carries his mules until they are yearlings may then dispose of the youngsters for from $110 to $125 apiece, while the farmer who maintains the animals until they are two-year-olds receives about $150 per head for his crop. Three-year-old mules bring $175 to $200, while mature, full-grown animals sell for upward of $200, dependent on their size, condition and quality.

The first year of active service the mature jack is able to serve about fifty or sixty mares, while during subsequent seasons he is able to handle as many as seventy-five or eighty females without any trouble. Missouri mule-raisers assert that it costs about $25 to raise a mule colt to the age of one year where the expense of the jack service is not considered. As regards feed and care, the mule foals are handled about the same as horse colts until they reach the age of one year. From this time on the youngsters can be run on pasture with access to an open-end shed for night shelter. In addition to the pasturage which the young mules forage, it is essential that they also be supplied with an abundance of oats, bran and corn, as it is necessary to grow the animal to healthy and vigorous maturity during this period.

Mules are still on the up grade as regards popular favor. They are particularly valuable for work in the corn, cotton and rice fields; in the lumber camps; in performing city teaming and general farm work, and for use in the mines, as well as in railroad camps. For special purposes of this character as high as $500, $700 and even $1,000 per team are paid for unusually fine spans of mules. The general popularity of the mule as a beast of burden obtains in consequence of the relative immunity of the mule to the ordinary run of diseases to which the horse is susceptible and because of the superior intelligence of the mule and his capacity for standing the grief of severe labor and for performing a maximum of work on a minimum of cheap food such as the horse would often spurn. The mule that is accorded decent, humane treatment during his youth is the most docile and tractable of animals. The mule that is roundly abused becomes ugly and "ornery" in the same way as the horse develops viciousness when he is continually mistreated.

The farmer who raises four mule foals that are to be sold as weanlings will realize about $150 profit from his mule crop. In case he retains the animals until they are two-year-olds, he increases his profit to about $250 or $300. Similarly, if he maintains the mules until they are mature, his net returns increase, and in addition to selling the animals at a total profit of about $400 to $450, he is able to derive the benefits from working the mules for about one and one-half years. The profits in mule-raising are extremely attractive. The large number of Missouri farmers who annually produce a few head of mules per farm as one of their chief money crops strikingly attest to the handsome incomes that can be gained in this side-line occupation. Where a number of farmers in one community combine for the production of market mules and where they produce animals of excellent quality and type, they are in a position to develop a reputation for their district as a distributing-point for good-quality mules. Successful coöperative breeding work is just as applicable and just as profitable where it is applied to the mule-raising industry as where it is devoted to the production of pure-bred draft-horses or dairy cattle.

Mules that are accorded humane treatment are docile and tractable

Ashes for Hogs

MOST of the farmers around me have lost their hogs with hog diseases. Some have lost all their hogs, so that there is quite a shortage of hogs. I throw my coal and wood ashes where I feed my hogs and the corn on the ashes and salt, and I have not had a sick hog this year or last, although there is only a wire fence between my hogs and my neighbor's hogs that are dying, and his hogs drink from the same spring branch. I use no other remedy. S. B. LUTZ.

Broncho-Pneumonia of Sheep

By Dr. A. S. Alexander

A MICHIGAN sheepman writes: "I am having an epidemic among my sheep and have killed and opened three; the last, a lamb. Their lungs are almost as white as paper, and there is a frothy matter around them as well as in them. In the lamb there were a few spots on the lungs that were more natural in color.

"They cough and will not fatten, although I have been feeding them all they will eat of cracked corn with some oats in it, also either small potatoes or chopped turnips and some clover-hay.

"Their dung is soft and of a yellow color. They do not eat well, although they bleat for feed as if they were hungry. I have been unable to find anything the matter with any other organs. Their breath comes quickly. The shed has a very offensive odor.

"I have formed the opinion that last spring when they were in the woods the cold rains gave them a cold which developed into consumption, and that I might as well knock the coughing ones on the head and bury them."

The symptoms described from post-mortem examination of the sheep indicate the presence of pneumonia, which probably is of the sort termed broncho-pneumonia; or very likely it may be verminous bronchitis and pneumonia from lung-worms (*strongylus filaria* and *refuscens*).

Sheep are not affected with consumption (tuberculosis), so that disease is out of the question. I have often found pneumonia, apart from that due to worms, to be contagious, and the germs of the contagion remain in a shed or stable where sick sheep or lambs have been confined.

It is best to get the lambs into a new, clean place, and for cough give glyco-heroin two or three times a day, according to severity of case. The dose for an adult sheep is two teaspoonfuls or more, and for a lamb, one teaspoonful and upward.

If another dies, I would advise splitting the air-passages of lungs open down to the ends of the lobes of the lungs and examining them for some threadlike worms.

Hogging Corn Without Waste

By John H. Dunlap

WHILE hogging corn is considered by many a very wasteful method of fattening hogs for market, I have always had the very best results from turning them into the corn-fields. My success with this method last fall may prove of benefit to some who have never tried it.

Last fall I had over one hundred head of hogs in the corn-fields for over two months. In addition, I had a few thin brood-sows with over fifty fall pigs in the corn part of this time. The hogs did not waste the corn, they made great gains and they were never off feed. I also know that I was saved the trouble and expense of cutting the corn and then husking and hauling it to the hogs. The expense of cutting and husking alone, last year, here in Ohio, would have been seven dollars per acre, for corn that would make eighty bushels per acre, and to this must be added the expense of hauling to the hogs.

It is hard to get help to do this work during corn cutting and seeding, since all regular farm help must be used to get the corn off the ground and then to get the wheat sown. It is also hard to get help to feed hogs the right amount, when they are on full feed, in case it is necessary for the owner to leave this matter to them when away from home.

Where the hogs or shoats are gotten up to full feed of corn and turned into a corn-field after they have been fed, there is never any danger of them eating too much or getting sick, since they seem to know that they can have all they want, and therefore only eat when they are hungry. Besides the expense and trouble saved by turning the hogs into the field, the land is made much richer by having the stalks left on the field together with all the manure.

Of course, it is better to hog down a field that is to be planted again in corn or some spring crop. I have found it profitable to sow rye or rape in the fields which I expect to use for this purpose. The rape is not always eaten by the hogs while on full feed of corn, but it is convenient, and they make

some use of it. And if such hogs are allowed to have the run of the field, they will eat it, unless there is a clover-field they have access to.

In case rye is sown in the field before the hogs are turned in, it depends on the weather to a certain extent as to whether the rye gets a good start before they are turned in. If it does, it furnishes them something green, and usually makes a good soiling crop and helps hold the droppings left by the hogs during the winter.

Last fall I found that several acres that were fenced off for the hogs could be gotten into condition with a disk harrow and sown in wheat, with the rest of the field. While the large stalks were not cut up as much as I would have liked, yet I found this part of the field produced nearly as much wheat this summer as the rest of the field.

I find that it is better to fence enough corn to last a few weeks than to turn into a large field, since, if it should prove to be a rainy fall, they would not run over so much corn and possibly tramp it into the earth. Another thing is this: I find it pays better to wait until the corn is all dented and getting hard before turning in, since any corn not eaten will not be wasted if left on the ground a short time.

The hogs should have access at all times to all the pure water they can drink, as well as shade if possible. I also keep soft slack coal, charcoal, salt, copperas, lime and ashes the year around in the dry where the pigs and hogs of all ages can have constant access to them, so that they are not so likely to be bothered with worms or any disorders while in the corn-field or at any other time.

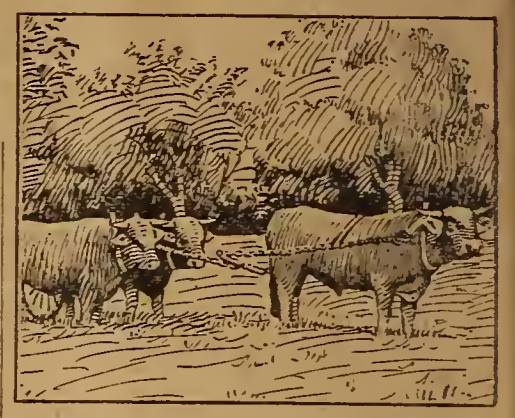
I know that there are many who say that it is a wasteful method to turn hogs into the corn-field, but I have never found any wasted corn when my hogs finish a field.

Bulls as Draft-Animals

By Hollister Sage

EVERYTHING should be done on the farm by machines and teams to save expensive human labor as far as possible. The advent of reapers, mowers, tedders and thrashers has meant much for agriculture. But one source of power has been allowed to go unharnessed on many farms which maintain two or more bulls. Oxen or horses have been employed where bulls might do the work needed and be better in disposition, virility and prepotency because of the occupation; for man is not the only animal which employment keeps out of mischief.

A single animal may be profitably kept at work hauling out manure, pumping water, churning, etc., with little attention on the part of the owner in many cases, and greatly add to the farm income, while a pair may be trained as readily as steers to do all of



the work of oxen. They are good walkers, bright and intelligent, and seem to enjoy work and the companionship of man as well as do horses. And these animals are in no way injured by being deprived of the idleness which they have been condemned to by custom for centuries in this country.

Use a Large Horse-Collar Inverted

Where a single bull is worked, he may be nicely equipped for draft by placing upon his massive shoulders a collar and hames made for a large horse, but it must be inverted to fit the formation of his shoulders. This also brings the line of draft higher, where nature seemingly intended it to be, since, like his brother the ox, the bull draws with his head down. Some have used a single yoke whose ends droop, but it does not permit the animal to use the great power in his sturdy limbs and neck as does the collar mentioned.

The fine herd of thoroughbred Swiss cattle bred for many years by A. N. Barnes of Connecticut is kept hardy and natural by the labor of its males at everything which can be invented for them to do. In the accompanying illustration, three of them, attached to a cart, are hauling stone and are as good as horses when drawing home the winter supply of coal from the station. The three harnessed in this manner are known as the "spike team." They do not appear to be at all distressed, nor inconvenienced, nor made thin by the exercise, and when unyoked gambol and play like a trio of calves. But they show less inclination to ugliness as they age, proving that, as in the case of prisoners, occupation is diversion and of benefit to their dispositions.

Turning Cows on Grass

By C. J. Griffing

THE time when cows can be turned onto grass is an important period in the dairyman's calendar. The milk yield is increased very much and produced much more cheaply when cows are on pasture. I always expect the best results of the year when the cows are on pasture, as the expensive labor and feeding of winter are much reduced. To avoid trouble and produce best results one must go slow when first turning cows on grass. Young spring grass contains large quantities of water, and for that reason the grain feed should not be entirely cut off at first. Grain should be fed for at least two weeks after turning onto grass, gradually reducing the amount each day. If corn is low-priced, I feed a small quantity all summer along with the grass, and it increases the milk yield. Fed lightly in this way, it does not unbalance the ration. If corn is high-priced, however, I am contented with a little less milk, as it can be then produced more economically on pasture alone. I consider a pasture with shade and a natural running water system ideal for dairy cows or any stock. If the pasture becomes short at any time, it should be supplemented by some other feed, otherwise the milk-flow will be checked. Cows, after falling off in this way, somehow fail to come back to their former flow, no matter how well fed. Cows should not be turned onto pasture until the ground has become firm and the grass well started. Many fine pastures are ruined by being cut to pieces and trampled in before they are fit for cattle.

Raising Calves With Gruel

By B. F. W. Thorpe

A NEW YORK reader has been successful in raising pigs without milk, and wishes to know if he can as successfully raise calves without milk, after they are two weeks old.

This is by no means an easy thing to do, and obtain good growth and development of the calves. The calves should by all means have whole milk for the first two weeks of their lives, in order to get their digestive and assimilative organs to working properly, and to furnish them with bodily vigor which

Do not try to raise them without a little milk

will help tide them over the weeks when they are not getting their natural sustenance.

The most common mistake in feeding calves, particularly where they are given other feeds than milk, is overfeeding them during the first two or three months and thus getting their digestions disturbed and their bodily vigor reduced. Overfeeding produces indigestion and a general weakening of the system, even where it does not cause diseases of serious nature.

I could hardly advise you to try to raise calves without at least a little milk in connection with other feeds during the first six weeks or two months; even two quarts a day of skim-milk will have a very beneficial effect. This quantity of milk mixed with a flaxseed gruel will produce a very fair growth and development if good judgment is used in feeding.

To make a gruel, add ten times the bulk of water to the flaxseed, allowing it to soak for several hours, and then boiling for one hour until the seed has become softened and the whole mass has been transformed into a jelly-like substance. Enough may be prepared at once to last for several days when the weather is sufficiently cool to preserve it without spoiling. This jelly can then be heated and added to the milk as needed. The quantity to be fed must be decided by the size and condition and age of the animals to be fed. It will be best to begin with not over a quart of the jelly and a quart of the milk when the calves are two or three weeks old. This quantity may be fed two or three times a day if it is found that no harmful effect follows. As the calves increase in size, the amount can be increased, but until they are three months old I should advise feeding not over three quarts of the mixture at a feed.

In connection with this feed a small quantity of ground oats can be fed after the calves are three or four weeks old, and preferably fed dry after the slop has been fed. In addition, the calves should have a little bright clover or mixed hay given them several times a day. They will begin to eat this after they are three or four weeks old. This is just as important as the other feeds. Handled in this way, if the calves are not allowed to get run down and out of condition during the first few weeks, very fair success can be attained in growing them for dairy purposes. But, of course, they cannot be grown or fitted for veal or meat purposes by this feed.

The main point in growing calves in this way is to keep a careful watch on the animals to see that they are healthy.

How We Keep Our Milk Records

By Leroy Calhoun

ABOUT three years ago we attended a Farmers' Institute and heard a lecturer tell all about the cow-testing associations and how to keep cow records. We came home and talked it over. Our milk is sold by the hundredweight to a condensery, and the amount of butter-fat it contains makes no material difference as long as it is up to the standard.

So we decided we would try to keep a record for a while, at least of the grain eaten and the number of pounds of milk produced per cow, though we had no idea that it could ever be a financial help to us.

Of course, each cow had to have a name. We have twelve at present, these names are all entered in a blank book. Every Wednesday morning we weigh the milk from each cow and set it down on a slip of paper, and again at night; then we add the two amounts together and enter the sums opposite the cows' names in the book. This represents the average number of pounds per day for that week. This multiplied by the price of milk at that time gives the income per day from each cow. By keeping this record for a whole year we can tell just about how many pounds each cow has given for the whole year or any month, week or day.

The grain record is kept the same way, only we set down, not the number of pounds fed to each cow, but the number of cents' worth. By comparing our two records we can tell just how much grain we can feed at a profit, and by experimenting a little we can find how much grain we can feed to make the greatest profit, which is what we want to do. We consider it best to feed all the grain we can without decreasing the profit—that is, if we are feeding our cows one dollar's worth of grain to produce three dollars' worth of milk, and can, by feeding them two dollars' worth of grain, get four dollars' worth of milk, we do it, for we get more nitrogenous manure in that way.

We have kept no records of roughage, but all our cows, no matter how much milk they are giving, get about the same amount of roughage, so, while it does not give the exact profit, our record does show the comparative worth of the cows.

Here are the records of two cows for two years on equal amounts of roughage:

	VALUE OF MILK	COST OF GRAIN	DIFFERENCE
1910			
No. 1	$144.32	$39.14	$105.18
No. 2	85.24	24.63	60.61
1911			
No. 1	128.67	43.63	85.04
No. 2	74.18	30.90	43.28

We did not find it hard to tell which was the better cow for keeping and breeding.

Farm Fables—The Colt

I AM Charlie the colt. Like all young things, whether horses, cattle or people, I presume that I am unduly conceited. But this I do know: That I understand my farmer owner better than he understands me.

Even though I am but a year old, I know what he means when he says "Get over there," and if I wanted him to "get over there" I would have to kick him over!

He is breaking me to harness, and he is so stupid that I cannot make him understand without starting a row what is troubling me. He put a double bit in my mouth. When he pulled on the reins, the bit almost split my jaws. So I threw up my head to show him that it hurt, but he did not pay any attention. And I discovered that by dropping my chin on my chest or turning my head to one side, all the while clenching the instrument of torture tightly between my teeth, I could pull harder than he could pull—

Myself

although it hurt me like sixty!—and I did so, and I "ran away" for half a mile to teach him a lesson. But he did not learn!

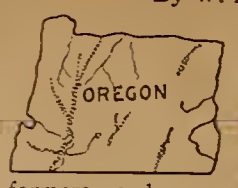
He has talked about it ever since. He says that I am a very bad and exceedingly stupid colt, and that it will be difficult to teach me anything.

The whole truth is that he does not understand me and does not try to understand me. I hope he will read this and think over it.

CHARLIE THE COLT.

Breeders Work Together

By W. K. Newell



FOR a hundred years the farmer has been praised for his independent spirit, and the idea instilled that this was one of his greatest virtues. As farmers, we have acted upon this idea in all of our relations to each other, although we have at the same time been very much dependent on others. It is time that we became dependent on each other and very much more independent of others. Competition may be the life of trade in some instances, although the trend of modern business is to eliminate this feature wherever possible, but in a farming community there should be no rivalry save as to which farm can produce the best crops.

In the choice of crops to be produced, the selection of breeds of stock to be raised and in all dealings with buyer or seller there should be a community spirit strong enough to insure the farmers acting in all important matters as one man. This may sound entirely impractical to one who has given it no thought, but it has been done in many localities and must become general practice if we are to secure just returns for our labor and effort as we ought to.

All Important Fruit-Growing Communities are Organized

The matter of community breeding of live stock is still in its infancy, particularly in the West, so that not many specific instances of established success can be quoted, but the fruit-growers of Oregon, Washington and Idaho have set the pace for the entire country in this regard. Every fruit-growing community of any consequence is thoroughly organized, certain fruits best adapted to their conditions are made specialties, and all the fruit is marketed and supplies purchased through the organization.

Prominent County Associations

The success of the fruit-growers has stimulated interest along similar lines among dairymen and breeders, and the splendid example of the Ohio "Western Reserve Holstein Breeders' Association" has pointed the way for similar organizations all over the country. In Oregon, the Polk County live-stock breeders have a county association, somewhat loosely formed, but doing some effective work. Jersey cattle, fine Angora goats, and sheep are their leaders, and they take advertising space in the farm papers under the heading "Polk County Breeders' Directory." Each breeder puts his individual advertisement in this space. The secretary handles the sales of the surplus sheep for breeding stock, and the wool and mohair is pooled each year and sold to the highest bidder.

Tillamook County dairymen, through their coöperative cheese-factories, are rapidly winning national fame for their product, and last year secured an average price of thirty-nine cents per pound for their butter-fat. For one month during last winter they averaged as high as fifty-four cents per pound for butter-fat.

Community Cream-Shipping

The Hillside dairymen of Washington County have organized a cream-shipping route, doing their own testing and hauling, and in a few months secured a price of five cents per pound for butter-fat in their sweet cream above the best price formerly secured by any individual. They are now taking up the idea of community breeding, and every man in the association is using a pure-bred sire.

In my own community we have organized and adopted Holstein cattle, Berkshire swine, Shropshire sheep and White Leghorn chickens as our specialties. Several good-sized herds and flocks have already been developed, and we contemplate systematic community advertising and annual sales as soon as we have a sufficient quantity of stock for sale. We are convinced that we are on the right road.

Tonic for Old Mare

By Dr. A. S. Alexander

A SOUTH DAKOTA reader writes: "I have a gray mare eighteen years old, and about two months ago she went all to pieces. I took her to a veterinarian, who pulled out an old decayed tooth. I have not worked her since, but she does not gain a pound, though I feed her well, and she eats heartily and seems well. Do you think the decayed tooth has poisoned the stomach?"

Relative to the ill-thrift of this eighteen-year-old mare, let me say that such lack of condition is quite common when a horse cannot properly masticate its food. I would advise feeding her cut hay, corn-meal and wheat-bran and stir among it, night and morning, one quart of blackstrap molasses that has been stirred up with three quarts of hot water. A mare in her condition should have whole oats at noon and long hay at night, if she can chew such feed. Carrots, parsnips or rutabagas would be good for her, also allow free access to rock salt.

If she fails to pick up when so fed, give half an ounce of Fowler's solution of arsenic and half a dram of fluid extract of nux vomica, night and morning, as a tonic.

The Market Outlook

Condemned Hogs are on the Increase

By L. K. Brown, South Dakota

THE large receipts during December and early January gave grounds for predictions which seem to have proven false. The buying side was confident that presently there would be a heavy marketing of well-matured hogs, so were indifferent about filling their cellars and were content in caring for the fresh-meat trade. However, it seems that hogs are not as plentiful as was thought.

Cholera continues its ravages in the Missouri River territory, and a good many hogs on those markets are sick with pneumonia. Doubtless the warm weather has caused them to sleep outside and thus contract the disease. The chief inspector at Sioux City recently told the writer that the percentage of condemned hogs at that market has gradually increased during the winter. Receipts have materially fallen off from the pace set at the holidays, and while advances are apt to attract increased shipments, receipts are inclined to drop back again.

Smaller Hogs are Preferred

This condition has placed the packing interests on the defensive. All that they can hope for is to hold the market from advancing, which they are hardly able to accomplish.

The 180 to 200 pound hog has taken the lead, as he is in the greatest demand. The heavyweight has lost his popularity and is barely able to command a price equal to the light weights. Packers are averse to buying the 300 to 400 pound stuff, because they expect a good supply of them later. It begins to look as if this expectation is like their seven-dollar prediction. Already Patrick Cudahy has stated that he does not look for a lower market. There are not as many hogs still in farmers' hands as previously computed, and what there are, are not going to be marketed in a glutted market.

On the other side of the market, among the consumers, the demand is strong. The fresh-meat demand cleans up everything in the current supply that is suitable. The trade with the Southern States is larger than the normal for mid-winter. The market has assumed a condition which is favorable to the producer who is fortunate enough to have his yards filled with porkers.

Sell Sheep When in Best Market Condition

By John P. Ross, Illinois

I HAVE suggested more than once in these letters that there is a limit to the prices of sheep and lambs which, if exceeded, is likely to be followed by a heavy fall. That limit appears to be reached at about $7.50 per hundred for lambs, and $5 for sheep.

For nearly two months these prices have been greatly exceeded, and perhaps as long as beef remains at or in excess of the $8 mark no violent fall in the price of sheep need be feared. The growing appetite for mutton, too, will help to keep it very close to the price of beef. My own experience has been that it always pays best in the long run to market all kinds of live stock when fit. You may wait for a rising market, and then strike a falling one.

January Closed with Good Prices

At the present time I believe it will be found good policy for the man who has fat lambs ranging around eighty pounds, or some fairly finished wethers or draft ewes, to put them on the market as soon as possible, thereby securing present prices, making more room for his lambing ewes and enabling him to give them more time and care. The end of January saw prices higher than they have been for some time: top sheep at $6.50, bulk from $5.25 to $6.15; top lambs $9.50, bulk $8.50 to $9.25. The market generally was very strong.

The recent high prices for cattle, and at times for hogs, have had an educational influence in teaching the good qualities of lamb and mutton to many who have heretofore regarded them with aversion, originated in the days when the breeding and feeding of mutton-sheep were but little understood, and when wool-growing was regarded as the sole aim and end of the sheepman.

The Stability of Mutton Prices Will Soon be Tested

The value of sheep from a gastronomic standpoint is now admitted, and it seems probable that they will soon stand as high in that respect as cattle, and perhaps even pass the hog in popular esteem. If this assumption should prove to be well founded, the breeders and feeders of the best types of mutton and wool sheep can well afford to disregard occasional setbacks in prices, which have formerly extended over long periods, as being now merely temporary, and caused mostly by the overloading of the market for a few days with unfinished and undesirable stuff. This belief, briefly stated, is that the demand for mutton is, almost for the first time, founded on a solid basis, and that prices carrying at least a fair profit will last until our meat-supply of all classes catches up and becomes able to keep step with our rapidly growing consumption.

There is nothing special to say about present prices, except that there will soon be a chance to test their stability when the vast numbers of sheep and lambs from some of the western States begin to come in. The favorable season and the abundance of feed is likely to bring them in early and in unusually good condition. The wool-market remains firm, with no fall in values.

As lambing-time draws near, the only time of the year when really strenuous attention, care and labor are required in flock-management, it is very desirable that the inexperienced in that class of work should avail themselves of as much knowledge on the subject as can be gained from books.

Lambing-Time Requires Practical Aptness

In FARM AND FIRESIDE of December 21, 1912, Page 14, a very complete list of the best works on sheep culture, furnished by Mr. E. J. Iddings, Animal Husbandman of the Idaho Experiment Station, is given. I would like to add to it Dr. H. S. Randall's "Practical Shepherd," which, though a little diffuse and old-fashioned, contains an immense amount of practical information.

Those who have them will find in each issue of FARM AND FIRESIDE from August 25 to November 25, 1910, about all I could tell of sheep culture as learned from many years' personal experience in England, Scotland and America. I will only add that more of practical knowledge and practical aptness at lambing can be gotten from observing the ways and following the advice of a real shepherd if one is to be found among the neighbors.

If not better than book knowledge, the watching of such a man's methods with his ewes and lambs, either at home or at your state agricultural college, will be found a most useful addendum to it.

How Do You Use Parcel Post?

WITH the parcel-post zones and rates now in effect, some products can be marketed much more profitably than others.

The first step in securing better rates and service is to get information. FARM AND FIRESIDE is now endeavoring to learn what products can be shipped most profitably, what shipments are unprofitable and what are about on the line between profit and loss.

No one knows these things better than our readers.

We want everyone who markets farm products by mail to write a short letter to the editor on the subject "How I Use the Parcel Post." A page of FARM AND FIRESIDE will for a time be turned into a clearing-house of information on this subject. We think it will be interesting and useful. All contributions used will be paid for at current rates.

Packing Meat for Summer

By M. T. Magruder

HERE in western Kentucky the year's supply of bacon is butchered in the midwinter months. The spareribs and bones are placed in brine, but the joints and sides are dry-salted and then smoked.

Our method of salting and curing has been handed down to us from our Virginia ancestors. We are prejudiced perhaps, but we fail to see why anyone who has eaten pink, well-cured bacon and ham in the spring of the year should prefer pork out of brine. Dry-salted meat retains more of its juices; the chemical action of the smoke renders the meat more digestible.

Home-cured bacon, broiled or fried to rid it of its superfluous fat, can be eaten by an invalid to whom the breast of the tenderest chicken would prove a nightmare—or would produce one.

Use Salt Freely

We never salt our meat until the animal heat has escaped from it. On butchering-day we block out the meat and hang it or lay it about the smoke-house until next day. We begin early in the morning to trim the joints smoothly with a sharp knife, putting all scraps of lean and fat in the sausage-box. The fattest strips are removed from the sides for lard.

We have a large square box in readiness and also a barrel of coarse salt. About an inch of salt is laid in the bottom of box; the hams are placed in and the whole covered with salt until no meat is visible. Next the shoulders are placed in a layer as were the hams, skin side down; again salt is put on until the meat is covered. Finally the sides are placed on top of the shoulders, the jowls are tucked into corners where they will drain out, and a final layer of salt covers all. A cover is placed over all and the meat left for from three to six weeks. If the weather is very cold, the meat will be longer "taking salt." Small-sized joints require less time than larger pieces.

The meat-box should be set on a block ten or more inches above the ground, to insure drainage and a free circulation of air.

The sides need to be taken from the salt first. We rinse them and hang in the meat-house by cord or wire. We rinse the ham and shoulders of superfluous salt, we use no saltpeter or borax in the preparation, although we often rub brown sugar, black pepper and molasses over the ham after curing. The joints are then suspended by a wire in the hocks, and the smoking process begins.

Cheese-Cloth too Thin

The wood used is a matter of dispute. Hickory is the general favorite. The fire must be kept steadily going for several weeks, or until the hams are brown on the flesh side. Coarse cotton bags are made; cheese-cloth is too thin, as the fly can deposit eggs through the meshes. We wrap our hams in newspapers, then tie tightly in sacks and again hang in the meat-house. The sides and shoulders may also be sacked.

If the smoke-house is close and floored and no soap-grease left about, the fly will not be apt to cause trouble.

Cottonseed-Meal for Finishing Cattle

By J. Hugh McKenney

ON PRACTICALLY every farm where the feeding of live stock is carried on it is necessary that some form of concentrates be purchased to balance the home-grown feeds that may be available. There is no difficulty in growing enough carbohydrate food on the average farm. The most expensive element in feed and the one most generally needed is that of protein nature.

Several years' experience in the feeding of cottonseed-meal has convinced me that many farmers do not fully appreciate the value of this concentrate. Briefly, it is the by-product in the manufacture of cottonseed-oil. The hull of the cottonseed is removed, the kernel cooked and subjected to pressure to remove the oil. The residue, or cottonseed-cake, is then pulverized, and placed on the market as cottonseed-meal.

At present cottonseed-meal is selling here in Elgin County, Ontario, in ton lots at $33. Doubtless many are buying bran at $25 or other food-stuffs at current prices and consider it good business. Consult any table of analyses giving the digestible protein content of the principal concentrates bought and used on the farm. It will be found that one hundred pounds of cottonseed-meal contain about three times as much digestible protein as one hundred pounds of wheat-bran. It will also be observed that cottonseed-meal furnishes more than twice as much digestible protein as brewers' grains, one fourth more than linseed-meal and one third more than gluten-meal. Also it is considerably richer in fat than any of the others. These figures establish its high feeding value and clearly demonstrate that for the money paid out it holds the premier position for the largest amount of digestible protein to be had in any concentrate.

An Excellent Fattening Ration

As a milk-producer cottonseed-meal is an economical feed. Owing to its concentrated nature, however, it must be fed with care. Begin with, say, one pound a day, and increase gradually. As a rule, it is not advisable to feed more than three pounds a day to a dairy cow, although in the case of large milkers as much as five pounds may sometimes be given. It is understood, of course, that this meal must not be fed alone; it is too strong. Feed it mixed with the home-grown food-stuffs, such as corn-meal or oat-chop, reducing the amount of such feed each day as the amount of cottonseed-meal is increased. Better results will generally follow where the meal is fed with silage or some other succulent, cooling food. In fact, where silage is used cottonseed-meal can be fed without any grain feed, and a balanced ration formed, by sprinkling the meal over it. For beef-cattle also it deserves consideration. Many farmers persist in using an exclusive fattening ration, chiefly corn, believing that it will make cheaper beef and a larger number of pounds per head per day than one consisting of part corn and a concentrate rich in protein. Experiments show that a combination ration of the character indicated will prove more satisfactory in every way, giving as it does a greater variety to the food and producing an animal that kills out better, owing to the better blending of the fat and lean throughout the carcass.

For growing yearlings and other young stock it is unequaled if fed moderately, but it should not be fed to calves under six months of age, nor be included in a ration for young pigs. A small quantity may be fed to ewes after parturition with advantage. Not more than a handful a day should be added to a ration of corn, oats and bran, and this amount will not be sufficient to injure young lambs. Some animals do not eat it readily at first, but after they become accustomed to it grow very fond of it.

Like other food-stuffs on the market today, cottonseed-meal is frequently adulterated. The pure meal is a golden color and should be free from black and brown specks. Hulls are generally used to adulterate the meal. When pure, it contains from forty-one to forty-eight per cent. of total protein.

Market Only the Best

By Charles Cristadoro

I WONDER how many farmers understand as to how many people "eat with their eyes," judge from appearances and are influenced by the neat, cleanly appearance of foods and the manner in which they are presented to the consumers? And how much better business management it is to cull at the farm than to "ship everything" and let the customer do the culling and grading and valuing, which human nature impels the customer to do, based, not on the basis of the *best* in the shipment, but the poorest. Let me cite an example of which I know. A neighbor of mine here in California, farming four acres, lives up the road a little piece. His specialty was melons, and he learned that the watermelon and muskmelon, grown by dry-farming methods, were far sweeter than melons overirrigated. So he plowed deeply, caught the rains, harrowed and mulched his soil and kept the rains well sealed in the ground by this capillary-destroying mulch that shielded the sun's rays and the hot moisture-absorbing air from his moist earth, as would a rubber blanket. I have, on the hottest days, when even the leaves of the trees showed a tendency to wilt, visited his melon-patch and seen a crop of luxurious growth of melon-vines springing from as dry and dusty a soil as one could imagine. And I have seen Vraley, the farmer, scratch away the surface with his boot-toe, disclosing damp, black earth three inches down which would almost mud-ball when you squeezed a handful of it. The mulch did it, cultivation; and well-cultivated ground always requires less moisture than when allowed to crust. We say in California that a good cultivation of the ground is equal to a rain. And then again, no weeds came up amongst his melons, for mulching now and again prevented their growth, and Vraley found out somehow that *for each dry pound of weeds five hundred pounds*, more or less, of water were wasted from the soil, even one thousand pounds of water to each dry pound of sunflower growth. So he kept the weeds out and saved the water for his melons.

Customers Were Never Disappointed

Then marketing-time came, and here is where Vraley's "horse-sense" came out good and strong. He would gather from the vines only what he considered the best in every way, and put the melons in a pile. Then he would drive up his wagon and again pick his melons from the pile, scrutinizing each one carefully, and if not up to his idea of what a perfect melon should be, he laid it aside, and sold it at a reduced price to his neighbors or, being a big-hearted, clever man, gave away to those who had no melons, and especially to those who could not afford to buy melons.

So when Vraley's wagon was loaded to the guards it was with standardized melons, in the full and true sense of the word. A grocer could not bluff him on the quality of his melons, and it wasn't long before he noted how pleased the grocers were to have him call, and how readily they paid his price, which allowed of no haggling. He found out the reason why, in time. Customers, never being disappointed in his melons, were willing to pay a little more for them, if they were assured they were Vraley's melons. The trouble with Vraley was that his melon-patch was but one acre in extent, when it should have been two or three acres, for he had to divide up his load and be fair in the division of his stock and not sell it all to one grocer, which he could have done.

A Good Thing All Around

The quality of Vraley's melons was such—and they were "surely good" melons—that they actually brought trade to the grocers from other grocers who were not fortunate in securing his stock; customers that bought their groceries elsewhere, but their melons of one of the three or four grocers who traded with Vraley. It was a good thing for Vraley, a good thing for the grocers and a good thing for the customers, who never were disappointed when running a keen knife through these melons they opened up in all their crackling, crimson splendor and sweetness.

And Vraley not only got the top-notch, ruling price, but a few cents per melon over, and the insurance that went with a Vraley melon warranted the premium paid. During a whole season, and amongst the hundreds of melons brought to town by him, he had a record of just two melons to make good.

And so Vraley prospered because he took only the best to market, gained the confidence of the grocers, who in turn gained the confidence of the public—a great object-lesson for every farmer in the land on anything and everything he has to market. The consumer, the commission man, the grocer, sees the large and best fruit or vegetables in an offering, but he sees all the small and imperfect ones also and sees them "double," as it were, when he makes the price, and takes extra good care to point them out as an argument—and the farmer can't escape it.

The men who grow apples up in the Hood River Valley so strictly standardize their apples that they are as current in the market as a Bank of England note. No commission man wastes any time prying up the lid or the bottom of a Hood River apple-box. They are all standard, all gilt-edged, all good. The apple grower or shipper has no trouble with the commission man two thousand or three thousand miles away. The car is accepted and paid for in full, and such a thing as a condemned car and a demand to make the freight good is an unheard-of thing.

Just a word more on standardization coupled with coöperation and association. Some years ago a colony was started at Tontitown, Arkansas, by Italian peasants. The first few years of breaking the soil, etc., were hard years, of course, but with and in a spirit of coöperation and association they worried along.

A year came when the big, red Ozark apples were more than plentiful. Buyers came along, offered sixty cents per barrel at the orchards and were told no. The colonists picked their own apples and standardized them, as the Hood River Valley does, and boxed up, nicely wrapped in paper, only the gilt-edged one hundred per cent. ones. Of course, they sold at a premium. Then they dried and canned part of the balance under a working system of coöperation. Then there was the cider-mill, and then there was vinegar to be made by pressing the water-saturated pomace again. The refuse went on the farms as fertilizer.

They figured up the number of barrels picked at the orchards, the price for the apples *per se*, the canned and dried stock, then the cider and the vinegar, and divided the gross barrels picked into the gross returns, and found that, instead of sixty cents per barrel, their apples yielded them at the rate of $6 per barrel!

The Elgin Board of Trade

[CONTINUED FROM PAGE 4]

contracts, or just contracts without premiums attached, which were much better for the holder. Then the official Elgin price was made.

The creamery-owner with a good-sized premium written into his contract might get the actual selling price by reason of having the premium tacked on to the official Elgin quotation, but the creamery-owner who signed up without the premium being inserted in his contract, or whose premium fell short of making up the difference between the Elgin price and the actual market price at Chicago, came out the loser.

Commission Men Only in Name

Where the creamery-owner loses there also loses the dairy-owner, the farmer who gets up in the wee sma' hours and milks his cows and drives down to the creamery before the commission man gets out of his snug bed to tackle his daily labor of beating down the price he pays. Slowly but very surely creamery-owners and their patrons became aware of the fact that prices were being juggled. They hear of the city consumer kicking about the high prices of butter—high prices that narrowed down considerably before they get to the man-with-a-pail on the dairy farm.

In a letter to the writer, J. W. Fowler, proprietor of a large creamery at Grinnell, Iowa, says: "Too many times our commission man is only this in name, his true vocation is speculator; one who is running no risk whatever, but who is using the shippers' goods in the game for his own personal gain. He is endeavoring to squeeze the published quotations to the lowest possible figure and at the same time is fighting the purchaser to establish as high a selling market as possible, and the remittance to the creamery-owner is on a basis of official board quotations when the sales have been one-half cent to one and one-half cents higher. I consider this unfair and unjust. I believe the butter quotations should be at the price for which the butter of the different grades sell."

A butter exchange fairly and honestly conducted, giving a square deal to the producer and the consumer alike, is undoubtedly a necessity in the industry as it now stands. Even in the event of the parcel-post market coming into general use for marketing butter, there appears to be some need for a price-publishing organization. It would then have to depend more upon general conditions affecting the trade than upon actual knowledge of transactions in butter. But while operating under present conditions, that requiring the services of a commission firm to whom the product of a creamery may be shipped and by it sold to retailers, there must be published official quotations of prices in each marketing center. Whether there is a need for an Elgin board in such close proximity to Chicago is an open question.

The Present Situation

There is no reason for balloting on prices. Farmers and grain-buyers might as well get together and vote on the price of wheat or corn. Merchants and their customers might as well vote on what shall be the price of calico dresses or brass-tipped boots. Until the food-producers can sell their product at prices based upon the cost of production, interest on money invested and a legitimate profit, until then the plan of auction marketing is the best.

The situation now is this: The Chicago Butter and Egg Board has discarded the quotation committee, at which the Government's suit was especially directed, and is now establishing prices by the so-called auction plan. After the Chicago board retired its price committee, there seemed to be strong indications that the Federal Government would immediately turn its attention to the Elgin board. Then that board discontinued its quotation committee and also adopted the auction plan, which is offering and buying, or bidding other prices for offerings.

Since the auction plan has been adopted at Elgin, the offerings, sales and bids are about what they were during the price-committee days, just a few hundred tubs, the whole of which could be bought or turned down by speculating commission men to affect the price alone. As long as just a few hundred tubs of butter are offered on the Elgin board, so long will it be within the power of Chicago commission men to make Elgin prices almost anything they see fit.

Merely a Paper Market

If the Elgin board is to be continued as a national price-quoting organization, the producers owe it to themselves and the consumer to make that board the medium through which a large proportion of their sales are made, and not allow it to continue, as it is to-day, a paper market.

A fair proportion of the product must be auctioned; must be offered upon exchange floors and actually sold there. It will not do to create an official quotation out of a few tubs of butter sold at Elgin which will govern the sale of thousands of tubs at Cincinnati, Omaha, Denver or any other city.

It Prevents Splitting

By J. H. Larson

THE accompanying diagram shows an excellent way of treating forked trees to prevent their splitting, as they do with age and increased weight. When the trees are young, weave together branches from each trunk, and they will grow into firm supports.

The branches of trees treated in this manner do not appear to be injured in any way, nor is their growth hindered. I have found it much neater and more satisfactory in every way than the use of chains or bolts. It is best, however, to tie the young branches together with a stout cord when they are first intertwined. By the time the cord rots, the support will be firmly formed.

Crops and Soils

Give Clover a Chance

Proper Management Will Make Its Culture Successful

By T. A. Tefft

DURING the past seven years I have heard farmers inquire, "How can we secure a good stand of clover?" Experience and extended observation lead me to the conclusion that when we understand the nature and demands of the clover-plant as well as we understand those of other farm plants, we need have no more difficulty in growing it than we have in growing other crops. Poor soil will give poor crops of any kind.

Unfavorable weather will injure the crop. Any crop treated as unwisely as we have generally treated the clovers would result in as many failures as we have experienced in growing clover. The fact is that clover is one of the hardiest plants we have. It takes hold on earth and air and sun, and with the aid of its bacteria has a decided advantage over the non-leguminous plants; and when its deep root system is once established can more successfully cope with frost, flood and drought than most other farm crops that are commonly grown.

Four Requisites in Clover Culture

It does what other plants cannot do, for when the soil is lacking in nitrates it doubles or quadruples its system of nodules and makes good the lack by drawing on the limitless store of free atmospheric nitrogen.

There are at least four prime requisites for securing a profitable growth of clover: Clear the soil of standing water by drainage. In compact clay land the presence of water not only prevents the entrance of the air, with its oxygen indispensable to nitrification, but, in freezing, expands and, bulging upward, draws up the plant caught in its icy embrace. This heaving, and not the low temperature, is what destroys the plants.

The clover-roots need from one to two feet of earth that is not saturated with water. In some measure the results here sought will be accomplished with the second condition, the addition of humus to the soil. This may be in the form of stable manure, which is by far the best, or by turning in rye sown in the fall after removing a summer crop. This will serve to retain moisture during a dry time, raise the temperature of the soil, prevent heaving, greatly facilitate the bacterial activity and render lime or commercial fertilizers far more effective.

Treatment of Acid Soils

If the soil is decidedly acid, lime should be applied in moderate quantities, never more than twelve to fifteen bushels per acre, evenly distributed and immediately incorporated with the soil. If ground caustic lime can be had and applied with a drill, one thousand pounds will be sufficient. If the soil is only slightly acid, one half that amount will be enough.

The lime will hasten the reduction of the green or coarse manure to available forms and hasten bacterial action, which cannot go on in acid soil. The addition of a light dressing of phosphate and potash will not only add plant-food for the clover, but will also favor the work of the bacteria. Apply one hundred and fifty to two hundred pounds per acre of a mixture analyzing seven per cent. phosphoric acid and ten per cent. potash for sandy soils, or eight per cent. of each for clay land. A top-dressing of five tons per acre of well-rotted stable manure, well harrowed in, would, if available, probably produce better results than would the chemicals. The application of lime or other chemicals to soils practically devoid of humus will not only be useless, but often positively injurious, because of the burning effect.

Give It a Fair Chance

For best results the clover must be treated as other crops on the farm are—given an open field and a well-prepared seed-bed. I never think of growing a crop of corn and of rye on the same ground at the same time, or of potatoes and timothy; yet in the production of clover, a crop worth as much as either, many farmers have tried to grow three full crops on the same place at the same time.

It needs a large amount of moisture, fertility and sunshine, and a nurse that deprives it of these is not a nurse, but a robber. True, where the soil is rich and the grain thin, we occasionally secure a fair stand of clover, but in the absence of another crop it probably would have been two or three times as heavy. With another crop, a good even stand is the exception, and on our depleted soils is out of the question. If the field cannot be given exclusively to the clover and a good seed-bed prepared and sown early in the spring, a wheat or rye stubble field may be prepared in July by burning off the stubble, if necessary, and thoroughly harrowing it.

Give this bed about sixteen pounds of red clover or twenty pounds of crimson clover, and harrow in well. There will be no danger of covering it too deeply. At this season it must have a good depth to keep it through the hot summer weather.

If the soil is loose and dry, especially if it is sandy, it should be rolled after seeding and before the last harrowing. A clover-sod, after the second year, may be reseeded by using a disk or harrow that will cut it up thoroughly. The same can be done with any kind of sod. An early-potato field makes a fine seed-bed for either the crimson or red clover. Of course, crimson clover may be sown in a corn-field before the last cultivation in the latter part of July, and a fair stand can be secured, provided the corn is a dwarf variety and is rowed north and south four feet apart, especially if it was limed before planting.

In many cases it has been found necessary to inoculate the ground with soil brought from a good clover-field and evenly spread at the rate of six to seven bushels to the acre. By careful experiments I have seen that this has been done successfully, clearly proving the necessity of these bacteria to the full development of the clover-plant. Supplying the conditions above named will usually insure a fair stand at least of the first seeding, which will be increased in subsequent crops on the same ground. Another important measure in developing a root system and adding security against heaving out young plants is clipping it in September. No matter when sown, or whether it be the first or second crop, this will be found of great advantage. Never allow the young plants to produce a head.

Unless needed for the seed, the aftermath of red clover should be clipped as it comes to heading. These clippings may profitably be fed to the cows. It will be found, as I have repeatedly discovered, that the July clover, sown and treated as I have indicated, will present a better developed root system by the last of November than will be found in the March-sown clover that struggled against the unfavorable surrounding until harvest-time and was then suddenly exposed to the heat and drought by the removal of the grain. Clover can be grown on almost any land, provided the right seed-bed is made for it and it is handled as described. It simply needs understanding.

Forestry for the Farmer

Part I.—What Forestry Means to Agriculture and the Soil

By J. Gordon Dorrance

JUST now forestry is a subject of much interest, as well as of vital importance to our agriculture and soil. Forestry, briefly, is the scientific, conservative and profitable management of our woodlands, and we should plan so as to reap the resulting benefits not only to-day, but so that future generations may profit as well. Among the great natural resources America once possessed, and to a certain extent still does

New York land with much of the original forest cover remaining, a striking contrast to the other views of cut-over lands

possess, we can without hesitancy rank the forests first of all, for once deprived of them this country would be desolate indeed.

Forests wield a far-reaching influence upon our lives and the development of the United States along innumerable lines, but it is as a conserver and regulator, as well as purifier, of our water-supply that the forest makes its widest appeal. We have only to note the floods of spring and fall, and the droughts of many summers, to see that there is some good reason for so unequal an adjustment of our water-supply. Streams which once gave an equable, dependable supply of water twelve months every year now spread destruction and devastation on every side one day by flood, only to be followed within a comparatively short time by scarcely less destructive droughts.

What We Can Learn from China

But a few weeks ago we heard of a great flood in northern China with a death toll of 40,000 lives, and such occurrences are common there. Hundreds of years ago the north of China and the Valley of the Euphrates were literally flowing with milk and honey; to-day its parched, barren, eroded plains support not a single living thing, and its bygone farms and forests, its wealth and its prosperity, are but a dream. So America, without an even and well-regulated flow of water, perhaps with scarcely any at all, could no longer lay claim to a place among the garden-spots of the world.

Without good agricultural lands our prosperity would vanish in thin air, and we would have a place with Greece, China,

Forests guarding a stream feeding the new barge canal in New York

Syria and Egypt, nations once a power in the world's events, now with forests, streams and farms all but disappeared, shadows of their former selves. The people there were thoughtless of their future needs, and the consequences are only too apparent.

No doubt many will point out the fallacy of this, not stopping to view illustrations nearer home. Many a man owes his fortune to-day to the once barren, cactus-covered plains of the Far West, which, when treated to a little irrigation, will produce such a yield of nature's stores as to rival our finest agricultural regions of the East.

The lumber business, the fourth largest industry in the United States, represents an

Land once finely forested, now a worthless swamp

investment of $2,250,000,000, yielding annually products worth $3,000,000,000. Domestic industries dependent wholly or largely upon wood pay the wages every day of a small army of a million and a half men and women. In closely allied trades, a million more workers are dependent for a living upon our timber supply, and when cognizance is taken of the fact that our newspapers, our railroads, our coal and iron mines are, too, dependent altogether upon our much-abused woodlands, some idea of the immensity of the subject can be gained. Our timber is now going five times as fast as it is being grown, and it is not pleasant to contemplate a timber famine within the next thirty or forty years.

Never consider forestry a question of sentiment, but rather a matter of cold, hard facts and good, sound business, and it affects every man in every business, because the forest influence is so great that it has a direct bearing upon every interest of any consequence.

Forestry in the United States To-day

We have often heard it said that up to the time of Abraham Lincoln every American citizen was a wood-chopper. This old saying, though not of course quite literally true, will nevertheless give us some adequate idea of the great forests once existing almost all the way from the Atlantic to the Pacific, and the time necessary for their destruction, unavoidable in many cases, we must admit, but always wasteful.

Now these forests, like the herds of bison once dotting the great western plains as far as the eye could reach, and the flocks of wild pigeons, at times so numerous as to darken the sky, are relegated to the "good old times." And as such we must consign them to the past and glance at the present forestal situation that we must face.

Deforested land in central New York which has become barren and badly eroded

At the present time just twenty-seven per cent. of this country may be classed as wooded, and, as we know, this percentage is being reduced daily. The International Paper Company, with plants in many of our Eastern States, consumes every twenty-four hours just 3,472,500 board feet of timber, and it requires fifteen acres of average forest land to supply the paper for a single Sunday edition of one New York newspaper. These figures are worth considering. American exports of lumber in 1908 reached $90,000,000 in value, which is an indication of prosperity with a serious drawback. This huge export trade represents a shrinkage in natural resources which in time will compel still larger importations, and only adds emphasis to the very noticeably different forest policies of this country and, for example, Germany, where for ten centuries the people have been practising as well as preaching national conservation in a way to compel the admiration of the world.

These people every year cut far less than they need, importing the rest. Here the cut exceeds the home consumption, the surplus supplying the European deficiency. Twenty-six per [illegible] Germany is wooded, and of

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this fully two thirds is subject to governmental supervision. the Government controlling in this country barely one fifth. The cut abroad approximates thirty-seven cubic feet per capita; here it is represented by the far from small figure of two hundred and fifty. There high prices prevail; here comparatively low. As a direct result, a superabundance of lumber is cut annually and a great deal exported, and the American lumberman, from motives of personal economy, leaves much in the woods that abroad would command good prices, where, it might be remarked, even branches, twigs and roots find a ready sale.

In Germany, generally speaking, the yearly cut is limited to the yearly increase in the timber crop, often over a cord per acre. On maturity, a clean cut of the timber is made, and a new stand started within the year. There non-productive land is taxed to the limit, here almost exempt. There, when producing crops of value, notably timber, the tax is practically nil, while in this country land is usually taxed in direct proportion to its productive, even prospective, value.

Many of the individual States and our National Government, however, are now doing much to make up as far as possible for a rather tardy beginning, and many of our biggest corporations, including several large railroads and numerous paper manufacturers, are practising private forestry, having realized its importance and, of course, the attendant financial inducements.

We are Gradually Waking Up

Now at last state forest laws are being enacted to protect the forests and the timber-owners from two of their worst foes, forest fires and unjust, prohibitive taxation, the latter improved laws being based on the final yield, and not, as heretofore, upon the rather doubtful prospective value of an immature forest crop. And the far-sighted American farmer should be interested in the fact that for the past ten years stumpage values have been rising as rapidly as the price of lumber, and that both have increased in value fifty per cent. more than prices for all the rest of his farm products.

This is the first of a series of articles by Mr. Dorrance on the subject of forestry. Mr. Dorrance is a forest expert, and the subject is one that should interest every farm-owner, whether he lives in a timber or a timberless country, especially the latter. THE EDITOR.

Specializing in Agriculture

By J. A. Robinson

PRACTICALLY every advance that has been made in any field of endeavor has been the direct result of specializing. Many of the benefits that are now almost universally enjoyed had their origin in the minds of men who realized that the surest road to success is in concentration of effort. To specialize in the sense here intended does not mean that the farmer should raise all wheat, all corn, all tobacco, all cotton, all potatoes, or all of any one thing. It means rather that his plans shall include a purpose that whatever he does raise shall be the best of its kind that can be produced.

If the farmer raises corn in any considerable quantities, let him study the science of corn-raising until he has at his tongue's end, and his fingers' tips, every bit of knowledge, practical and theoretical, about corn-raising that he can avail himself of. In other words, let him "specialize" in corn-raising. If any farmer in the corn belt will specialize in this way a few years, he will establish a reputation for quality of corn grown, or anything else he specializes on, that will enable him to dispose of a large part of his crop at seed-corn prices; and whatever he has to sell in the regular market will bring him the highest prices that are paid, because he has the highest quality.

Kudzu, a Promising Forage Crop

By Mrs. B. F. Powell

THE Japanese kudzu vine promises to be the leading hay crop of the South in the near future. Three years ago we planted a small package of seed in a well-pulverized bed, without any fertilizer and on ordinary land. These seeds were sown in rows six inches apart, in a bed ten feet by four feet.

It did not make long vines the first year, but grew up about two feet high. It shed its leaves in the fall, but the vine did not die.

We had not learned then to cover the old vines with dirt, but we know now that if we had we would have had millions of plants. The vine is jointed, and when pinned down at a joint it takes root like a potato-vine. And every root makes a new plant for next spring.

Our vines were set too late the next spring and had not begun to grow well when a late frost came and killed them. They should be set before they bud out in the spring, then they become firmly rooted before they bud. If the frost kills the new growth of an old vine, it does not permanently injure the vine, for it buds again later and grows with remarkable vigor.

The rapidity of growth is marvelous. There were a few roots left by accident, and from those few a place about forty feet square is now almost entirely covered with vines nearly knee deep. Where the main vine runs on the ground, at every joint a shoot a foot or two high goes upward, and this is what is cut for hay, when it sprouts again, making another crop. Thus a single field can be cut every four weeks from May until October. It does not have to be cut at a certain season, but can wait over until suitable weather for curing.

Cows and horses eat it greedily. It makes fine pasturage.

EDITOR'S NOTE—Kudzu is probably all that Mrs. Powell claims for it. It is a legume and gets nitrogen from the air. In the Gulf States it has been known to grow to a length of seventy-five feet in a season. It will grow in all the South, and pretty well into the Northen States.

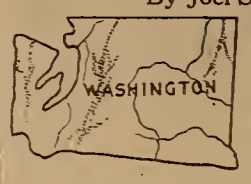
The writer planted a pint of kudzu seed obtained from a seed-house on his farm in northern West Virginia two years ago, but none grew. The seed comes from Japan, as the plant does not mature seed in this country. It seems rather hard for the seed-merchants to get it in good condition. After this failure, the writer waited and obtained cuttings in the spring from the Bureau of Plant Industry at Washington. From these he now has a nice start in kudzu. The government experts advise farmers to try this plant on rocky hillsides. There seems to be a future for kudzu, as Mrs. Powell suggests.

The cheerful spirit affords drainage, as it were. Ours is a vale of tears, and it isn't going to be made anything else in a hurry. But the cheerful spirit will keep the tears from collecting and standing about to give rise to moral chills and fever.

Garden and Orchard

Apple Glut in Washington

By Joel Shomaker



THE State of Washington has about 200,000 acres planted to apple-orchards. More sagebrush lands are being cleared and put under irrigation for planting more orchards, and more logged-off tracts are being stumped to make room for more apple-trees. What the apple crop of 1920 will be is a question that some of the shippers and railway managers are trying to figure out for the benefit of the fruit-growers.

Last October I visited some of the largest apple-growing sections of central and northern Washington and in the Okanogan region of British Columbia. At Wenatchee, on the Columbia River, the gateway to the Okanogan, I saw hundreds of men and women engaged in harvesting and preparing the apple crop of 1912 for shipment to all fruit-market centers in this country and in foreign lands.

The apple crop of Wenatchee approximated 2,700 car-loads, being sufficient to keep the Great Northern Railway Company busy loading and hauling away fifty car-loads every day for fifty-four days. And the growers were working day and night to get enough fruit to the depot to insure the loading of fifty cars every twenty-four hours. It was a sight not often witnessed out West, to see scores of men and teams working all day and all night hauling apples to the station.

Some friendly growers drove me through their apple-orchards. I saw men and women, from almost everywhere in the Pacific Northwest, picking, grading and packing apples. They seemed to be quite familiar with all the numerous varieties and talked glibly of the Rome Beauty, Northern Spy, Delicious, Gano and many other popular sorts. Every person knew something about red apples and their importance in the fruit-markets of the world.

Orchards Everywhere

On different occasions I asked the value of the land or orchard on which such apples grew and ripened to perfection. The figures did startle me for a time, but finally I got used to hearing the people say $1,000 to $3,000 an acre, and accepted the statements as correct. Some of the natives confided to me the inside fact that a man could not get land in Wenatchee Valley for less than $1,500 up, and the population was made up largely of men and women who had made money elsewhere and came there to enjoy life on fruit-farms.

The Great Northern Railway Company has a large force of men at work grading a line up the Columbia River, through the Okanogan region of Washington and into the older apple-orchards of British Columbia. On every available spot I saw young apple-trees planted in straight rows or with the contour of the country. The orchards were everywhere, in the valleys, up the cañons and far out on the high mesas where water could be secured for irrigating purposes.

Talk about land values in an irrigated district. Why, up around Okanogan, many miles from a railroad shipping station, where every box of apples cost ten cents to haul to the river as the initial shipping-point, the young orchards were held at from $500 an acre up to two or three times that price. The planters propose to sell these orchards to Easterners who may be seeking homes amid the red-apple groves of the Pacific Northwest.

There seemed to be no noticeable difference in the flavor, quality or shipping texture of apples grown on sagebrush irrigated lands and those grown on logged-off, non-irrigated tracts. Thousands of acres of land, formerly in timber, have been cleared and planted to orchards, and the prospects are just as good as in the irrigated districts. Buyers make no distinction between irrigated and non-irrigated fruits.

What of the future in the apple-orchards of Washington? That depends largely on the growers and the ways they have for handling the coming crops. One thing is certain, the railroad companies cannot haul out the apples as they are taken from the trees and loaded in the cars. They will not have the rolling stock to take care of that volume of business. Something must be done to store the apples and hold them for better prices. The growers did not make anything this year, and the transportation companies were overtaxed for cars and handling facilities.

Utilizing the Surplus

The fruit-growers of Washington cannot longer overlook the fact that some means of storing apples is needed in every fruit-growing section. It is a mistake to attempt to unload all the crop, at the time of harvesting, on the overburdened markets. Low prices will certainly prevail, and the industry of fruit-growing will suffer losses. Other farm products are held for market demands by resorting to the cold-storage plans of modern times, and apples will have to come under the same rules, if the growers expect reasonable returns on their investments.

Some factories are necessary, in the apple-growing centers of Washington, for utilizing the surplus fruits and handling the numerous by-products of the orchards. The consumers want canned apples, peaches and pears, and ask for such things in small quantities. The grocers must supply the demands of their patrons or quit business.

There is a constant demand for apple butter, canned apples, apple jams and jellies, and apple cider and vinegar. Many of the retail grocers, in small towns and cities, complain that they cannot keep supplies on hand because they are hard to get, especially at times when fresh fruits are not abundant. The apple-growers of Washington have not given the idea of canneries, cider-mills, evaporators, jams and jellies the attention the subjects demand. When they do find ways and means for utilizing the surplus fruits and waste orchard products, then they will be in shape to hold more of their apples in cold storage until satisfactory prices are obtained.

The time-killer doesn't draw even a hangman's pay.

You can tell the kind of religion a man has by the way he pays his debts—or makes them.

The man who starts out to reach success will find success reaching out for him before he gets half-way.

Growing Ginseng in North Carolina

By J. A. Robinson

GINSENG has been cultivated in the mountain section of North Carolina, and one acre has yielded roots to the value of $21,000. It has been demonstrated. Jess Penland lives in a comfortable farmhouse, nestled in a cove, at a point on Cane River, some five miles west of Burnsville, in Yancey County. He has learned the value of ginseng and the wisdom of fruit-growing. Mr. Penland has just finished digging his 'seng. Washed and stripped of its fibrous roots, he is drying it in a house constructed on the order of an evaporator.

In this house and already dried was what in its green state would have weighed 1,520 pounds—it loses about two thirds of its weight in drying. He had reserved enough of the smaller roots to reset the patch he had dug. The largest root weighed one pound. The 1,520 pounds were dug from a patch of one seventh of an acre in size. In other beds there was growing three times this amount in area. Wild ginseng brings $7 a pound in eastern markets, and the cultivated about $1 less.

Grape-Arbor or Vine-Trellis

By Vernon Hartsock

FOLLOWING is an ideal and up-to-date method of constructing a grape-arbor or vine-trellis.

The four posts are of four-by-four material and seven feet tall. Plates and braces of the same material are joined together, as illustrated. The plates are of sufficient length to accommodate the width of woven-wire fencing desired for the top.

The fence is drawn and kept taut by means of the four anchor wires and turn-buckles.

The wire must be securely anchored in the ground by means of a stone under-

ground, or else set in the cement, and should be of woven-wire cable to withstand the strain.

The bars and stays of the fencing used should be of equal distance apart and of sufficient strength—poultry-netting will not do.

Up to fifty feet in length, four-by-four material is heavy enough for the supports, and over fifty feet, six-by-six should be used.

If intended to be used as a vine-trellis, a low fence can also be fastened vertically upon each side, thus completely shading the walk and making an attractive bower.

Establishing a Retail Route

By Franklin Mark

THE reason we decided to sell our farm products direct to the consumer was because we believed it would pay us better. For a number of years we had disposed of our produce through the ordinary wholesale channels, but were not always satisfied with the returns. When we received less than three cents a dozen for a load of choice sweet corn which the grocers retailed out at ten cents a dozen, we quit selling through the commission house.

Home-Owners are Better Customers

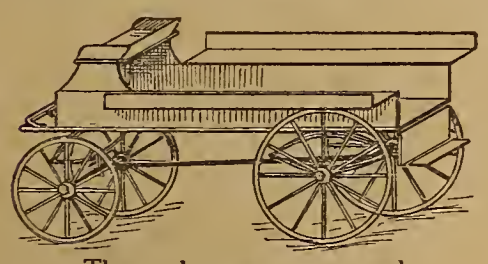
In dealing direct with the grocers we learned that they were making a profit of from fifty to one hundred per cent. on the fruit and vegetables we sold them, and we figured that we might as well take the middleman's profit.

Some thought was given the matter before we decided upon the section of the city where the route was finally established. We decided to make the first trial at getting customers there because it was one of the more recently built-up residence districts, and nearly all the residents were home-owners. Our experience in another line of business had proved to us that in the rental districts the majority of the housewives do not always have the ready cash with which to purchase produce from wagons. Too many of them have book accounts at the grocery and meat-market which contributes to less economical buying and a consequent shortage of cash between pay-envelopes.

We Notified Prospective Customers When We Would Call

Apparently it was going to be difficult to get enough customers in this neighborhood to make a profitable route, for on further investigation we learned that the housewives had declared against, and were refusing to buy from, hucksters and pedlers, because of their having been so often cheated with short measure and by inferior and decayed produce hidden beneath what they had purchased as first-class. However, we found three acquaintances with homes in that section who said they would buy from us regularly.

We decided not to make our first trip over the proposed route until we had ripe strawberries to sell, for we usually have an extra fine quality of berrics; and we wanted



The market-wagon now used

to have some leader of extra good quality to attract first customers. We had learned the names and addresses of some thirty-odd people in the neighborhood and sent each a letter, stating briefly our desire to establish a farm-to-consumer trade in guaranteed strictly fresh eggs and fresh-gathered, first quality fruits and vegetables from our farm. We guaranteed full measure, and everything to be as represented or money refunded, and that we would make our first stop at their home on the morning of a given date. These letters were mailed so that they would be delivered to them the day before our initial trip.

Our First Marketing Trip

With two crates of strawberries and a variety of such early vegetables as were ready, on a light wagon, we made our first trip. In a large shallow basket prepared for the purpose, a sample lot of berries and vegetables were carried from the wagon to the door; and we believe this is a good plan in establishing a new route, for attractive, well-arranged produce talks for itself. On that first morning we called only on those to whom letters had been sent; we sold everything but a small quantity of vegetables, but did not get through with the last prospect until noon. Owing to the anti-huckster feeling in the neighborhood, we were obliged to do considerably more talking and answer more questions than one would under ordinary circumstances.

At the end of the first week we found that we had about twenty people who had said they would patronize us regularly. On the next few trips during whatever time was left before the noon-hour we solicited new customers. By the end of the third week it became apparent that some of our first customers had become "boosters" for us, for unsolicited housewives began coming out to the wagon to buy, and most of them invited us to stop at their homes each trip. Without any further soliciting, from six to twelve new customers were added to the route each trip; we were obliged to put on a larger wagon, and my wife or daughter went along to help make sales. Before the end of the season we had practically all the cash buyers in the few blocks on the route, and it kept two of us busy to get through by noon. The entire route lays within a radius of one-quarter mile, which saves time and horseflesh. We haul in a big load Tuesdays, Thursdays and Saturdays, and very seldom are obliged to bring any of it back.

Our products are sold at about the same prices that are charged at the groceries. We have had a few complaints because we charged as much, but these were met in a courteous manner with the argument that we were regularly bringing to their door, where they could see them before buying, products that were of first quality, which they knew were freshly gathered, guaranteed to them, full measure always given, and that the prices were really lower, when the quality was considered, than those charged at the groceries. We did not act independently, but met complaints in a pleasant manner, being courteous at all times, and so did not find it difficult to keep the customers satisfied.

All Vegetables Were Washed and Graded

All vegetables were thoroughly washed; fruits, berries and other products that would admit of it were carefully graded, and everything arranged as neatly as possible on the wagon. Grading your produce pays, as does using every precaution to insure cleanliness, for you are handling something you expect to sell people to be used as food.

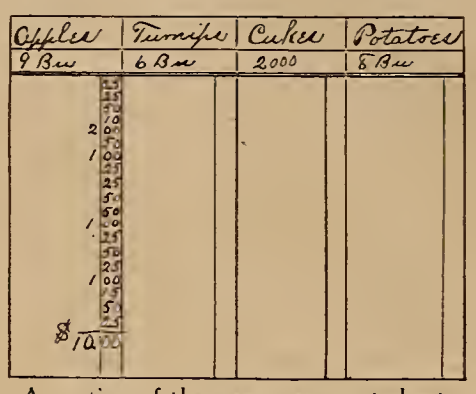
[CONCLUDED ON PAGE 28]

Cleanliness of person and dress help largely toward making a favorable impression with customers, and, personally, I always dress in a neat suit of khaki with shirt and hat to match; this forms a distinctive sort of wagon dress and is easily kept clean. It helps to make sales if the wagon man is able to tell of different ways to prepare his products for the table, especially the rarer varieties. We always carry as large a variety as possible of such crops as are in demand, and make our trips regularly, for irregularity in trips is bound to lose customers. The farm was given a name when we first bought it, and this has proved to be a good trade-mark for our produce.

All Business is on Cash Basis

On the wagon we carry an account-sheet on which is listed all the different products carried on the trip, and all sales are set down under their respective heads, which enables us to keep a check-up system on the profits and losses on various crops. We do not have to figure on losses from bad accounts, as we do a strictly cash business; and we strive to always be honest and square on a deal.

The establishment of the route was an experiment with us, and while we were learning we used the wagons we had at hand. One was a light and the other a large heavy spring wagon. These were not



A portion of the wagon account-sheet showing method of ruling

entirely satisfactory for the purpose, and both of them were partly dismantled and remodeled.

In our remodeled produce-wagon we combined what have seemed to be the good points for us of several wagons that we have seen or about which we have heard. The shelves which project over the wheels on each side are to hold half-bushel crates, which are to be filled with the different products carried. This will display the produce to better advantage for the housewife's inspection. These crates are made of dressed lumber, with a solid bottom and will be painted white.

The bed of the wagon is wide enough to hold three one-bushel crates side by side; but we do not expect to have to carry a middle row of crates as a general thing, so this space can be used as a passageway by the salesman. When obliged to carry crates in the middle, we will carry stout board covers on top of them, upon which we can walk without damage to their contents.

The half-bushel crates will be kept filled from the large crates, and thus the products will always look fresh and clean. As room is made in the wagon and the large crates are emptied, they will be folded up and placed under the seat out of the way. On the trip from the farm to the first customer a canvas cover is kept spread over the load to protect it from dust. A top is being made with bows of suitable height, to which is fastened heavy ducking. At the back end and on each side is a curtain that can be rolled up and fastened to the top with straps, or allowed to hang down during rainy weather. During nice weather this top is removed and an umbrella used over the seat, which makes the load lighter for the horse. On the sides of the boards which edge each shelf will be painted KENILWORTH FARM PRODUCTS; thus each wagon will at all times carry its own advertisement. Every good business is worthy a name.

The wagon account-sheets are eight by twelve inches in size, and on the wagon are carried between two cloth-bound board covers the same thing as the front and back covers of a cloth-bound book each of which measures a full six by eight inches. The sheet is held in these covers by a light rubber band in the middle and by a wire paper-clip at each corner. One half as many columns are ruled lengthwise across the sheet as the total number of different products on the load. A cross-line drawn through the middle divides the sheet and gives the required number of columns. Each end of the sheet becomes the head for the respective columns on its half, and we write the names of some of the products on the load at the head of each of the different columns at one end, and under each note the total amount in bushels, dozens, etc., of each carried on the wagon.

The sheet is then reversed and the names of the remaining products, with the total amount of each carried, written in this head of the sheet the same way as we did the first ones. Another line is then ruled near the right side of each column to keep the cents from falling over the dollars. Only the amount of cash of each sale of each product is set down in its respective column, and the totals are footed at the end of the trip. In the sketch of the sample wagon sheet the "Apple" column is filled out as it might appear at the close of the sales. The total amount of each product sold and the total cash received for it are transferred to the daily-sales book; also proper credits are given to the different crop records kept.

The Purple Finch

By H. W. Weisgerber

THIS finch is another one of our "sparrowy" winter birds that adds a bit of bright color to the painful whiteness of our northern winters. But don't for a moment expect to see him garbed in royal purple; oh, no! But rather look for him in an overcoat of rosy red.

While not found in such large flocks as the redpoll, they are more evenly distributed.

Their notes are a sweet warble that are not uncanary-like. As a rule, they are quite musical; but I recall one gray and foggy winter morning when they were eating their breakfast of hop-hornbeam seed in dead silence.

In passing under a hop-hornbeam tree after a fresh fall of snow, I can generally tell on what day they were feeding in that particular tree, by recalling on what day the wind was blowing in the direction in which the "hop" hulls are found lying across the snow. Since they also feed upon weed-seeds, they often travel in company with flocks of tree-sparrows and juncos. In destroying weed-seeds they help the farmer.

The FARMERS' LOBBY.

Plundering Our Public Lands

By Judson C. Welliver

THERE is very real concern in Washington—and it is most serious among people who have the most and best information—about a project of divesting the Federal Government of all the public domain. That may seem at first suggestion to be a most remarkable proposal. Yet it has strong support in Congress, and is backed, on the outside, by interests which have power and determination.

It is not proposed to give the hundreds of millions of acres of the public domain to railroads or power companies as subsidies, but to turn over to each State, for its administration and disposal, the public lands lying within its borders.

Land Grabbing Was Winked At

THE plan represents a number of elements of interest, and lack of interest. Administration of the public domain has always been more or less lax and careless, until within very recent years. The public lands were looked upon as a treasure-house of plunder, a prey for exploiters and promoters and speculators. For two generations and more anybody who was clever enough to get a big slice of valuable lands away from the Government, or from the Indians, or from the State if the State happened to own them, was looked upon leniently, as a person who had done a smart thing and deserved to profit by it. Too often indeed he was regarded with the same amiability that some folks entertain for the malefactor who robs the rich and is excused because he "gets the money into circulation."

There used to be an easy feeling that the public domain was about inexhaustible, and that there never could be people enough to fill it all up. That particular notion isn't so prevalent now, in a country with 100,000,000 people, as it was when we had a tenth that population, and the Ohio and Mississippi Valleys were spread out as virgin prizes for the pioneer. But there are still plenty of people who watch the remaining public lands with avaricious eyes, and believe that whatever they can get away from the Government is legitimate prey. It isn't esteemed much more immoral to grab off a liberal slice of public lands than it is to forget about paying the street-car conductor his nickel, or to sneak a bit of bric-à-brac past the inspector of customs without paying duty.

For a number of years it has been apparent enough that this proposition to turn the public lands over to the States was gaining strength. When Roosevelt withdrew vast areas of the lands to make forest reserves of them, the performance was applauded by most disinterested people; but out in the Western States, with ambitions to grow, develop and build, there was much antagonism.

Altogether They're a Powerful Combination

THESE far western people point out that Illinois, Iowa and the prairie States in general were not bottled up in any such fashion; the lands were placed at the disposal of the people at $1.25 an acre, and the people took them and built up the States. Why not treat the newer States likewise?

There are reasons why it is impossible, in good conscience, to let the rest of the national domain go so freely as these people would like it to go. The experience of the last half-century has shown that especially valuable lands, such as the coal and forest areas, gravitate into the possession of powerful capitalistic interests. We have lately observed something of methods by which oil-lands in California and Oklahoma are seized in behalf of great combinations, sometimes with real money at their back, sometimes composed of mere speculators. The public loses, the manipulators fatten.

The western people, with their very sincere ideas, in many cases, about the reasonableness of letting the land be opened and developed, are reinforced in recent times by aggregations of corporate capital which are financially and politically powerful in the East, and which want to get the public lands for their own purposes. One group wants the oil, another the timber, another the metals, another the coal, another the potash, or phosphate rock, or water-power.

These eastern groups join hands with the western sentiment about free development, and together they possess a vast power. Now, on top of all this, comes a development of the state-sovereignty doctrine, which is being urged as justification for the program of letting each State have and manage its own public lands.

Finally, there is a class of national legislators who are simply disgusted with the whole public-domain problem. I have had congressmen tell me that they despaired of ever being able to vote intelligently and confidently on any measure that related to public domain or Indian property, simply because the business was so involved, so intricate, so honeycombed with concealed interests and hidden intents, that the most innocent-looking measure might contain a job, or be a step toward perfecting a job of gigantic proportions. It is a work of years to become expert in these problems of the public domain.

So these despairing legislators feel a disposition to unload the whole business on the States, to turn the problem over to them to handle, each with a view to its own conception of its own interests.

Aggregated together, the force that these various elements possess has come to be startling. An official who has to do with the administration of the public domain said to me, when I asked him his opinion about this general situation:

"I am very greatly concerned about it. I fear that organization is being perfected to make the assault on the public domain very soon after Mr. Wilson becomes President. The movers believe that then, before he has had time to become thoroughly informed about the difficulties of the problem, will be their opportunity. He will be surrounded with advisers whose exact motives he will not always be able to guess. Some of the men who seem likely to have influence with him are undoubtedly involved in this cabal. It is important that the country should know the danger and know it early enough to avert a calamity."

State Control Would be a Failure

THESE were the observations of a man who understands and appraises the forces at work in the hope of getting Uncle Sam to surrender his national heritage to the States. The objection to giving the lands to the States is, of course, that the States would be less able to manage them efficiently than would the Federal Government. That is the very reason why big and selfish interests want the States to get them. It would be easier to get them away from the States than it is to get them away from the Federal Government. Anything to make them easy to get at!

It is difficult to overdraw the picture of the unfortunate results that would follow a cession of the lands to the States. A scheme of conserving the wealth of these lands, of making it the capital of all the people rather than of the favored few, has been in process of development in the last few years. That scheme would be overturned the day the States got the lands. One State might go ahead with the best of intentions to protect its forests; another, in control of a weaker or wickeder administration, might plunge right into the business of ridding itself of the lands; nominally in the interest of "development" and "progress," but actually, as it would turn out, in the interest of the manipulators.

There may be legislatures in the country with virtue enough to withstand the temptations of such a situation. There may be legislatures wise enough to see through all the tricks and jokers that would be brought to them in innocent guise, all designed to rob them of their lands. But between corruption and ignorance mighty little of the public domain worth while would be saved at the end of a few years. It would impose a temptation on state legislatures, officials and managing politicians. In the end the States would probably be vastly worse off for their experience.

Some Don't Know and Some Don't Care

UNFORTUNATELY, there are a good many people who don't care much about the public domain because they don't understand how rich it is, or how great, and greater with every passing year, is the need for husbanding and conserving it.

No man dares guess how much our public domain is worth. Let me use just one illustration to suggest something about it. This was given me by George Otis Smith, director of the Geological Survey.

Less than five years ago the famous Conference of Governors was held at the White House, to consider conservation topics. For that conference a rough appraisal of natural resources was prepared by the Government. Much attention was given to the estimates of coal reserves. Careful calculations were made of the amount of coal that has been dug and used since the settlement of the country. Of course, it is a very vast amount; just think of all they have dug in Pennsylvania, Ohio, Illinois and all over the land. To be specific, we have exhausted about nine billion tons of our original supply of coal.

That sounds like a good deal of coal. Now listen to what Doctor Smith tells me. When that rough appraisal of coal resources was made in 1908, for the use of the governors, not a word was said in it about the Black Mesa field in Arizona, for the excellent reason that that field was not then known to exist.

The Rich Black Mesa Coal-Field

IT HAS since been discovered, appraised and found to contain more available coal than the whole nation has used down to this time! How much is that coal-field worth? No man dares guess.

When you think of that one Government-owned coal-field, with as much coal in it as has been dug in this country from the beginning; and when then you realize that this Black Mesa field is a recent discovery and contains only a small fraction of the coal that Uncle Sam owns, you will be impressed perhaps that there is still something worth protecting in the national lands.

Take another illustration. At present most of the phosphate rock, so tremendously valuable in making fertilizers, so increasingly necessary in our agricultural operations, comes from the two Carolinas, Tennessee and Florida. It is little less than criminal, but it is a fact, that the most valuable deposits there are owned by European syndicates. Forty per cent. of the best phosphate produced is exported. The exhaustion of the deposits is going on so fast that their end can now be forecasted as an affair of the not very distant future.

What shall be done about it? Well, a few years ago nobody knew. Then the discovery was made that there were phosphate-bearing deposits in Wyoming, Montana, Colorado, Idaho and Utah. They were almost entirely within the public domain. Uncle Sam owned them. On investigation it developed that they were very rich and of many times the extent of the southern deposits!

Suppose those phosphate deposits had not been discovered till after those supposedly barren lands had passed from national into state ownership. How much chance that the foreigners, or the Americans of the exploiting class, would not have got them before anybody quite realized that they were there?

One might go on enumerating indefinitely the specific items of national wealth in the public lands.

Uncle Sam is Most Trustworthy

THESE lands are valued at billions upon billions of dollars; and they are the wealth, the resource, of ALL THE PEOPLE—now. They are our safeguard against monopoly and oppression. Vast areas yet remain, which will be as rich and valuable for agricultural purposes as any lands now under cultivation. Irrigation has only begun its work for the reclamation of lands in the arid and semi-arid regions, but if we let both the lands and the waters get away from us irrigation will presently be working to enrich the few rather than to help the many.

We have all heard and read of the old days of Amalgamated control in Montana, of the magnificent feuds of the copper interests there—and of how, no matter who won, the public lost. That is what would be going on in every State where the vast prize of the public lands was tossed into the arena of State politics.

Giving away the public domain to the several States would be a good deal like giving the Capitol Building to the people of the United States. There are bricks and stones enough in it to give every man, woman and child in the land a brick, or at least a brick-bat. But if everybody came and lugged off his brick or his bat there wouldn't be any Capitol left, and relics of the Capitol that once was would be so common that nobody would be willing to insult a dog by throwing one of those bricks at him!

That's about what would happen with our national treasure of the public domain if we let it be parceled out. The time has come to awaken to realization that there is real danger of the thing happening. When all the people understand, the danger will be over.

The Adventures of a Beneficiary

by W. J. Nichols

Illustrated by W. C. Nims

Characters of the Story

Emery Wright, a young city man whose claim to his Uncle Nathan's fortune depends upon his successfully managing a Revolutionary relic in the shape of a man-propelled river ferry in New Hampshire. In his ignorance he is persuaded by "Chicken Smithers" to buy six "mated pairs" of chickens. They are "Alderneys" and "Holsteins." A large Shanghai rooster has a bantam hen as an affinity.

While Wright is sketching he is attacked by an angry "cow" that chases him across a field, and through this episode he learns that cows are sometimes bulls.

Pete, a half-witted youth, who seems to "come with the ferry." Later Emery Wright learns differently and has to deal with Pete's uncle, who demands wages for Pete's services.

Miss Lansing, a young lady whose parents have a summer residence close to the hereditary ferry. She meets Mr. Wright on his first trip across the ferry. He falls at the same time into love and the river. He rescues himself and the ferry and determines to learn to swim.

Mr. Dodd, the attorney, who makes known to Mr. Wright the terms of his uncle's will and who is to give the nephew any necessary legal advice.

When Emery Wright arrives at the ferry, his adventures begin. This is a continuation of them.

Chapter XIV.—A Victim of Mistaken Identity

PETE was progressing. Of that there could be no doubt, though the manner of his advance in culture and knowledge was still a matter of moderate measurement. An inkling of personal cleanliness he had acquired without difficulty; in fact, he developed a liking for soap and water; but as to the desirability of an extension of the treatment to his surroundings he was singularly unimpressionable. He swept the living-room daily, because Wright explained that sweeping was one of the things that should be; but his broom moved only across the section of floor to which Wright chanced to limit his practical illustration of the mechanical principle involved. He was able, too, for example, to deliver messages of a not complicated sort; and one which he was privileged to bear to the ferryman filled that young man with optimism.

The pleasure of Mr. Wright's company at tea was besought by Mrs. Lansing, the invitation being delivered by Miss Lansing, whose pony-cart pulled up at the ferry-house door while Wright was absent on the prosaic business of transporting a tin-pedler to the farther shore. A week had passed since the encounter with Zeb Simonds' bull, and carping doubts had beset the youth as to the opinion the heroine of that adventure might be cherishing, on reflection, of his bearing and part in the affair, and indeed of the good sense of a man who would let a girl fall into such peril. Accordingly, with desire to end these doubts to spur him on, Wright found himself arrayed in his best and on his way to the Lansing residence so early in the afternoon that he was in danger of arriving before he was expected.

If he arrived with unfashionable punctuality, it was to find a pleasantly informal welcome awaiting him. In the long, cool living-room, with its curious but happy medley of old-time solidity and modern airiness in furnishing, he was to discover in the mistress of the house a gracious hostess, and in her daughter, in dainty perfection of summer gown, a companion still more charming than the damsel with whom he had twice tempted fate. It flashed into his mind, almost at the start, that the girl had said nothing to her mother of these escapes by land and water; for he was received, he discovered, not as the hero of rescues, but on the safely commonplace ground of a friend of the Lansing cousins now in Europe. On the whole, he was glad that this should be so; it gave, in effect, the bond of a secret between himself and the girl. Very willingly he chatted for a half-hour of the things that a little before had filled the social side of his existence, of acquaintances in the city, of exhibitions, of rivalries of leaders, of the main traveled roads of tourists abroad, and then, with no regret, he saw Mrs. Lansing make her excuses considerately and depart, leaving his entertainment to the capable hands of her daughter. Even then, however, the talk of these sharers of secrets touched but briefly upon them. In other words, it was no longer the hereditary ferryman discoursing with a patron of his ferry, but a young gentleman paying his respects to a young lady, with whose kinsfolk he had the honor of acquaintance.

It was commonplace, orthodox, delightful. And so was the tea, served in due season in a low-ceiled dining-room with wide-open windows and flowering plants; a tea made a meal of sustaining substance to meet the requirements of the male parent of the ethereal loveliness in shimmering white, a male parent who bustled in after a long drive, and who gripped the visitor's hand hospitably, and who set so noble an example as a trencherman that to fall far behind must have been taken as a slight at the least. And after tea there were big, brown cigars produced by the parent male, and smoked by himself and the guest on the wide front porch, where, it was to be understood, tobacco fumes made sure the absence of all insect pests, and whence were to be had soothing views of sunset splendors beyond the over-river hills. Oh, but it was heaven, Wright told himself; or, if not heaven, then Eden. Whereupon, as if to prove his theory, appeared the Intruder.

The dashing red car roared through the dusk, and sped up to the porch. The driver doffed his cap, called out a comprehensive "Good-evening," then swung himself from his seat, turning at the foot of the steps for a professional squint at the running-gear. Mr. Lansing, who had risen with alacrity as the car approached, was already on the driveway, engaged in a similar inspection.

"I wouldn't mind a turn with you up the road, Hal," he said in a matter-of-fact way. "Looks as if you'd got power there for speed."

"I've come to take Nettie out," the young man replied brusquely. "Promised her the first chance; and she can have it, even if she did put me off for some reason this afternoon."

From her place on the porch Mrs. Lansing spoke with beautiful distinctness of enunciation. "Mr. Lomond, have you met Mr. Wright? Surely, two young men in this little place cannot be strangers to one another."

The car's owner emitted a sound that might be accepted as expressive of whatever sentiment its hearer preferred. The youth on the porch said "Mr. Lomond!" as if he were principally intent upon re-impressing the name on his memory. Miss Lansing, bending over the porch rail, looked hard at the car and the man beside it.

"I don't like that machine, Hal," she said, coolly critical. "It's too red, and too low, and too much of an imitation of a racer, which, of course, it isn't. A motor's like anything else; it ought to be what it pretends to be, even if it's just an overgrown runabout."

Lomond laughed disagreeably. "It suits me, and you'll learn to love it all right," he said. "I'm not worrying. It's the genuine thing, that car is, and you'll find it out soon enough."

"But not to-night—I'm too intensely comfortable here."

"Oh, all right; suit yourself!" Lomond retorted. He sprang into the car, grasped the wheel, then remembered Mr. Lansing. "Hop in, if you want a run," he said with no very good grace, but the gentleman thus addressed stepped back and shook his head.

"Never mind me," he said. "It'll be chilly along the valley, and it's too much trouble to get a coat."

Walking homeward an hour or two later, Wright reviewed this conversation with a care made keen by a new sense of jealousy. Lomond's whole manner, objectionable as it was, bespoke very old or very intimate acquaintance with the Lansings. It might also infer a still closer understanding in the case of the girl, a first lien, as it were, upon her attention and her companionship. What an outrage upon justice that would be! The fellow was a cad, and plainly a cad with money, which made him all the worse. And so, moved in spirit, he came to the ferry-house, standing grim and dark beside the road.

As he halted before the house, a faint sound from the river caught his ear, and stepping to the edge of the bank he looked down upon the ferry. In mid-stream he could make out a darker blot upon the dark surface, while close to the water's edge a lantern burned brightly. Evidently Pete had had a call, and having ferried the passenger across the river was on his way back, with the lantern as a beacon to aid him in finding his landmarks. It was odd about Pete, anyway—the uncertainty he seemed to experience in making out things. Wright smiled somewhat ruefully, as he reflected upon the willingness with which he seized upon Pete's limitations as an antidote for his own worries, and decided to go down to the river's edge to watch the arrival. Pete recently had fashioned a new landing-place for the skiff a little up-stream, and Wright had his doubts of the boy's ability to reach it in the dark. Leisurely he picked his way down the slope, noting that the boat was drawing nearer and its outline was becoming more distinct. He moved so slowly that the craft nosed its way to the bank while he was still some distance away.

There was a rustling of leaves, a sound of breaking branches, the thud of a blow and then a terrible cry from Pete. Two figures were beside the skiff bending over it, striking fiercely at the boatman now fallen helpless on the planking. Wright caught up a stone, and as he sprang forward hurled it with so good an aim that one of the assailants started up with a howl of pain and fell to clutching at his shoulder, and, seeing Wright, caught his companion by the arm, and with him darted into the cover of the underbrush. Wright could hear them crashing through the growth as he bent over Pete and tried to raise him. He heard them still, farther away and running hard, when he fetched the lantern and by its light surveyed their work.

The boy lay groaning in the bottom of the boat, while from a long scalp wound blood trickled upon his face and the boards on which it rested.

Chapter XV.—A Young Man's Modest Wants

"I'VE been trying to see you for several days, Mr. Dodd," the ferryman said, "but one thing or another kept interfering."

"Precisely," said the lawyer. "In other words, you're busy. Ferrying's more or less of a trade, after all, eh?"

"Well, it's confining, but I shouldn't call it exactly dull," he said reflectively. "There are hours and hours when there's nothing to do but go fishing; then again there'll be minutes when life's all a big jack-in-the-box, and you can't tell what'll pop up next. And that reminds me—where is there a good drug-store?"

Mr. Dodd told him, adding a natural hope that his visitor was not ailing.

"Oh, I'm right as a trivet, but I've got to stock up. I need some arnica, and some liniment, and some carbolic acid, and some adhesive plaster, and some stuff for bandages. I guess those are the principal items."

"Um?" said Mr. Dodd. "Little inclined to surgical practice, aren't you?"

"That boy of mine was waylaid the other night," Wright explained. "Bad crack on the head, but he's coming out of it. I'm doubly glad, too, for there's no doubt he was the victim of a mistake. They were after me, of course."

"Come, come, Mr. Wright; this is growing serious!" the lawyer said. "You'd better swear out a warrant—that is, if you're informed as to the identity of the miscreants."

Wright smiled a bit grimly. "Well, I've what even you might consider suspicions," he said. "The morning after Pete was knocked out, I followed the track of the sluggers through the bushes, and I found a dirk one of 'em must have dropped. It was a fancy weapon that the owner would be pretty sure to look for as soon as he could without risking observation. So that night I loaded the old gun with bird-shot and posted myself beside a stump that was handy to the trail. Along about nine o'clock I began to hear twigs crackling and to get little gleams of light, as if somebody were prowling along with a hooded lantern. I called to him, and when he bolted, I blazed away, and a man yelled. Now, I don't know who he was, but I do know one of my neighbors has been limping badly ever since."

"Zeb Simonds?" Mr. Dodd asked quickly.

"Oh, no. Merely a citizen who has been rather insistent on criticizing my manners and customs. We've had words once or twice."

Mr. Dodd took a moment or two to digest the narrative.

"All things considered, I marvel that your counsel enjoy such a sinecure as they seem to have," he said dryly. "Am I to infer that no legal proceedings have resulted from this latest exchange of compliments?"

"That's the situation. We lead the simple life, Mr. Dodd. By the way, though, you don't know of anybody who'd like to part with a good dog, do you? One with a cross of bull and mastiff or bloodhound ought to be about what's wanted."

Mr. Dodd professed ignorance of available dogs, but agreed to make inquiries. A watch-dog was desired, he presumed.

"Why, yes, that's the idea," Wright explained. "Standing watch grows tiresome—after a while, you know."

"Standing watch?" Mr. Dodd repeated. "On the boat, do you mean? And am I to suspect a pun on the description of dog you wish to secure?"

"Pun nothing!" the ferryman said testily. "We stand watch at the house. If we don't, there's always liability of a stone through a window—that's happened a couple of times, as it is. While Pete's laid up, I get the lion's share of guard duty. I didn't mind

[CONTINUED ON PAGE 39]

The boy lay groaning in the bottom of the boat

SUNDAY READING

The Call of Abram

By Rev. Chas. O. Bemies

Sunday-school lesson for February 16th: Gen. 12, 1-9. Read Chapters 10-12.

Golden Text: I will bless thee, and make thy name great; and thou shalt be a blessing.—Gen. 12, 2.

The Bible, especially in the Old Testament and the four Gospels, is a rural-life book. Let us interpret it accordingly. We believe that the Bible is a true record of facts.

YOU select your seed-corn from the standing field before the frosts come, to get the best ears with unimpaired vitality. When God wanted to reseed the earth again, He selected the best right out of the field. There were three varieties, the Shemite, the Hamite, the Japhethite; all originating in the parent stock of Noah. But through several hundred years the varieties became scattered, mixed, run down, untrue to original type. The Shemite had mostly spread all through the vast rich country of the Euphrates River to the Persian Gulf, at the head of which Ur of the Chaldees was probably situated, where lived Terah, Abram's father, about 2000 B. C. Don't think this whole region was inhabited by crude primitive people, for they were highly skilled in agriculture, arts, sciences, law, education, war; had constructed large cities, like Babylon and Nineveh; built irrigating dams, huge masonry, defensive walls and fortresses, public granaries, and other public works. But they had mostly refused the knowledge of God received from Noah, and had substituted a gross and sensual idol worship. Some of the clay tablets and inscriptions dug up from ancient Ur are too revolting to publish. It takes a lot of grace and grit to live a righteous life in such a community, but the Shemite Terah and his family made good. Most of the others in Ur were Shemites too, but they were almost too corrupt to bury. Perhaps you think if you had better surroundings in home or work that you could live a Christian life. Don't whine. If you've got the right stuff in you, you'll be a Christian right where you are. Then God will tell you what to do next, as He did Terah, who was told to take his son Abram and his grandson Lot, with their families, from this festering mass of civilized rottenness and migrate to far-off Canaan. They caravanned leisurely up the rich valley of the Euphrates northwesterly some six hundred miles and stopped, possibly to visit relatives, at Haran. Here they stayed about five years, when the father died, and Abram succeeded him as patriarchal head of the family and property. From this great valley God not only now selected His human seed, but had originated for us many fruits and crops, among them the apple, wheat and alfalfa. You remember this was the general region of the Garden of Eden. God now told Abram to move on down south about three hundred miles to the land of the Canaanites, descendants of Ham, very distant relatives of Abram. But they were in about the same sink-hole of idolatrous sensuality as the Shemites. I suppose God called Abram from his own kindred a thousand miles away to live among the Canaanites, because He wanted the new seed-bed for righteousness planted near the center of earth's population. God's inducement to Abram to migrate was His promise to bless and guard him in making him the head of a great nation which should in turn bless all nations of earth. And Abram was seventy-five, Sarai sixty-five, and childless! Abram took God at His word. He started with his family, Lot, servants, property and herds, and made his first stay at Shechem, thirty miles north of Jerusalem, where God appeared again, promising to give the land, not to him, but to his descendants! Abram wasn't staggered at God's promises. He was content to believe that his descendants would become the world's leavening power. And that while he was old and childless! His was a world faith. No wonder he is the father of the faithful! Some men won't even plant an orchard for fear they'll not live to eat of the fruit!

Abram and Lot

By Rev. Chas. O. Bemies

Sunday-school lesson for February 23d: Gen. 13, 1-12. Read Chapters 13-14.

Golden Text: The blessing of the Lord, it maketh rich, and He addeth no sorrow with it.—Prov. 10, 22.

ABRAM, our father of faith, lived the open country life. In those days there were public pasture-lands as in our western country formerly. But there were no ranches or farmhouses. The farmers and stock-raisers lived in towns and cities, many of them walled like fortresses, for protection. The former went out daily to till their farms, while the herdsmen, "cowboys," went out to tend the stock from pasture to pasture for weeks together sometimes. Chief Abram was a wandering stockman, common in those days, and in Arabia still, who moved his tents from place to place, according to pasturage, without any fixed residence. For wheat and other farm crops Abram necessarily bartered with the towns in return for his cattle. The towns and cities had each a king, usually absolute in authority. These cities were practically independent of each other, though often federating against a common enemy. It was free for all, and the mightiest man ruled, with the devil taking the hindmost, the foremost and most all between. In his travels during the first year or so a drought drove Abram south into Egypt for pasture and food. The customs of four thousand years ago among powerful kings included the privilege of taking desirable women from a traveling tribe into the king's household, upon pain of death if resistance were offered. In either case the king would obtain the women, and it would seem better for the men not to resist and remain alive. Besides, the king would often give valuable presents to the chieftain. When Abram found himself squarely up against this situation in Egypt, he naturally tried to make the best of it, and told the king that Sarai was his sister. This was true, as Sarai was his father's daughter, but not his mother's daughter. Abram's action is defended by the people of that region to-day even. You'd have done the same if you were Abram and lived four thousand years ago! Because of Sarai's love for Abram and his safety she consented to the scheme! I believe if Abram had told the king the whole truth God would have safeguarded him. But Abram had lots to learn yet. Even as it was, although Sarai was taken to the king's palace, and large presents of all kinds of live stock, servants, gold and silver given to Abram, God protected her, and the king gave her back to him with a keen rebuke and sent him back to Canaan with the presents. Don't judge Abram by present-day moral sentiment. God's revelation has been progressive. The flocks and herds of Abram and of Lot—cattle, sheep, donkeys and camels—increased so that the pasture was insufficient for both, and their herdsmen got to fighting for possession of pastures, like our western cowboys in the "good old days." This would never do. Brethren mustn't fight. What would the heathen think of their religion? Abram was wise and generous. He gave Lot his choice between the division of country. Young Lot selfishly chose the splendid Jordan Valley. Abram had Dobson's choice, what was left. This reminds me. Two Hebrews in a restaurant were served meat for both on one platter, a large and a small piece. They both waited. One asked the other to serve the meat. He declined. The other also declined. The first then took the larger piece and gave the smaller to his friend, who said, "If I had served it, I'd have given you the bigger piece." "Well," said the other, "what are you kicking about? Ain't I got it?" Lot was a Hebrew.

Repairing Our Friendships

By Orin Edson Crooker

FRIENDSHIPS are at best but fragile and likely to be easily broken. Ordinarily we think of them as eternal and lasting, but the truth is they are quite perishable, needing constant attention and oversight. Some friendships simply rust out like the hoops of a pail that has been long neglected. From lack of use and care they lose their power to hold, and those who were once fast friends find themselves to have drifted apart and become as strangers. Other friendships break from too great a strain being placed upon them. It is wrong to think that friendship will stand anything and everything.

It becomes necessary, therefore, from time to time to repair our friendships much the same as we repair our fences. Quite often this is a difficult thing to do, since our pride stands in the way. It usually goes against the grain to make the first move in such matters.

Nevertheless, it is a poor solution of such a problem to wait for another to solve it. "Who shall forgive first?" was once asked in such a case of strained friendship. "He who has been most injured," was the reply. This would solve most difficulties of this kind, for he who has committed a trespass can seldom resist the appeal of him whom he has wronged.

The Household Department

Good Taste in Home-Decoration

By Edith Charlton Salisbury

Professor of Household Science at Rutgers College, New Brunswick, N. J.

IT WAS one of the most inviting and most satisfactory living-rooms I have seen, and yet it was wonderfully simple and comparatively inexpensive. That is one reason why I want to tell you about it. Another is because there are a number of plain, practical rules in house-decoration that can be followed by even the inexperienced, giving satisfactory results.

The prevailing color in this living-room was a rich golden brown which gave the effect of softened sunlight; the room was on the shady side of the house and needed brightening. Golden brown, tans and neutral browns, much the same color as the paper in which our groceries used to be wrapped, are particularly good shades for living-rooms, because they are unobtrusive, never jarring, always friendly and harmonize pleasantly with other colors we may wish to use.

The hard-wood floor was covered with two medium-sized, inexpensive Axminster rugs, the colors in which were a mingling of darker browns, dark rich green and just a suggestion of the softest red imaginable. There was so little of that color one had to look twice to see it, but almost instinctively one looked for it, because it was the note which gave the charming bit of contrast in the color-scheme. The ceiling was a deep cream, or soft écru, moire paper which extended beyond the ceiling, dropped over on the wall and lost itself in the quiet browns and greens that formed the frieze, or border, in conventional design. The window-curtains, hung straight from the top, were of simple madras and of the shade of the ceiling. Side-curtains were of golden-brown rep, a shade darker than the wall and as much lighter than the rugs. The wall-paper was without design, so the danger of monotony in coloring was overcome by trimming the window-draperies with broad bands of green, to match the green in rug and wall-border.

Useful Tables and Comfortable Chairs

The furniture fitted in perfectly with the rest of the room, and yet there was nothing especially noticeable about it. One always remembered that the chairs were comfortable, fitting into the curves of the body as if made for them; the table was strong and roomy; plenty of space for books and papers, and there was a low, inviting couch. I would never consider a living-room as being quite true to its name unless it contained a couch, not necessarily an expensive affair, never one of that uncomfortably narrow, slippery kind which repels rather than attracts. Speaking of couches for living-rooms, the most satisfactory, to my mind, are those made with a plain, strong frame, fully three feet wide, fitted with woven wire springs, reinforced; over this an ordinary felt mattress, and the whole hidden by some serviceable cover and luxuriously piled with pillows dressed in pretty washable covers. But even a good thing like luxury in sofa-pillows can be overdone, for I remember trying to crowd in and make myself comfortable among ten pillows of varying shapes and sizes. I counted them over one by one as I tried to make a place for myself among them.

The couch in this particular living-room had a brown rep cover, and the pillows were clothed in washable covers of dark greens and golden browns, and one had a dress of dark red.

A piano, low bookshelves filled with books and a thrifty-looking fern growing in one of the windows almost completed the furnishings of this delightful room. There were a few pictures on the walls of course, but of them, their value in the house, the kind to select and how to hang them will make you another story.

If one were asked why this room, unpretentious in every way, was so friendly in its simplicity, the answer would surely be because the one who planned it had followed three cardinal principles in the selection and use of colors, making the whole effect one of harmony.

The color had been chosen in regard to the location, size and style of the room. It was a dark room, so a warm color was selected to give the effect of added sunlight. Also, it had been chosen in relation to the colors in the adjoining rooms. Gradation in tone-values had been observed in applying the color; the darkest tint was on the floor, the next on the wall and the lightest on the ceiling, while the intermediate shade was used for draperies and in the furniture. One seldom makes a mistake in putting the darkest color on the floor. Only occasionally one sees a rug lighter than the wall, or draperies darker than either, at the doors and windows; in such cases the room is always out of harmony and the general effect unpleasant.

Study of Color Harmonies

The study of color harmonies and contrasts is most fascinating and one that is sure to lead into pleasant by-paths when the first step has been taken. Color has quite as great possibilities for pleasure or pain as sound if we only knew as much about it. Almost every person can distinguish between intervals of sound, is thrilled by harmonies or distressed by discords, and is wearied by monotony of sound. But the same person may live day after day with colors that clash as unpleasantly as any discordant chord in music and may never know that uncongenial color in a room may be the reason for unexplained fits of nervousness, bad temper or general depression.

There is a psychological effect in color just as there is in sound, so they tell us, and enough people have proved the theory to make us confident it is more than imaginary. Red is the stimulating, exciting color. Do not use it for wall-decoration in bedrooms or living-rooms or any place where it cannot be easily removed. Better not use it in rooms that are occupied for several hours at a time. It is seldom desirable in a dining-room, for if the room is sunny, as it should be, it will be too bright; if it is a gloomy room, red will not brighten it, for that color absorbs light. The woodwork in dining-rooms is frequently oak in natural finish. A rule in house-decoration is that red and oak should never be used together; they are often, but the result is disastrous. Red is a beautiful color, but should be used chiefly to give a contrasting touch of color, rather than as the key-note of the general color-scheme.

Yellow is the aggressive color, that suggests good cheer and prosperity. Someone has said poverty and yellow can never be companions. A rich, soft shade of pomegranate yellow is delightful in a dining-room which has dark woodwork and dark furniture.

How Colors May Affect You

All shades of violet and mauve are depressing and should be used very carefully in house-decoration. Those are the colors said to be used in Russian prisons, where troublesome diplomats are confined. Surrounded by these seductive colors, the brilliant, ambitious revolutionists soon lose interest in themselves and their country.

Blue has a tendency to depress, although it is generally referred to as quieting. It is a good color for sleeping-rooms, and the Dutch blues are agreeable in dining-rooms.

Green is the most soothing and restful of all colors and is especially desirable for sleeping and living rooms, in fact it is not out of place in any part of the house; but the soft olive shades are always preferable. The emerald shades are suitable only i.. draperies.

One important rule to observe in selecting color is to choose your favorite if possible. Everyone has a

A room of comfort and space

favorite shade, and if at all suitable it should be given prominence in some room. Color is the atmosphere of the house, and wise use gives character to it.

You cannot always tell why certain persons are more attractive to you than others. Neither can you explain why you prefer certain colors. But the fact remains that you have your preferences in both cases, and in both cases the favorite should be given prominence.

Remember, though, that the Indian and the child prefer the bright, gaudy colors; as civilization and intelligence progress we prefer the quieter colors, and when we have advanced still further in both we are able to enjoy the subdued blendings, half-tones and quarter-tones of the color-scale.

It is equally important to remember that, while we enjoy certain colors, we frequently tire of them quickly. Choose a quiet, subdued tone, the effect of which you know to be pleasing to you, when you see it day after day, year after year. This, while it may give a sameness to your surroundings, stamps them with your personality and makes them a part of yourself.

Sour-Dough Cakes

By K. G. P.

MY SOUR-DOUGH cakes, with a few modifications, are the old sour-dough cakes of the woods. They are delicious, economical and simple to prepare.

The cakes are started by beating to a creamy consistency two cupfuls of flour, two tablespoonfuls of sugar, one tablespoonful of salt and some water. Add a tablespoonful of vinegar, and set in a warm place to sour. In twenty-four hours they should have soured sufficiently to set. For four people beat one quart of flour and some water to a creamy consistency, add your sourings, and allow to raise overnight. In the morning take out the necessary quantity for the meal, leaving at least about one and a half pints of the mixture to set the cakes for the morrow. By taking out what you wish to cook rather than what you wish to set away, you get the lightest batter.

To the batter you are going to cook add two tablespoonfuls of molasses, small one-half teaspoonful of soda dissolved in water and one teaspoonful of salt. The batter should be thin enough to spread when poured on a hot well-greased griddle. The cakes should be very light and brown.

You need not have cakes every day, as the sourings may be kept any number of days without using. The saying is that the sourer they are, the better they are. The left-over pancakes and any stale bread-crumbs may be broken up and put back into the sourings. Whenever the sourings do not seem light enough, stir in a tablespoonful of vinegar.

The addition of molasses is our own thought. Otherwise the cakes are the sour-dough cakes of woods history. Under no circumstances attempt to improve them by adding yeast.

An Oil-Cloth Utility Apron

By Rose Seelye-Miller

AN OIL-CLOTH apron comes in very handy upon occasions. It may be tied over any other apron or dress, and insures them from being wet or soiled. The real soil of the apron comes directly in front, and if this could be saved much washing could also be saved. To make an oil-cloth apron, get a yard of white table oil-cloth, fold it diagonally, and cut it exactly square, then from one corner of the diagonal fold round out a piece to fit the figure. This gives a pointed apron that comes well down in front and shorter over the hips, but large enough to form a good protection to any garment underneath. The edges may be bound or cut out with a pinking-iron. A braid binds the part which goes about the waist. A bib may be cut from the remaining oil-cloth, and braid loops may be sewed thereto, by which the bib may be pinned in place without injuring the oil-cloth. Such an apron lasts indefinitely, it may be wiped with a damp cloth and so be easily cleaned, requires no ironing, looks plenty good enough for kitchen wear and saves much work, as well as considerable wear on other aprons.

Another useful hint regarding aprons is to make them with flat seams and no raw edges. Then there will be no right or wrong side to a gingham apron, and it may be worn either side out.

A coat-hanger makes an ideal hanger for large bib or sack aprons, keeps them free from folds and wrinkles, and shows one at once the number and kind available, from which an instant selection may be made.

Ice-Cream Without a Freezer

By Mrs. H. F. Grinstead

THE lack of a freezer need not prevent your enjoying ice-cream occasionally. With two vessels, one slightly smaller than the other, cream can be frozen with only a little more time and trouble than with a freezer.

I use two buckets, one smaller than the other by two inches all around. Put prepared cream in small bucket (one-half-gallon size is preferable), and stand in large bucket. Pack around with ice and salt, alternating as you would for a real freezer. Let stand and cool for ten minutes, after which whirl by the handle until freezing begins; cut from sides of bucket as fast as it freezes to the thickness of a quarter of an inch.

After freezing begins, it requires from fifteen to twenty minutes to finish.

New Ideas for the Window-Garden

By John T. Timmons

THOSE who are always looking for something out of the ordinary in plants for home-decoration find a very interesting plant grown from the discarded top of the ordinary pineapple.

After the top is cut from the fruit, it should be placed in a jar of water with the leaves above the surface, and in a few days fine roots will appear, and in a short time a mass of root growth will have formed, and the foliage will then grow rapidly, forming a graceful plant that resembles some of the palms.

It is one of those old things people like to watch and study carefully as it is developing. Young students in botany will find in this experiment something well worth the time required to care for it.

A little moss and pebbles might be placed in the jar after the roots form, but it is best to start the roots in clear water. The water can be renewed as evaporation takes place, but entirely fresh water is not essential, although it does not harm the plant in its growth.

Most lovers of beautiful and attractive house-plants admire the palm. There is a great difference in these popular plants, and some of them are rather expensive, owing to rarity or some particular form of foliage, while others that are more common are very reasonable in price.

A very pretty palm can be grown from the seed of the date. Date-palms are not all alike, and some of the larger dates produce plants with finer foliage than others.

It is very interesting to watch the development of a date-palm. They are slow in growing, and it takes months to grow a large-spreading palm.

Plant the seed of dates in clean sand, about an inch deep, and keep the sand moist, and in the course of time a sprout will burst from the side of the seed opposite the groove, and about half-way between the ends of the seed.

The first growth is the root, and later the top growth will start from one side of the root growth. It is a single sharp pointed blade that makes its appearance through the surface. In a short time the plant should be transplanted into rich sandy soil, in a small pot, and still later, when the plant has made a good growth, it should be given a larger pot, and finally it should have a five or six inch pot after the leaves have grown enough to begin to split nicely.

To Eliminate Dust in Dusty Carpets

By Mrs. H. F. Grinstead

I FIND loose snow a most effectual cleanser for dusty carpets. It also eliminates the dust, making sweeping much pleasanter work. Try it. Scatter snow all over the floor, and sweep quickly; it will not wet the carpet. Sprinkle a second time with clean snow, sweep off, and you have a clean carpet and no dust flying in the room.

Throughout both sweepings the room must be kept cold, and after each sweeping the snow must be removed as quickly as possible, particularly after the first sweeping, when the dust and clogged snow, if allowed to melt, would make mud spots on the carpet.

"Just Ask Your Congressman"

By Hilda Richmond

MANY country people never enjoy all the good things they might have for several reasons. They either do not know that the member of Congress from their district can do many things for them, or else they are too indifferent to try for these free gifts. Sometimes they feel sure that when one gets "something for nothing" it doesn't amount to much, but in this instance one doesn't get something for nothing. Every taxpayer in the country helps provide the money for the gifts the Government lavishly bestows through its public servants.

Everyone knows that seeds are given away free every year, because there is much contention about this subject, but it is not generally known that there are also valuable plants and shrubs given for the asking. If any group of young people want to beautify the school-grounds, the church-yard or the pretty grove where public meetings are held, or even their own homes, they should investigate and see what can be done for them by their member of Congress. Tulip bulbs, plants, shrubs and things from the botanical gardens are all within the reach of the congressmen.

Then there are public documents relating to crops, plants and their insect enemies, animals and their diseases, and other free literature that is valuable and interesting. The Year-Book of Agriculture is one of the most interesting volumes ever printed, and it is unfortunate that copies are never even opened in many country homes.

Often the members of Congress, especially those who are up for renomination, have interesting lectures on interesting topics that they are willing and anxious to give free in country neighborhoods. Sometimes these are illustrated by stereopticon views of public works, such as the Panama Canal or the irrigation schemes of the great West, and they are instructive as well as entertaining. The very same lectures and the very same pictures that are given in large cities to large audiences are available to the country neighborhood.

If there is a little lake or pond in the neighborhood where the young folks like to fish, it may be stocked with fish free of charge, and a man will be sent with the shipment, so there is absolutely nothing to do but carry them to the pond. In the large hatcheries fish are produced by thousands each year, and a simple request through your congressman will bring a supply to your neighborhood. Of course, they are small when they come, but in a few years they grow and multiply in a most gratifying manner. If there are many applications, it will be necessary to await your turn.

Each member of Congress has the privilege of naming one cadet for West Point and two midshipmen for Annapolis. By writing to your congressman you can find out if there is a vacancy, and how to get the place if it is open.

Of course, there are other things free to country and city people that come through congressmen, so there is no harm in asking what they are.

PROCLAMATION!

Of the New Village, and the New Country Community, as Distinct from the Village

THIS is a year of bumper crops, of harvest-home festivals. Through the mists of the happy waning year, a new village rises, and the new country community, in visions revealed to the rejoicing heart of faith.

And yet it needs no vision to see them. Walking across this land I have found them, little ganglions of life, promise of thousands more. The next generation will he that of the eminent village. The son of the farmer will be no longer dazzled and destroyed hy the fires of the metropolis. He will travel, but only for what he can bring back. Just as his father sends half-way across the continent for good corn, or melon-seed, so he will make his village famous hy transplanting and growing this idea or that. He will make it known for its pottery or its processions, its philosophy or its peacocks, its music or its swans, its golden roofs or its great union cathedral of all faiths. There are a thousand miscellaneous achievements within the scope of the great-hearted village. Our agricultural land to-day holds the plowboys who will bring these benefits. I have talked to these hoys. I know them. I have seen their gleaming eyes.

And the lonely country neighhorhood, as distinct from the village, shall make itself famous. There are river valleys that will he known all over the land for their tall men and their milk-white maidens, as now for their well-bred horses. There are mountain lands that shall cultivate the tree of knowledge, as well as the apple-tree. There are sandy tracts that shall constantly ripen red and golden citrus fruit, but as well, philosophers comforting as the moon, and strength-giving as the sun.

These communities shall have their proud circles. They shall have families joined hand in hand for generations, to the end that new blood and new thoughts be constantly brought in, and no good force or leaven be lost. The country community shall awaken illustrious. This hy faith, and a study of the signs, we proclaim!

OUR YOUNG FOLKS' PAGE

Conducted by Cousin Sally

A Pincushion That Walks

By Aubrey Fullerton

THE beaching of our canoe and the commotion we made in landing had disturbed a score or so of water-fowl that had been comfortably disporting themselves in the little creek, and with one accord they betook themselves elsewhere. Some chipmunks, also, in the trees along the shore excitedly disappeared at our approach. But there was one other citizen of the wilderness down at the creek-shore at that moment, and to him our coming meant nothing either of fear or surprise.

Reddy Tom, our guide, was first to see him. He was then just at the edge of the bush, not twenty feet away from us, and he sat looking calmly at us from little black eyes that sparkled even in daylight. When he had seen of us all that he cared to, he turned and slowly waddled off into the bush, completely indifferent to us or to what we might be doing there.

But he was not to get away so easily. Reddy Tom had recognized him at first sight as likely to make some fun for us, and he started after him with a canoe-paddle in his hand. It is not hard to head off a porcupine, for its movements are slow and deliberate, and presently this fat "Porky" at Tea Fall Creek found himself blockaded. He was making off into the woods, but Reddy had climbed over some fallen timber and interrupted his progress by putting the flat blade of the paddle squarely in front of him.

Then began a test of will, porcupine against man. Porky was determined to go along a fallen spruce upon which he had set out, and Reddy was quite as determined that he shouldn't just yet. He could have turned about and gone back, or he could have climbed down to another stick, or to the ground; but none of these suited his purpose, which was to go on just as he had begun. So he waited till the paddle was withdrawn, and then picked his way forward again for a few inches, till Reddy once more blocked him. This time Porky lost his temper, and showed it by raising his girdle of brown-tipped quills straight up, all around him, with his tail stiff and ready behind him. That was what Reddy Tom was looking for, and after teasing him a little more he left him alone to go his own determined way as he chose. If either had won out, it was Porky.

The Obstinate Porcupine

This determination to do as it wants to do is a characteristic of the porcupine everywhere. He will not change his course until he really has to, and the more he is opposed, the more set he is on having his way. He is not easily frightened, either. Other creatures of the woods may go timidly and quietly, but the porcupine is quite indifferent as to who hears or sees him, for he carries always a means of defense that rarely fails, an armor of quills that protects himself and, if need be, wounds his foes.

A strange animal, in both appearance and habits, is this porcupine of the American woods. He is perhaps two feet long and thirty or forty pounds in weight and nearly always fat and sleek, for the reason that his food-supply is unfailing. The soft green tops of water-plants, the young leaves of wood-bushes, the bark and twigs of the big trees and the autumn nuts are all delicacies that he prizes highly.

Armor of Fur and Quills

The porcupine is well provided with clothing. He has first a covering of dense fur, dark brown in color, and then through this fur come the quills, girdling him in a prickly belt that is both ornament and armor for him. These quills have sometimes earned him the name of "quill-hog." When he is on the defensive, they stand bristling erect, and woe is the animal, or even the man, who comes unwarily in contact with them; for they pull out very easily and fasten their sharp points into whatever hits them, leaving a sting that sorely hurts. Porky depends upon his short stubby tail for his chief defense, however. It is the one part of him that moves quickly, and with it he gives most sudden and vicious switches that inflict genuine agony, for the tail, too, is armored with quill-points. These quills are from an inch to two inches or more long, and are pure white, with dark-brown tips. The Indians sometimes use them, with good effect, for decorative work on baskets and moccasins. When standing erect on the porcupine, they give him the appearance of an animated pincushion.

Aside from his quills, the porcupine is miserably weak. A blow on his short snub nose that would hardly stun a woodchuck will kill him instantly. His head is his vulnerable point, and when attacked he seeks to hide it, curling up into a heap of bristling pin-points and relying upon those same sharp pins for his protection.

One thing the porcupine can do that would hardly be expected of him: His legs are so short and clumsy that he can never make fast time on the level, yet, strangely enough, he is an expert climber, going up a tree or rough pole with ease and at the rate of about sixty feet in a minute. He spends a great deal of his time, in fact, in the trees, a convenient branch being his favorite sleeping-place. He sleeps with his weight resting on his hind feet and the fore feet clasping the branch higher up.

Porky is a failure musically. All he can do in that line is to talk to his mate or his nearest neighbors in a low squeak or grunt, and he makes more noise with his hard, sharp teeth, biting and gnawing and rasping at bark or wood, than with his throat. He has a way of expressing indignation in a quick-repeating chatter, suggestive enough of displeasure but of not much power to work it out, for he is not a deep thinker.

Porky was determined to go along the fallen spruce

He is a queer fellow, this pincushion animal of the woods. In manner of living, in character and in personal appearance he is a novelty, and the strangest thing about him is his panoply of pin-points which nature has given him to distinguish him from all others.

Cousin Sally's Club of Cousins

DEAR COUSINS—The letters "C. S. C." are mystic ones and mean a great deal in the life of the boy and girl readers of FARM AND FIRESIDE's pages for young folks. They are inscribed upon the button which goes to every member of Cousin Sally's Club. Any boy or girl under seventeen years of age can become a member of this delightful circle by sending five cents in stamps or coin to Cousin Sally, who then enters your name upon her Club membership list and sends a Club button, a set of rules and our motto to you.

When you are a cousin, you are entitled to take part in all our contests. There are also other interesting ways to keep in *real* touch with Cousin Sally herself, for she dearly loves to receive your letters and the poems, pictures and stories you send her; then, too, when you wonder if there are not other cousins near you that you might get to know and have lovely times with, all you have to do is write to Cousin Sally, and if there are any cousins near you she will be very glad to let you know, and once acquainted what lovely times you can have: Club meetings, picnics, candy-makings! Oh, all kinds of jollifications.

It seems to me that a splendid thing for all present members and those who want to belong to do is to tell other children their plan and then all join and have good times clear from this present month.

If you do, and want me to plan out several "pleasurings" just for "Our Club," and will let me know, I will be glad to tell you about "Away to the Green Woods Picnic," "Won't You Come to My Party?" and "When the Flag Was Made."

Cousin Sally wants YOU to be a REAL cousin.

Lovingly, COUSIN SALLY.

How I Kept Store as a Boy

By Frank R. Arnold

WHEN I was a small boy, I used to keep store and sell things to my sister and her friends, who always had fun bringing their dolls with them while they made their purchases, but who didn't always find that my groceries tasted as good as they looked. My specialties were red pepper and chocolate. Of these I had unlimited supplies, for I could always grind up an old flower-pot into red pepper, and the pieces of a broken molasses-jug when turned inside up made very fair-looking chocolate. I have often wondered since, though, why I didn't palm it off on my customers as cocoanut in the shell.

The edge of the vegetable-garden always had a row of mallow weeds, and from these I would get piles of delicious cheeses, each one wrapped up in green star paper with five points. They were much more palatable than my pepper and my chocolate. Spread out on my board counter, which was raised on two boxes, they made a dazzling display.

With them I had for sale long strings of red and black raspberries, strung on long pieces of grass. Timothy or Hungarian was fine for that. The meadow supplied me with cotton-grass which I sold as powder-puffs for the dolls, while their mothers bought my thistle pompons for the same purpose. These I made from pasture thistles by removing the thorny calyx and pulling out the pink flowers. Thus only the white down was left, which in a day or two dried and swelled into a beautiful puff-ball.

We scorned using pins in trade because we could always make our own money. This we did by wrapping paper around a coin and rubbing it with something hard and smooth, such as an unsharpened pencil end, until the coin engraving was rubbed into the paper. Then we would cut out the round paper and rush to use it in the store. It looked very much like real money.

Two Surprise Valentines

By Emily Rose Burt

IT WAS the eleventh day of February, and both the little city cousin and the little country cousin were feeling very forlorn.

Pollie and her mother had, in fact, just gone back to Maplewood after spending the month of January in New York with Dollie and her mother. Pollie missed Dollie, and Dollie missed Pollie, and things were in a really dreadful state of unhappiness.

Not even pop-corn balls and the promise of a sleigh-ride when the snow stopped could cheer up Pollie in Maplewood, and as for Dollie in New York, she only pouted when her mother mentioned "Peter Pan" and a "hot chocolate."

Pollie's mother was thinking and Dollie's mother was thinking at the same time how Dollie and Pollie could be happy.

Pretty soon Pollie's mother had a very pleasant thought.

"Day after day after to-morrow is Valentine's Day," she said to Pollie, "and how would you like to make Dollie a valentine and send it to her for a surprise?"

Pollie looked interested. "But what kind of a valentine can I make?" she asked.

"Well, I think," said her mother, "that Dollie would like one that reminded her of you and of the place where you live, don't you?"

So between them, Pollie and her mother made a most beautiful and interesting valentine for Dollie.

First of all, there was a red paper box that Pollie pasted together all herself, and in the very center of the cover was a snapshot of Pollie in the snow, with a circle of little gilt hearts around it. Oh! but inside the box there was something delicious that took Pollie and her mother nearly all the afternoon to do. Real maple-sugar kisses and butternut fudge made with maple sugar and nuts from Pollie's father's own trees. And on top of the tissue paper just below the cover was a little bunch of red partridge-berries which Pollie dug out from under the snow in a patch she knew.

Now, in the meantime, Dollie's mother had thought just as hard and just as cleverly as Pollie's mother, and the very same idea popped into her head.

"Let's make Pollie a valentine and send it to her for a surprise," she said to Dollie.

"How can I?" said Dollie. "And what shall I make it of?"

"Something that will remind Pollie of you and her good times in New York," said Dollie's mother.

So they went right to work after they had spent half the afternoon doing some very jolly shopping.

There was a beautiful big pink paper heart with white paper lace around the edge. Dollie made this herself. Around the edge of the pink part were six numbers in gilt letters: they were the numbers of the six hours from nine to three. Oh, but under the heart, tied and hanging by swinging pink ribbons, came the surprise—six little packages done up in tissue paper, each one with a number to match one of the numbers on the heart. It was in picking out these six little packages that Dollie and her mother had spent the first part of the afternoon so pleasantly.

Inside the wrapping of each one was a souvenir of New York: first, a little pin with a wee hole in it to peep through and see the tallest building; second, a very stylish doll's hat with the label of a big New York toy-store inside it; third, a tiny make-believe Statue of Liberty; fourth, a little brown plush bear like the big live bears Dollie and Pollie had seen in Central Park; fifth, an odd puzzle from a Japanese shop, and, sixth, a "pingpong" picture of Dollie herself.

Pollie, as you have guessed, was to open the package with the proper number on it at every hour marked on the heart.

There never were two such happy little cousins as Dollie and Pollie on Valentine's morning when the postman brought Dollie Pollie's surprise, and when the rural free delivery brought Pollie Dollie's surprise. They were so delighted with their valentines that they forgot to be forlorn and stayed happy all the time.

A Page of Ideas for Mothers

Practical Suggestions and Economies to Assist in Rearing Children

Contributed by Our Readers

Breakfast Whimsy—Many children, in spite of a healthy appetite, have to be coaxed to eat the proper quantity of food. They are notional, and each spoonful must be made especially attractive.

Let the big bowlful of cereal be a game of circus. Baby's mouth is a little red ticket-office where a big cross man stands selling tickets. This spoonful is Tommy starting out from home alone with his money in his pocket, and he is so scared of the big man at the little window. Supposing he won't let him into the circus! Supposing he hasn't enough pennies! But he is a kind man after all, and he counts Tommy's pennies for him. He has just enough. There! Tommy is so happy, for he has got into the circus!

But here comes little Sally Waters. And she hasn't a penny to her name! Poor Sally! She stands looking longingly in at the little window. The big fat man glares very crossly at her. She trembles in her shoes and looks very wistful. But here comes a jolly neighbor mother with ten children of her own, and she says, "Come on, cheer up, Sally, and we'll take you with us into the big circus."

So she joins her little paddy to the hand of the tenth child already on the string, and she dries her tears, and in they go merrily.

This game can be strung along with never-ending variety and with new turns each time to stimulate the baby's desire to get each spoonful of cream and cereal into her stubborn little mouth, in this breakfast game. CORNELIA L. F. BROWN.

A Birthday Party for $1.28—My youngest boy Robert is eight years old, and his birthday was an event, for it meant that school-days were at hand. I had dreaded their coming, because my duty as his first teacher—book teacher—would cease, but these inevitable afflictions are the forerunners of all growth, and we have to submit to them. It came, it passed, and the boy has become a little man, in that he quite thinks that he can lick the whole school, provided it's a fair fight, and by that I mean a fist fight, a human fight, not a fight as between animals, such as one of his sorry companions demonstrates every time he loses his temper, by biting his opponent's ear into shreds or throwing a brick or kicking him when he is down.

Well, I promised him to write and tell you what a nice birthday it was. He got up in the morning and donned a white suit that he had, many days before, begged to wear, but which I would not allow because of the coolness of the weather. He had been told not to expect any presents, and he was very sweet and contented to have a party instead of toys.

Now, being nine miles away from a market and near the end of my fortnightly supply of good things, I had just five bananas and a pineapple and a fifteen-cent package of shredded cocoanut as luxuries, three salad possibilities.

My first step was to get a jar of canned rhubarb from the cellar. I stewed it and drained it of all its juice (about a pint), sweetened it and set it away in the cellar to get quite cold. I then cut the pineapple in rings and took off a very thin rind, dug out the eyes, cut it in very thin slices into a glass dish and sprinkled freely with sugar. I let that stand for several hours. I then made the cake, which consisted of four eggs, at seven cents, twenty cents a dozen; one pound of sugar, at six cents; three large cupfuls of flour, at three cents (at the rate of seventy-five cents for twenty-five pounds—four ordinary cupfuls to the pound; one-half cupful of butter, which is one-fourth of a pound, at thirty-three cents per pound (this would be nine cents, for somehow the middleman always takes the half-cent as a rule, unless you are lucky enough to be dealing with a man who thoroughly knows his business and how to advertise); a teaspoonful of vanilla, at seventy-five cents a quart, which I count as nothing; a pinch of salt, and call it done. Alas, I forgot to add a large cupful of milk, at three cents.

Well, we take a little science and we experiment, and by so doing we turn out a masterpiece; for example, we place, in a bowl, the sugar and the butter, and we stir until our elbows call a halt, and, presto! we have something looking like foam on the top of a fresh pail of milk. We add two of the eggs, one at a time, and stir each into the butter and sugar, and it changes it color only, its beautiful texture remains. The last two eggs are robbed of their whites (the whites are for the frosting), the yolks are added to the mixture and well stirred. Then the flavoring and half the milk and half the flour, which, by the way, has had a teaspoonful of baking-powder (one cent) sifted through it, and the salt, and then the remaining milk and flour.

This is all given a final beating and then poured into two baking-tins and allowed to cook about forty minutes, and if your oven is just right you need not open it till the expiration of that time. Draw the cake out and listen with it as close to your ear as you can bear it, to hear if "all is quiet on the P—" I mean in the cake-pan. If it sizzles, return to the oven until it ceases to "sizz," when you take it out and let it cool before you put on the icing. The icing is made by placing two small cupfuls of sugar (six cents) in a saucepan with ten tablespoonfuls of water, boil it until it strings from the spoon, then pour into the well-beaten whites, beating

Here are the items of expense:

For the Cake—Four eggs, 7 cents; three large cupfuls of flour, 4 cents; one large cupful of milk, 3 cents; four small cupfuls of sugar (two for icing), 12 cents; a good one-half cupful of butter (one-fourth pound), 9 cents; one teaspoonful of vanilla, nothing; one-half teaspoonful of salt, nothing; one teaspoonful of baking-powder, 1 cent; shredded cocoanut, 5 cents	$0.41
For the Compote—Five bananas, 10 cents; one pineapple, 12½ cents; rhubarb, nothing: sugar, 6 cents	.28½
For the Candy—Two pounds of sugar, 12 cents; shredded cocoanut, 10 cents; a nip of cream of tartar, nothing	.22
Incidentals—Bread and butter, 14 cents; milk to drink and for cocoa, 22 cents	.36
Total	$1.28

The menu, which was rather facetious, was as follows: A drawing of several boys running down a steep road, a tree in which rested one lone monkey, the date and the reading matter thus:

At Robert Hall,
North David Manor,
County of Bone,
N. G.
(Lots overlooked by the monkey)

Banana-and-Pineapple Compote
Cake à la Roberto
Milk de Cow Cocoa ad Libitum
Bread and Butter le Waltari
Davy Drops
Chef, Lizbet Host, Robert

all the time. On one cake I put a white frosting and on the other pink, colored with cochineal, and then generously sprinkled both with shredded cocoanut. What dreams! The white icing had the initial R of the birthday boy, in pink, and the pink icing had a large white R, and the little fellow exclaimed that they were "some class."

Now comes the compote. The large glass bowl would not hold it all, so I took a large enameled bowl and first poured the rhubarb juice into it, then the pineapple, and, lastly, I cut up the five bananas in very thin slices and mixed all together.

Next comes the Davy Drops, named after another boy of the name of David, and the sister of Bobby made them with four cupfuls of sugar, about two cupfuls of water and a pinch of cream of tartar, boiled until a soft ball was reached when dropped into cold water (this must never be stirred), then poured into two separate dishes, one to be colored pink. When very nearly cold, it was stirred to a creamy mass and shredded cocoanut added (which must be before the sugar has set too firmly), and then dropped on oil paper and left to harden. After which it was conveyed to fancy plates and arranged on the table for each child to help him or her self. These were pink and white, also. Thin bread and butter was served, and cocoa. To make the cocoa, I placed two quarts of milk in a double boiler to heat and then mixed, in a large mug, three tablespoonfuls of cocoa and stirred with hot water to a smooth paste, adding more water to fill the cup, which made another quart. It boiled five minutes, and then I turned it into the hot milk.

The children all take cocoa, and most of them like milk, besides, and as we are in the country milk is easy to get. We keep our own cow and know that the quantity and quality are both of the best.

The party was a huge success, and all seemed satisfied and jolly. Walter, the guest on Robert's right hand, leaned back in his chair and said with an appreciation born of latent sufficiency, "Gee, I'll have to let out another link!" "And we do too!" shouted the rest. BETH BOWRING.

Salads for the Lunch-Pail—The normal child craves something sour just as he craves something sweet, and mothers are beginning to find out that it is not wisdom to deny both these cravings. Little children will eagerly devour fat cucumber pickles, and because they get sick from doing so the mothers conclude that all sour things are pernicious. The ideal salad-dressing has a very little vinegar in it and very few spices of any kind, but it can satisfy the youngsters if it is called salad and has a somewhat sour taste. A good dressing made with one raw egg, two tablespoonfuls of butter, salt and pepper to taste, one tablespoonful of sugar, one cupful of vinegar and a half-teaspoonful of French mustard beaten together and cooked in the double boiler will furnish the dressing for salads for several days, but it must not be used on potato salad unless the sugar is left out.

If the children like olive-oil, or if they can be beguiled to eat it without knowing what it is, there is a still more simple dressing of one or two tablespoonfuls of oil, two or three of vinegar, a pinch of salt and dash of pepper. By preparing this dish for the table and telling the children not to indulge too freely because it is a salad, almost any mother can create a craving for it in a short time. Salads with oil are particularly good for thin growing boys and girls.

Almost any vegetable under the sun can be made into a salad, and the children especially like cold vegetables disguised under the name of salad. String-beans, potato and celery, onions, tomatoes, cauliflower, asparagus, beets and other things are good with a simple dressing, and when taken to school in a covered jelly-glass they look very attractive to the hungry youngsters.

A good mayonnaise dressing will keep for days, and a tablespoonful or two of it on cold vegetables improves them wonderfully. The great trouble with school lunches usually lies in the fact that the vegetable end of the meal must be neglected because they are not good cold. In salads this difficulty is overcome, and many left-overs are made palatable by the addition of a dressing pleasing to the children. Combinations of vegetables are also liked by boys and girls. Hard-boiled egg and a very little chopped cucumber pickle will help down many another vegetable that might not be liked, and a change occasionally from vegetables to fruit salads is desirable.

Never mix the salad in the cup it is to be taken to school in, and never have it sloppy. The tendency always is to get a little softer than when made, so mix rather dry, and pack carefully in a glass with a cover, to look neat and attractive. There are so many simple salads that one may run a month or more without ever serving the same one twice, and in time the children learn to mix their own combinations to suit individual tastes. A little parsley grown in the kitchen window, celery in the cellar and a few spices will give the necessary flavors, and the wholesome vegetables will not be cast aside during the winter months as so often happens with country children. The entire family will learn to like salads, and one of the easiest and cheapest dishes the farmer's wife can set before her family will become a household necessity in many farmhouses if the children are permitted to have "something sour" with their daily lunches, for this gives relish to their food. HILDA RICHMOND.

A Furry White Bonnet

Dainty and Comfortable for Baby's Late Winter Wear

By Georgina C. Davis

THIS baby bonnet is one of the prettiest and most charming bonnets that can be imagined. It is also one of the most serviceable articles of its kind, as it can be washed as often as necessary, and the oftener it is washed, the more dainty and furlike it becomes. Another redeeming feature is, it can be added to from year to year, and in doing this the increasing of the stitches never shows on account of the fluffiness of the wool.

To make this pretty bonnet requires three one-half-ounce balls of pure white Angora wool, one and three-eighths yards of No. 12 ribbon (white satin) for the ties and roll across the front of bonnet, three yards of No. 5 white satin ribbon for rosettes and a few small pieces of thin pink silk, messaline satin or very soft satin ribbon to make the tiny rosebuds that are set in the fulness of the rosettes, and which add very much to the beauty of the bonnet. The rosebuds also require the tiniest bit of pale-green maline rolled softly round the pink buds.

A No. 3 amber needle is used to crochet the bonnet.

Make a chain of five stitches, and join in a ring, fill in the ring with single crochet stitches, and crochet a round, flat piece until you have sixteen rows of the single crochet stitch, increasing as you go along to keep perfectly flat.

After you have the round piece done for the back of the bonnet, measure off four inches, to form the neck, on one side of the flat circular piece, and mark with pins. The front of bonnet is formed by crocheting back and forth on the part that is measured off, crocheting twenty-two rows and increasing one or two stitches here and there to get the proper size.

Side view of bonnet, showing rosette and soft roll of ribbon

Back view of bonnet, showing how the crown is worked

After the bonnet is done this far, finish it off with a scallop of five double crochet stitches to each shell of the scallop, and make a single crochet stitch between scallops. This finishes main part of bonnet.

In making the draw-string, crochet a chain long enough to go around the whole bonnet, and draw this through as a drawing-string, to adjust bonnet to proper size.

In making the rosettes, it requires one and one-half yards of the No. 5 ribbon for each. Run a thread along one edge of the ribbon, and form rosette by lapping one ply of ribbon, well shirred, on top of another, making about three ply in all; draw it closely to the center, then run a thread along the outer edge of the ribbon, but not tightly enough to disarrange the shape of rosette.

In making the tiny rosebuds, it requires a piece of very soft silk or satin about three and one-half inches long and three quarters of an inch wide. Turn in a slight hem on the narrow end of the silk, and fold it lengthwise together; roll this loosely in the fingers, stitching together at rough end, then roll enough of the green maline around the bud to give it a more natural appearance. Insert buds as desired in the rosettes, three of these being quite sufficient for each.

Take three-eighths yard of the No. 12 ribbon, knot it in the center or a little to one side, and roll a little at each end. Tack to the side of the hood with ties, each of one-half yard of No. 12 ribbon, and place rosettes where ties are sewed on.

To wash bonnet, remove trimming. Make suds of pure Castile soap and rain-water; wash by hand, rubbing soiled parts lightly. Rinse in light suds; dry quickly.

The Housewife's Letter-Box

Do You Need Help?

Have you been looking for a special recipe for years? Do you need any information on household matters? And do you meet with little problems in the home that you wish someone would solve for you—someone who has had a little more experience than you? Then, why not make use of YOUR OWN department and ask the questions which have been troubling you? This department has proved that the spirit of helpfulness is abroad in the land, especially among the women of the farm. That our readers have the mutual desire to help one another is evidenced by the large and prompt response we have had to the questions which are printed here monthly. There is no payment made for contributions to these columns. All answers and inquiries should be addressed to "The Housewife's Letter-Box," care of Farm and Fireside, Springfield, Ohio. If an immediate answer is desired, it will be sent, provided a two-cent stamp is enclosed.

Questions Asked

Will someone tell me—

How to make a portière of beads and paper? J. M. W., Ohio.

How to make cream puffs?
Mrs. R. T. S., Pennsylvania.

How to stop leaks around chimneys? How to prevent paint from flaking off inside of window-sash?
N. R., Connecticut.

How to make cakes and cookies of honey? F. A. T., Wisconsin.

How to piece and join the blocks of the Swastika quilt? Mrs. C. M., Illinois.

How to clean a new soapstone griddle so that the cakes will not stick?
Mrs. R. B. R., Pennsylvania.

What kind of feathers, and how many, to use in making a feather comforter, also what kind of cloth for the covering?
Mrs. M. O., Texas.

How to cut a five-sided quilt-block pattern? A Reader, Indiana.

How to cover a cotton felt mattress?
J. W. L., Nebraska.

How to make portiéres of Job's-tears, or Job's-tears and beads?
Mrs. L. D. T., Ohio.

How to make Spanish pork-chops; also French baked beans?
Miss M. M., Michigan.

The best way of cleaning dust and smoke from chenille portiéres?
Mrs. S. P. S., Connecticut.

How to make quilt-blocks of the letters R and G? Mrs. D. A. K., Michigan.

Different ways of cooking all kinds of beans? Mrs. S. S., South Dakota.

How to make Southern corn pone and beaten biscuit?
Mrs. E. E. K., Pennsylvania.

How to retain the pungent taste in nasturtium-seeds pickled in the green state?
W. S., Washington.

Questions Answered

If Mrs. M. B., Wisconsin, will send her correct address to Mrs. R. V. Wilson, R. D., North Topeka, Kansas, she will receive a cross-stitch star worked on gingham.

Peach Cobbler for Mrs. E. E. K., Pennsylvania—Line buttered dish with ripe peaches, and sweeten. Make plain cake-batter, and pour over. Bake about thirty minutes. Serve with sugar and cream.
Mrs. K. E. S., Oregon.

Will Mrs. E. W., Illinois, kindly send her address to the Editor of The Housewife's Letter-Box, as a contributor wishes to correspond with her?

If Mrs. L. L. J., Virginia, will send a stamped and self-addressed envelope to the editor of The Housewife's Letter-Box, directions for knitting honey-comb slippers will be sent her.

How to Pack Grapes for Winter, for S. E. M., Virginia—Use sawdust, first putting a thick layer on bottom of barrel, then a layer of grapes, and so on until the barrel is full, but be careful that the bunches do not touch. They will keep fine in this way. Mrs. G. A. B.

If Mrs. W. P. P., California, will soak her white table-cloth in warm sweet milk, fresh from the cow, it will take out claret-wine stain. It will also take out ink-spots.
Mrs. G. A. B.

Why Cucumbers Shrivel up After They are Pickled, for E. J., Illinois—If the vinegar is put on too hot, it will cause shrivel. They should be picked and put in a strong brine overnight; have the vinegar and spices ready, and let cool before pouring over. Scal and set away; they will not shrivel. Mrs. G. A. B.

Raisin Pie, for Mrs. E. E. K., Pennsylvania—One cupful of chopped raisins, one cupful of sugar, one cupful of water, one cupful of maple syrup, one-half cupful of vinegar. Cook together, and thicken with flour or corn-starch. Bake in two crusts. Mrs. S. L. N., Ohio.

Chocolate Pudding, for Miss R. B.—Heat one quart of sweet milk, and add one-half cupful of sugar. Dissolve one square of chocolate, or more if desired, and add to the milk and sugar. When boiling-hot, add two heaping tablespoonfuls of corn-starch which has been dissolved in a little milk. Flavor with one teaspoonful of vanilla. One or two eggs improve this. E. A., L. Kansas.

Hot Slaw, for Mrs. B. F. G., Ohio—Chop one small firm head of cabbage. Heat one-third cupful of vinegar, three tablespoonfuls of sugar and a piece of butter the size of a walnut. Beat one egg well, add three teaspoonfuls of sweet milk, salt and pepper, and one teaspoonful of mustard. Mix with the cabbage, and when the vinegar is boiling-hot pour it over the cabbage, stir thoroughly, and set in a warm place, when it is ready to serve.
Mrs. E. A. L., Kansas.

Canning Vegetables, for X. Y. Z., Mississippi—Write to the United States Department of Agriculture, Washington, D. C., and ask for Farmers' Bulletin No. 359, entitled "Canning Vegetables in the Home," which contains minute directions for canning beans, okra and many other vegetables. From experience I can assure you that you will be able to have delicious vegetables by following the directions carefully and exactly.
Mrs. H. P. B., New York.

How to Remove Milk Stain, for Mrs. R. P. D., Michigan—Lay the spot to be cleaned on a clean cloth. Then take a cloth that has no lint, wet it with ether from the bottle (always cork the bottle at once, as ether evaporates quickly), and rub the spot well. Repeat until the spot disappears. Ether will remove almost any spot and not leave a mark.
Miss L. E. K., Pennsylvania.

To Remove Milk or Cream from Woolen Goods, for R. D. T., Michigan—Pour cold water on spots until water runs through, and rub with a cloth that has no lint. I saved a new black dress by this remedy. Be sure to pour water through until it is clear. Mrs. A. M. J., Illinois.

Elderberry Wine, for Mrs. W. H. C., Pennsylvania—Put one quart of strained elderberry juice in a gallon jar, add three quarts of water and three pounds granulated or soft white sugar (less if desired). Let stand until fermented and settled, then strain, put in bottles, and cork or seal tightly, and you will have A 1 wine, for any use. Mrs. C. B., Michigan.

If E. J., Illinois, will try my recipe for cucumber pickles, she will have no more trouble with them shriveling up. One cupful of sugar, one cupful of salt, one cupful of horseradish-root sliced thin, two tablespoonfuls of mustard, one gallon of vinegar. Put cucumbers in glass jars or crocks, and pour above mixture over them; they will keep hard and crisp. Do not use hot vinegar, as this causes them to shrivel. Mrs. J. C. M., Washington.

How to Render Honey-Comb to Get the Beeswax, for Mrs. F. R., Ohio—Put the honey-comb in an iron kettle, add a little hot water, and let it melt, stirring with a stick. When melted, strain through a thin cloth into a wooden pail which is half full of cold water. Allow to stand a few minutes. When cold, put back into the kettle which has first been wiped dry with a clean cloth. Melt and pour into a greased pan to cool.
Mrs. R. J. T., New York.

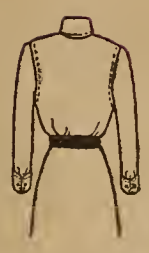
Mother's Crullers (Mrs. S. S. McL.)—One tablespoonful of melted butter, one and one-half cupfuls of sugar, a generous pinch of salt, one-fourth teaspoonful of nutmeg, two well-beaten eggs, one cupful of milk, three teaspoonfuls of baking-powder stirred into two cupfuls of flour. Add enough extra flour to make a soft dough. Roll out one-fourth inch thick. Cut into rings with a cake-cutter, then fry in smoking-hot lard or drippings. Drain on brown paper, and dust with powdered sugar while hot. Mrs. H. L. Johnson.

Clothes to Meet Many Needs

With Patterns to Make Each Garment

Designs by Grace Margaret Gould

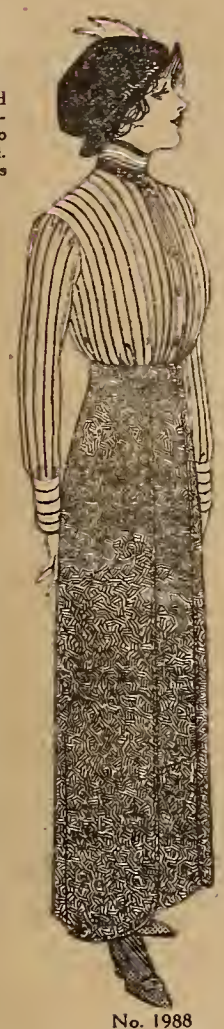
THE busy mother who is looking for practical clothes for her small children will find the four designs illustrated at the bottom of this page worth studying. They are time-savers, for in the first place all of them are cut in one piece, thus making it possible to put them together in a very short time. Then in the second place they are so simple in style they can be most quickly washed and ironed. The little school apron may be unbuttoned at the sides and then ironed flat. Developed in any of the pretty zephyr ginghams, the dress No. 1964, the apron No. 1439 and the rompers No. 1999 would be not only practical but attractive, while the combination is dainty made of long cloth and trimmed with narrow embroidery.



No. 1986—Waist with Large Armholes

32 to 44 inch bust. Quantity of material required for medium size, or 36-inch bust, four and one-eighth yards of twenty-four-inch material, or two and one-half yards of thirty-six-inch material. Price of this attractive waist pattern is ten cents

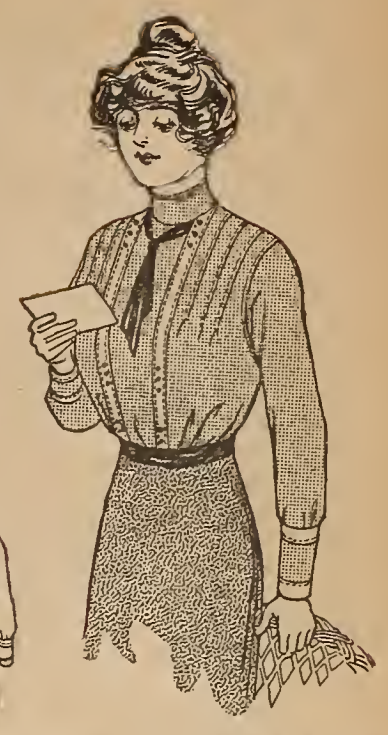
THERE are so many pretty new materials which are suitable for the separate waist, that there should be no difficulty in making a successful selection. Crêpe weaves are very modish, and many of them show the introduction of a little color in either stripes or small designs. Pattern No. 2202 would be very pretty made of one of these new crêpes, especially if the tie matched in color the design in the crêpe. The trimming-bands may be of the same material as the waist or in a contrasting color, while the buttons may be colored crystal ones, unless the waist is washable. In that case they should be either crochet or pearl.



No. 1988
No. 1989

No. 2195
No. 2196

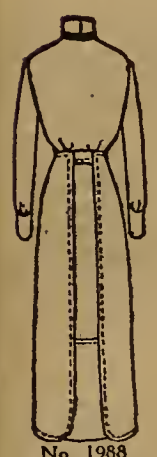
No. 2203



No. 2202—Plaited Waist Fastened at Side

36 to 46 inch bust. Material for 36-inch bust, three and five-eighths yards of twenty-four-inch material, or two and one-half yards of thirty-six-inch material, with three fourths of a yard of contrasting material. Price of pattern, ten cents

THE young girl has not been forgotten on this page, for there are two attractive designs here illustrated which are sure to appeal to her. There is a good-looking shirt-waist and skirt, No. 1988 and No. 1989, and an attractive dress suitable for many different occasions. It is No. 2203, and it includes both the waist and the skirt for ten cents. Order Woman's Home Companion patterns from: Pattern Department, Farm and Fireside, 381 Fourth Avenue, New York City; Pattern Department, Farm and Fireside, Springfield, Ohio; Pattern Department, Farm and Fireside, 203 McClintock Building, Denver, Colorado.



No. 1988
No. 1989

No. 1988—Misses' Plain Tailored Shirt-Waist

12 to 18 year sizes. Quantity of material required for medium size, or 14 years, three and one-eighth yards of twenty-two-inch material, or two yards of thirty-six-inch material. The price of this pattern is ten cents

No. 1989—Misses' High-Waisted Skirt

12 to 18 year sizes. Quantity of material required for medium size, or 14 years, three and one-fourth yards of thirty-six-inch material, or two and three-eighths of forty-four-inch material. Price of pattern, ten cents

No. 2195—Tucked Waist with Long Sleeves

32 to 46 inch bust. Material for 36-inch bust, three and three-fourths yards of twenty-two-inch material, or two and one-eighth yards of thirty-six-inch material, one fourth of a yard of contrasting material for girdle, one eighth of a yard of contrasting material for collar. Price of pattern of this tucked waist with long sleeves, ten cents

No. 2196—Panel Skirt Cut in Six Gores

22 to 36 inch waist. Length of skirt, 41 inches. Material required for 26-inch waist, six and three-fourths yards of twenty-two-inch material, or four and one-fourth yards of thirty-six-inch material. This is an especially becoming model. Price of pattern, ten cents

No. 2203—Misses' Dress in Russian-Blouse Style

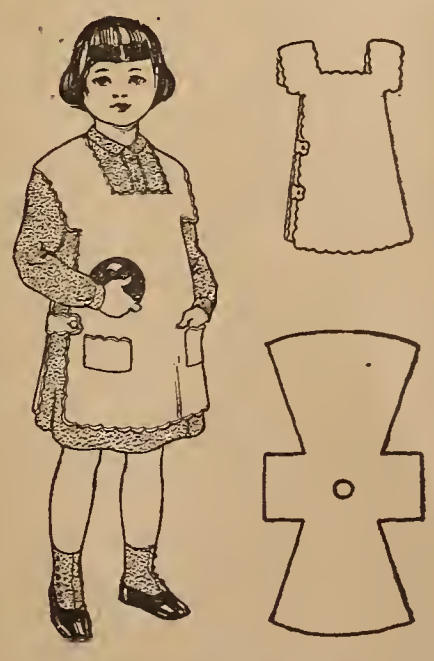
12 to 18 years. Quantity of material required for medium size, or 14 years, six and three-fonrths yards of twenty-two-inch material, or four yards of thirty-six-inch material, with one-half yard of velvet, three eighths of a yard of white cloth for revers, and one-half yard of lace for chemisette. The Russian-blouse suit is an especially fashionable model for the young girl this season. It may be developed in either wash or woolen materials. Pattern, ten cents

The new Spring Catalogue of Woman's Home Companion patterns will be ready for distribution, March 25th. It's price is four cents and it may be ordered from any of the pattern depots

No. 2203

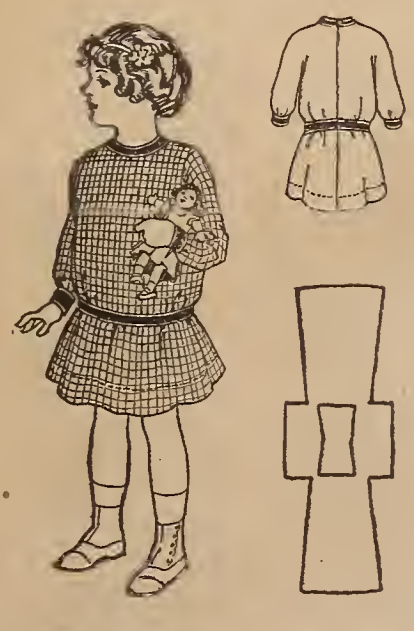
No. 2204—Child's One-Piece Combination Garment

1 to 4 year sizes. Quantity of material required for medium size, or 2 years, one and one-half yards of twenty-two-inch material, with three and one-fourth yards of lace and one yard of insertion. This child's combination may be made up of long cloth. Combination pattern, ten cents



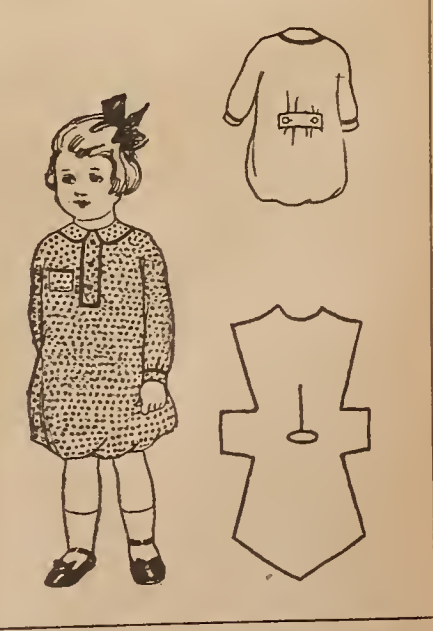
No. 1439—One-Piece Apron Buttoned at Side

4 to 8 year sizes. Quantity of material required for medium size, or 6 years, eight yards of twenty-seven-inch material. This apron is attractive if made of a plain toned wash fabric with the edges scalloped in a darker shade or in a contrasting color. Price of this apron pattern, ten cents



No. 1964—Girl's Dress Cut in One Piece

2 to 10 year sizes. Quantity of material required for medium size, or 6 years, four and one-fourth yards of twenty-two-inch material, or two yards of thirty-six-inch material, with one-half yard of contrasting material for the trimming. The price of this one-piece pattern is ten cents

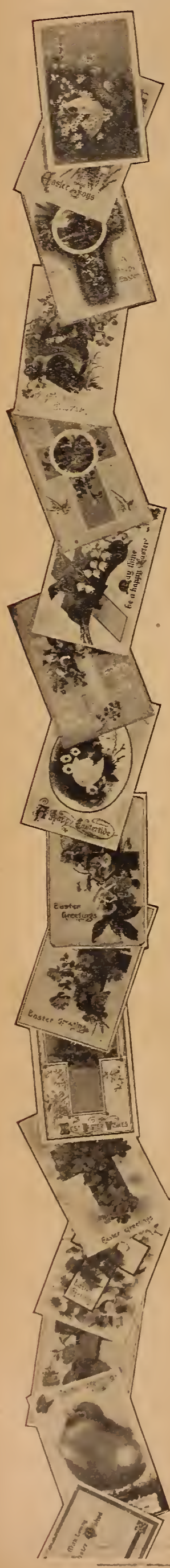


No. 1999—Child's One-Piece Rompers Opened in Front

1 to 4 year sizes. Quantity of material required for medium size, or 2 years, two yards of twenty-seven-inch material, or one and one-half yards of thirty-six-inch material. Galatea is a good wearing material for these rompers. This comes in white and colors Pattern, ten cents

Easter! Easter!

Post-Cards for All



THE glad Easter season will soon be here. It is a period of friendship and pleasure. Nowadays people send tokens of friendship at Easter-time just the same as they do at Christmas-time. We have purchased for our readers a marvelous assortment of lovely Easter post-cards. Each card is a masterpiece containing a most delicate and harmonious blending of colors.

Beautiful Collection Fifty Different Cards

This handsome collection of Easter post-cards contains fifty different and distinct designs that are new and unique and will have a message of Easter gladness for your friends, relatives and neighbors. Just think what a thrill of pleasure one of these beautiful post-cards will bring to the friend to whom you send it. It is those little acts of kindness, consideration and thoughtfulness that after all make life worth living.

Enjoy the Season

You receive in proportion to the pleasure that you give. It will be a source of mutual satisfaction every time you send one of our Easter post-cards to a friend or relative. The illustration does not begin to do justice to the beauty of these cards, i. e., we can but meagerly portray the color of the cards on this paper, because the illustration is printed in only one color—black—while the cards themselves are lithographed in from 12 to 14 distinct colors. The gorgeous embossing and delicate touches and beauty of conception are the work of a true artist—one who has devoted the best part of his life to portraying the true and beautiful. Our supply of these handsome Easter post-cards is necessarily limited, but if you take advantage of our offer within the next 20 days, we will surely have a set for you.

MAGNIFICENT GIFT Now Ready for You

This Easter gift is now ready for you. Just take advantage of the opportunity at once and write us a letter to-day. Remember, the cards will not cost you a cent. Easter Sunday comes earlier this year than it has in a good many years. Between now and March 23d—Easter Sunday—is the season of Easter post-cards. Get in your supply to-day. All you have to do is to accept one of the below offers, and we will mail you your set of fifty beautiful Easter cards right away.

OUR EASTER OFFERING Good for Twenty Days

OFFER No. 1

Each reader who sends us fifty cents for a one-year subscription to the Every-Other-Saturday Farm and Fireside, either new or renewal, will also receive our Special Easter Offering of fifty post-cards, all charges paid by us.

OFFER No. 2

Each reader who sends us $1.00 for a three-year subscription to the Every-Other-Saturday Farm and Fireside, either new or renewal, will also receive our Special Easter Offering of fifty post-cards, all charges paid by us.

OFFER No. 3

Each reader who sends us a club of two yearly subscriptions to the Every-Other-Saturday Farm and Fireside, at 40 cents each, will receive as Special Club-Raiser Premium our Special Easter Offering of fifty post-cards, all charges paid by us.

Now is the Time to Act

Order To-day

FARM AND FIRESIDE

SPRINGFIELD, OHIO

Canned Fruits and Vegetables

How to Serve Them in Tempting Ways

By Elizabeth L. Gilbert

WITH the cellar full of canned fruits and vegetables, at this season of the year it is not hard to serve as great a variety as in summer. The following recipes, used by generations of Quaker "housemothers," can be relied on to give satisfaction.

Scalloped Corn

One quart of canned corn, one tablespoonful of melted butter, one tablespoonful of sugar, one tablespoonful of salt and one pint of fine cracker-crumbs. Mix. Butter a deep baking dish. Fill with alternate layers of crackers and corn. Cover with rich milk, until the crackers absorb it; bake in hot oven one-half hour.

Corn Oysters

To one pint of canned or cooked *dried* corn add one beaten egg, one-half teacupful of flour, two tablespoonfuls of milk, one-half teaspoonful of salt and one level teaspoonful of baking-powder. Drop by spoonfuls in hot fat; fry a rich brown; serve at once.

Corn Soup

Have one quart of milk scalding hot; add one pint of canned corn, one tablespoonful of butter, one teaspoonful of salt and one-half teaspoonful of celery-seed (if liked). Let heat thoroughly, and serve with crisp crackers and pickles.

Corn Patties

Make patty-shells of rich pie-crust; bake in gem-pans. Take the desired amount of canned corn, let cook till done, season with salt and pepper, and add thick cream. Thicken if necessary. Fill patty-shells, set them in oven to brown. Fine.

Winter Salad

One cupful of canned corn, one cupful of cold boiled potatoes cut in cubes, and one cupful of chopped celery. Cover with a good boiled dressing; serve at once.

Corn Croquettes

One cupful of mashed potatoes, one cupful of cooked canned corn, one beaten egg and salt and pepper to taste. Mix stiff enough with cracker-crumbs to handle easily. Form into croquettes. Roll in cracker-crumbs. Fry in deep fat.

Peas in Turnips

Peel the desired number of turnips. Hollow them out to form cups. Boil till tender. Fill with canned peas that have been drained and heated with butter and salt.

Tomato and Cheese

Take large whole canned tomatoes, and put in a baking-pan. Pour sweet cream over them, sprinkle grated cheese and cracker-crumbs over all, and add salt and pepper to taste. Bake twenty minutes.

Cream Tomato Soup

One quart of sweet milk (let simmer) and one pint of canned tomatoes. In the tomatoes stir two tablespoonfuls of sugar and one-half teaspoonful of salt and one-fourth teaspoonful of soda. Add to hot milk. Then mix two tablespoonfuls of flour smooth in cold milk, and add. Cook till it is as thick as cream. The flavor is much improved for those who like celery if you add one cupful of chopped celery to this soup.

Tomato Salad

One quart of canned tomato juice. Let boil, season it with salt and celery-seed and add two tablespoonfuls of vinegar. Have one-half package of gelatin dissolved, and pour tomato juice over it. Stir into this mixture, when nearly cold, one cupful of canned tomatoes, chopped, one small red pepper, chopped, one cupful of chopped cabbage and one cupful of chopped nut-meats. Pour into large jelly-glasses. When cold and hard, cut in slices, and serve with a good mayonnaise dressing. Serve with cheese wafers.

Tomato Fritters

One pint of tomatoes. Season to taste. Stir in flour to make a rather thin batter. Add one-half teaspoonful of soda. Fry in hot lard. Serve at once.

Green-Bean Salad

One can of beans, one cupful of chopped cold boiled potatoes and one cupful of chopped pickled beets. Serve very cold with good salad dressing.

Beans and Pork

One can of beans and two pounds of good boiling pork. Let boil till meat is done, then take out meat, and put in two cupfuls of chopped cabbage and two cupfuls of chopped potatoes. Brown meat in oven, and pile beans, cabbage and potatoes around it. Serve at once. Good with tomato catsup.

Fruit Dumplings

Take one quart of any canned fruit you like. Let boil. Have ready a batter made of two cupfuls of flour, one teaspoonful of baking-powder, one-half teaspoonful of salt and sweet milk to make rather thick batter. Drop by teaspoonfuls over boiling fruit. Cover, and boil for ten minutes. Serve with thick cream and sugar if desired.

Bird's-Nest Pudding

One quart of tart fruit; let come to boiling-point. Have ready a batter made of one tablespoonful of butter, two-thirds cupful of sugar, one egg, one and one-half cupfuls of flour, one and one-half teaspoonfuls of baking-powder, one teaspoonful of vanilla and one-half cupful of milk. Beat this till smooth, then drop by large spoonfuls on boiling fruit; put in *hot* oven, and bake a rich brown. Serve with cream and sugar.

Ohio Cup Pudding

Make a batter as for fruit dumplings. Have cups buttered. Put in alternate layers of canned fruit and batter. Steam thirty minutes. Serve with cream and sugar.

Fruit Custard

Make a good boiled custard of one quart of milk, three beaten eggs, one cupful of sugar and two tablespoonfuls of corn-starch mixed smooth in cold milk. Fill baking-dish one third full of canned fruit; peaches are best for this. Pour custard over, and bake till it seems firm. Serve cold.

Indiana Prune Pudding

One quart of cooked prunes, rubbed through colander, one large sweet potato grated, a pinch of salt, two eggs, two cupfuls of sugar, two tablespoonfuls of flour, one quart of buttermilk, one teaspoonful of soda and butter the size of an egg melted in baking-pan. Pour in pudding, and bake one and one-half hours in moderate oven. This is a fine recipe; the batter is very thin, from the small amount of flour used, but thickens in the baking. The pudding may be kept several days. It should be served cold with rich cream or custard sauce.

Canned Fruit Gelatin

Use one quart of juicy fruit, boiling hot, to every one-half package of dissolved gelatin. Pour in molds, let get cold, and serve with whipped cream. Cherries or pineapple are best for this.

Dried-Apple Pie (Ohio)

Soak the apples overnight. Stew till soft. Run them through a colander. Add one cupful of sugar for each pie, one-half teaspoonful of cinnamon, lump of butter and one beaten egg. Add one-half cupful of raisins, if desired. Bake with two crusts. This is a good pie in spite of its name.

Shortcake

Make a good shortcake-dough. Bake in layers; split layers, butter them, and add canned cherries, berries or peaches. Whip one pint of cream stiff, and add one cupful of the fruit juice and one cupful of sugar. This is a very satisfactory "quick dessert."

Fruit-Tapioca Ice

Soak one cupful of pearl tapioca overnight. In the morning add one cupful of sugar, one pint of water, and boil till clear. Stir in one pint of canned pineapple; cook ten minutes. Pour into mold, and let get very cold. Serve with whipped cream. (Any canned fruit may be used for this. Cherries are especially nice.)

Fruit Souffle

One-fourth pound of prunes or apricots, one cupful of sugar, whites of four eggs, one-fourth teaspoonful of cream of tartar and a pinch of salt. Stew the fruit, mash well, and add salt and cream of tartar. Beat eggs *stiff*, add sugar, then fold in the prunes. Bake in slow oven one-half hour. Serve cold with custard sauce or cream.

Rice Pudding

Take two cupfuls of cooked rice, one quart of fruit juice and one cupful of sugar. Bake for one hour. Beat whites of two eggs stiff, add a little sugar, pile on the pudding, and brown. Serve this pudding when it is cold.

Wash-Day Pudding

Let one quart of canned cherries, or berries, come to boiling-point. Have two tablespoonfuls of corn-starch beaten smooth in cold water. Add to the fruit. Boil till thick and clear. Pour into individual molds. Serve cold with cream. This thickened fruit may also be used to fill ready-baked pie-crusts.

Fruit-Juice Icing

Two cupfuls of sugar and one-half cupful of tart fruit juice. Boil till it spins a thread. Pour over stiffly beaten white of one egg. Beat smooth, and use at once.

Bread-Crumb Pudding

One cupful of chopped prunes, two and one-half cupfuls of fine bread-crumbs, one cupful of sugar, one-half cupful of butter, one teaspoonful of cinnamon, one teaspoonful of baking-powder, two eggs and one and one-half cupfuls of milk. Steam three hours.

Apple Snow

Take one quart of canned apples. Rub through a colander. Sweeten well, and add five well-beaten whites of eggs. Add two tablespoonfuls of gelatin dissolved in one cupful of cold water. Beat well, adding juice of two lemons. Turn into a mold. When cold, serve with whipped cream.

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it so much when I had to sit up with him anyway, but now he's better, and I'd enjoy a real night's sleep. Hence the call for the dog."

"I can understand it," said the lawyer.

"Trouble is, it's got to be a good deal of a dog," Wright went on. "One with some sense and discrimination. I can't have a brute that'll lunch on the ferry customers."

"Of course not!" Mr. Dodd agreed. "I'll make search among the stocks of the fanciers; delighted to oblige."

"There's that common carrier business," Wright said, after a moment's thought. "I'm not so clear about all those privileges and obligations as I'd like to be."

Mr. Dodd opened a desk drawer and produced a folded document.

"It occurred to me you might like a statement in—ahem, in plain terms," said he. "Therefore, I have drawn one up. I trust you will find it useful."

"I confess I'd like to know my rights," the ferryman said thankfully.

"Inasmuch as you propose to maintain them?" Mr. Dodd inquired solicitously.

"To the T!" Wright said, and his jaw set in determined fashion. "The ferry neighborhood's suffering from too much aborted American humor."

"Referring especially to Simonds?"

"By no means excluding him," said Wright. He rose to his feet in preparation for departure. "There are some good folks, though. One of 'em is running the ferry for me to-day, and a woman at that—Mrs. Hutley. She's quite a character—you ought to know her."

"I trust the pleasure will be mine," said Mr. Dodd politely. Then he harked back to his professional rôle. "No other points in doubt, eh?"

"N—o," Wright said meditatively; "no legal poscrs, that is. But there is a mystery I'd like to fathom. Why is it, when I try to boil coffee, and put an egg in the pot, I get a brownish fluid full of black grounds and an egg that's poached to leather?"

Mr. Dodd threw up his hands. "I haven't the slightest idea!" he exclaimed.

"Then, I beg you, ask Mrs. Dodd to add to her good works and tell me what's the trouble," said Wright and went his way.

Chapter XVI.—Mr. Lomond Serves Notice

THE rakish red car shot by Wright while, bundle-burdened, he was toiling up a little hill three or four miles from town, snorted its way to the top of the rise and stopped. As the ferryman came up, Lomond surveyed him sourly.

"Say, you!" was his salutation. "Want a lift?"

Wright's answer had the virtues of terseness and clearness.

"No!" he said.

Lomond showed his teeth in an ugly grin. "Don't he a fool! Get in!" he said. "I've got something to say to you."

"Say ahead, then!" Wright suggested. "I'm listening."

"What's the use of being a mule?" Lomond inquired. "Chuck in that baggage and get in yourself."

"Being a mnle's not so bad, when the mule can choose his company," Wright retorted.

Lomond ripped out an oath. "Come along, I tell you! You and I have got to reach an understanding, and the sooner, the better. I can't waste time here. I'm in a hurry, but we can thrash out the business as we ride along."

"I prefer to walk."

Again Lomond sought relief in profanity. "Oh, if you choose that pose, I'll meet you half-way," he snarled. "Call it a favor to me, can't you? And I mean it! 'Twill be a favor all right."

"On that ground, Mr. Lomond, I accept," Wright said stiffly perhaps, yet with a degree of formal courtesy.

"Start your machine, and your talk whenever you're ready," he said.

Lomond sent the car forward with a bound, but quickly lowered the speed. For all his recent urgency, the conference did not appear easy in its beginning.

"This thing has got to stop," he said at last. "You know well enough what I mean. I won't have it go on longer, and that's flat!"

"What is it that has to stop?" Wright asked coldly. "I'm not good at riddles. You'll have to say what you mean—if you can."

"You stop snooping around, pretending to make pictures, and striking attitudes. and doing the theatrical, and shooting tame bulls for the benefit of a special spectator, and giving out yarns of hold-ups and sandbaggings. Say, you don't think you're fooling me for a minute, do you?"

"If you think a tenth of what you say, you're very badly fooled," Wright said evenly. "For instance, if you had the responsibility of dressing that wound on my boy's head, I fancy you'd have no illusions about the sort of blow that made it."

"Bosh! Never a plainer frame-up!"

Wright's voice took on a bit of a rasp. "Well, I've no reason to deny you may he the better authority on that point."

Lomond whipped ahout in his seat. "By thunder! you don't mean to charge I had a hand in that?" he shouted.

Lomond gritted his teeth. "Curse you!"

"I can't deny I've considered all the possibilities."

Lomond's face was a study, but he got himself under control with a mighty effort.

"See here, Wright!" he said. "This means fight, hut not now; no, not now."

"I've never referred to you in speaking of this case to anyhody else," Wright said sharply. "You will be so good as to accept the statement without qualification."

Lomond swung back to eyes front. There was a pause hefore he said: "Let's return to the main question. You're here under false colors. You're here to steal a march on me, to trespass on my preserves. And you're going to quit the joh!"

"Am I?" A smile of uncertain import played about Wright's mouth, but didn't extend to his eyes. "I guess, Lomond, you don't understand the permanent ties that bind me to it."

"What is it you want? Money?"

Wright's smile hroadened. "Not now," he said. "At present money doesn't figure."

Lomond's sneer was a triumph. "Not even the Lansing money, eh, my nohle knight errant?"

"That's another matter on which I can suggest greater knowledge on your part than on mine."

Lomond gritted his teeth. "Curse you! I'm not after her money," he growled. "I've got enough of my own. I'm no fortune-hunter, at any rate."

"Purity of motive always commands admiration," Wright returned. "And you may not have noticed the circumstance, but we're at the ferry road."

Lomond applied the hrakes so recklessly that hoth men lurched forward.

"You've had warning—now's your time to get out of my game," he said as Wright stepped to the ground and hegan to gather up his belongings. "I've had my talk with you, man-fashion. It's up to you to show your sense. If you don't"—here he showed his teeth—"if you don't, you'll rue the day you thrust yourself in my path!"

Wright, now again laden with his baggage, stepped back a pace.

"Run along, Lomond, run along," he said cheerfully. "I'm a thousand times ohliged for the lift and the languorous pleasure of your conversation, but as for the game—why, the more you tell me to get out, the more pleased I am to stay in."

Chapter XVII.—Once More the Tory Lady

PETE'S time of incapacity had not been needed to satisfy Wright of the value of the part the boy played in the ferry affairs, hut it certainly served to impress upon him the number of minor duties which the lad performed, and which now fell to the ferryman himself.

A task which fell to the ferryman was the daily journey for milk. Time had heen when he might have ohjected to carrying a dented tin pail along the public thoroughfares, but this aspect of the case now concerned him less than the time occupied in the expedition to the farmhouse. It happened, however, that neither hurden nor the flight of the minutes was in his mind when, on the morning after his ride in Lomond's red car, he met Nettie Lansing driving in her pony-cart. The girl hrought Noddy to a ready stop.

"I've learned something, Mr. Wright, that may interest you," she began briskly. "First, though, I must ask you to be frank with me. How is it with the Tory Lady? I can't credit your theory that after all these years she has retired. Honestly now, hasn't she heen walking lately?"

"I don't think so," the young man answered. "Once or twice there have been queer sounds in the attic, hut tbey might have been heard in any old and rickety house. Then, too, since Pete has been in hospital, I've been more occupied with the pranks of beings unquestionably of flesh and blood."

"Oh, that was a terribly wicked attack!" she cried. "Great grown men beating a poor little fellow so brutally! How I hope the villains will be punished!"

"The account won't be all one-sided," Wright said with a touch of grimness.

"Then you know who they are?"

"I've active suspicions, at least. But you were speaking of the Tory Lady."

"Yes, I'm fascinated by ghost stories. and I'm eager to learn if you've made any discoveries."

"Why, hardly discoveries," Wright told her. "Naturally, I wasn't disposed to drop the matter, especially after you posted me on the traditions. For one thing, I went over the attic by daylight from one end to

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the other. It's a queer old place, but most prosaic; full of dust and cobwebs, and boards that are shrunk and warped and pulled away from the nails which used to hold them. When the wind blows, the house rocks, and those boards creak. We've had no such storm as raged that night, and so there has been no chance to make comparisons; but with a gale I imagine one could hear almost anything."

"But that's such a matter-of-fact view! Isn't there romance in your soul?"

"Enough—and to spare!" Wright said quickly, with an admiring glance.

Miss Lansing met the glance with composure. "But doesn't it extend to ghosts?" she asked.

"Only slightly, for I get little sympathy at the ferry. Poor Pete's acquaintance with the legend appears to be limited to a vague belief that something—'It,' he calls it—wanders about at night and makes things unpleasant. I've been reluctant to question him closely, and I've nobody else I care to talk to on the subject."

"But you have!" she said indignantly. "It's the most delightfully creepy mystery I ever heard of."

"Then I stand corrected. If it interests you, I'm delighted there should be a mystery. I'll accept even the creepy part of it."

"People have been interested in it for a century," she pointed out. "There have been things written about it—oh, not books, you know, but articles for the newspapers and which could be accounted for only on the ground that he was bound to do away with the stage on which the spook was supposed to appear most frequently. My old lady told me that the ferry-house then had a gallery or upper porch very uncommon in the architecture of the period and believed to have been built in the time of the Tory owner. His widow was said to have spent much time upon it after she was taken in and cared for by your ancestors."

"I don't blame him," Wright commented. "I'd like to follow the same policy with the attic. Of course, I know perfectly well that there are no ghosts, but I—well, I hate to have to go to the trouble of proving it every now and then."

The girl declined to join in this frivolous view. "Your uncle may have been a skeptic," she said, "but the rest of the town believed. It believes still, though in a less pronounced degree."

"I wonder if many have heard of the recent—er—er—demonstration," Wright said half questioningly.

"I think not, yet—" she hesitated, "yet I may have given my old lady a hint, and I don't know what she may have had to say to her neighbors. Then Mr. Lomond found out, but he's not one of the townspeople."

"Oh, Mr. Lomond is informed, then?"

"I hope you don't mind. You see, though, he had got an inkling from what he overheard when you and I were discussing the legend the other day; and he chanced to

The rakish red car shot by Wright and stopped

that sort of thing. Forty or fifty years ago there was a great scare—you should hear the stories some of the old residents recall!"

"You've heard them, I fancy."

"Indeed I have! The other day I was riding in an automobile, and we stopped at the house of an old lady who remembers everything that ever took place in the town."

"I am devoured by curiosity."

Miss Lansing's air was serious. "You well may be! If the accounts are correct, the people whom the Tory Lady visited fifty years ago heard what you heard and also saw her. They agreed that she was a tall woman, and that she stalked back and forth, wringing her hands, weeping and wailing, and now and then groaning dismally. They had a theory, too, that whoever saw her or heard her came to great misfortune. It seems that a man who had leased the ferry disappeared mysteriously, and another man who was engaged to take his place fell from the boat and was drowned, although he was known to be a good swimmer. The combination set the community by the ears, and there was such a to-do that your uncle, then a young man, took charge of the ferry."

"I'll warrant he never saw the Lady!" Wright observed with conviction.

"No one ever knew that he saw the Lady," Miss Lansing admitted, "yet there isn't any doubt he paid some heed to the gossip. At any rate, he made changes in the house, come in while I was with the old lady—I was out with him in his machine, you know."

"Certainly!" Wright spoke the word so sharply that he could have bitten his tongue for thus plainly betraying his feeling. The girl smiled, as though she perceived no cause of offense in his manner.

"It's a splendid machine," she said. "He runs it very nicely, too, considering that, as he says, the newness hasn't worn off."

"Yet he had that breakdown."

"Doesn't everybody meet with misadventures?"

"I do, surely," Wright confessed. "But please don't think it makes any difference to me whether Mr. Lomond hears of the ghost or not. I dare say there's no individual ownership of such yarns, anyway. What's vastly more to the point is that I'm tremendously obliged to you for the trouble you've taken, and that I'll lose no time in seeing if there are any traces of that old gallery."

"May I learn what discoveries you make?"

"You shall have all the blood-curdling details."

"I'll drive down to the ferry to-morrow."

"The report shall be awaiting you."

"Good!" she cried, tightening the pony's reins. "Mr. Wright, you don't appreciate how thrilling it is to be in touch with a real, eighteenth-century ghost!"

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"E's" in the Kitchen

By Elrene Nisewanger

EASE, effort, economy and extravagance are some of the "E's" to be found in the kitchen; there are probably others, but there is always the possibility of finding any or all of these in evidence, depending largely upon the woman behind the culinary gun, since all are closely related to food-stuffs in their cost, preparation and preservation.

There is waste in the actual throwing away of good material—and thereby may hang several tales—and there is waste, inexcusable waste, in the unscientific, unhygienic cooking of similar good material, or in the serving of it in incongruous combinations. Hogs and poultry may profit by the first form of waste, nothing profits by the second extravagance.

The rule for cooking cereals is, "Cook,

Have everything ready beforehand

cook thoroughly, and cook again," yet the breakfast porridge is, perhaps, the greatest offender of all. In winter this may be put in a double boiler and allowed to cook slowly all night wherever fire is being kept up. At any season of the year it may be partly cooked by the supper fire, a little cold water poured over it to prevent the forming of a crust, then re-heated and cooked more by the breakfast fire. The surest and most satisfactory process, however, winter or summer, is with a fireless cooker. Heat the radiator and make the cereal by the supper fire, put both in the cooker, and let the cooking process continue all night. For breakfast your cereal will be better than by any other method.

This excellence of flavor is true, also, of many of the meat dishes, and is particularly noticeable with the tougher, cheaper cuts that are inclined to be troublesome. All the juices, as well as the flavors, are retained, also, if the meat is first seared over, and the result is wonderfully tender and appetizing. Actually, a medium-priced boiling piece will masquerade successfully as an expensive roast, and a tough steak make the family wish it were larger—an example of economy in the cost of both food and fuel.

Extravagance in connection with fuel consists in using more of it than is necessary by prolonging fires instead of using as much of the range as possible when there must be fire for some one or two things. Do oven work and long boilings when there must be fire for washing, ironing and tasks of that sort; arrange, while the oven is busy on baking-day, to use the top of the stove in ways that will do away with later fires.

Often much of the dinner can be partly cooked by the breakfast fire and finished by the brisk, short fire that cooks the potatoes and makes the coffee. Still more often, pies or a not too-elaborate cake may be baked by the breakfast fire without delaying that meal, if a few minutes are spent in preparing for it the evening before in connection with the getting or clearing away of supper.

Hand in hand with extravagance from waste of fuel goes extravagance from lack of ice during the warm months, waste of good food and great waste of woman's time and strength. When a husband "figures out" that it does not pay to put up ice, with all my heart I wish that he had to take the extra steps every day, many times, up and down cellar or to the cave or to the makeshift cooler on the north side of the house; wish that he had to do the troublesome, time-thieving, "retail cooking" necessary in the endeavor to prevent waste of food; wish he could be made to realize even the actual dollars and cents loss that is bound to result every season with even the most economically minded housewife.

In most cases the saving and greater excellence in milk, cream and butter will offset the cost of putting up the ice, leaving as clear gain unnumbered comforts, luxuries and economies in the home.

School Credit for Home Work

By A. E. Winship

ONE of the noblest ways in which the schools are reaching the homes is through credit in school for home helping and home living.

Marlboro, Massachusetts, was one of the first cities to give credit. The Training School pupils in the Teachers College, or Normal Department, of the State University of Utah, at Salt Lake City, has one of the most elaborate plans, but the best of all systems for school crediting for home work and life is at Spring Valley, in Polk County, Oregon.

No child is required to report on home work, but, if he chooses and if the parents will cooperate, he can be credited as per the following schedule:

Building family fires in the morning, 5 minutes.

Each cow milked, 5 minutes.

Cleaning out the barn, 10 minutes.

Splitting and carrying in supply of wood for 24 hours, 10 minutes.

Each horse cleaned, 10 minutes.

Turning cream-separator, 10 minutes.

Gathering eggs, 10 minutes.

Feeding chickens, 5 minutes; pigs, 5 minutes; horses, 5 minutes; cows, 5 minutes.

Churning butter, 10 minutes.

Making butter, 10 minutes.

Blacking stove, 5 minutes.

Making and baking bread, 1 hour.

Making biscuits, 10 minutes.

Preparing breakfast for family, ½ hour.

Preparing supper for family, ½ hour.

Washing and wiping dishes, each meal 15 minutes.

Each floor swept, 5 minutes.

Each room dusted, 5 minutes.

Each floor scrubbed, 20 minutes.

Each bed made at night, 5 minutes.

Washing, ironing, starching all of own clothes worn at school, 2 hours.

Each bath taken, ½ hour.

Coming to school with clean hands, face, teeth and nails, with hair combed, 10 minutes a day.

Practising a music lesson for 30 minutes, credit for 10 minutes.

Retiring on or before 9 P. M., 5 minutes.

Bathing and dressing baby in the morning, 10 minutes.

Sleeping all night with window open, 5 minutes.

Reasonable credit for other work and personal virtues.

The parent must give the child statement each morning for time credit earned.

By satisfactory home work a pupil may earn a full holiday once a month.

The three pupils whose home work is most gratifying receives $3 each, and the three next in order receive $2 each, and the amount of $15 is appropriated by the school board.

A pupil whose home work is satisfactory receives school credits up to ten per cent. credit in regular school work; that is, one tenth of his credits, except in the eighth grade, may be earned by home work.

The money received from the school board cannot be spent by the child while a pupil, but it is placed to his credit in a savings bank.

Every pupil whose time credits amount to one full day in one month may have a full holiday in that month.

There can be but one holiday a month, and the credits must be earned in that month.

Teachers say that the school work is much better done; that school discipline is much easier; that the boys and girls greatly improve in manners and morals; that attendance is much more regular and prompt.

Parents universally enter into the plan and take time to report the minutes earned.

The teacher of this school has thirty-three pupils, and she gets thirty-three notes from the parents each morning.

She issues a voucher to each child for the total number of minutes earned.

It is not unusual for a boy or girl to average two hours a day for the week.

Every child comes to school clean enough to earn credits.

Every child sleeps with open windows, and they all go to bed before 9 P. M.

The Road and the School

By C. H. Claudy

OUT of twenty-five million children in the United States, less than eighteen million go to school.

Are your children a part of the eighteen million, or of the seven million?

Of those seven million children who do not go to school, half of them live in the country, in the country where bad roads—muddy roads, rutty roads, dangerous roads—not only prevent them from getting to and from school, but by their impoverishment of the farm prevent the existence of any good schools for them to go to!

Five of our forty-eight States are known as good-roads States, because of

Are the roads in your neighborhood good ones like this?

their large percentage of good roads compared to their total road mileage. They are Massachusetts, Rhode Island, Connecticut, Ohio and Indiana.

In these States, with an average improved road mileage of almost 35 per cent., more than 77 per cent. of the children are attending school.

Out of many States which can be called bad-roads States, five, pretty well scattered, were chosen for statistical comparison. They are Alabama, Mississippi, Arkansas, South Dakota and Georgia. In these States, having an average improved road mileage of 1.5 per cent., not quite sixty per cent. of the children attend school. Seventeen per cent. of those who go in the good-roads States kept home in these States because of bad roads!

But that isn't the worst of it! What of those children when they are grown up? Will they form the basis of such shameful statistics of illiteracy as can now be shown? In Arkansas, Missouri, Mississippi, and North Carolina, with a total population of almost eight millions of people, there are about 375,000 illiterate men and women, native-born, white. More than 4.75 per cent. illiterate, with 98.5 per cent. of roads unimproved.

Now turn the shield—look at the other side. In four good-roads States—Massachusetts, Connecticut, New Jersey and Rhode Island—with a total population of more than six millions of people, there are but 20,500 illiterate men and women, white, born of native parents. In percentage, .75 per cent. are illiterate, and these illiterates live in States where there are 30 per cent. and over improved hard roads. In other words, education goes hand in hand with the hard road—as roads improve, illiteracy decreases. Has *your* child the chance to become one of the illiterate thousands in a bad-roads State? If so, what are you going to do about it?

Many children are killed each year walking railroad-tracks to school. Why? They have no roads to walk on. Many children each year have no schools to go to. Why? The roads are so bad there is no profit in farming, no money for schools, no progress, no growth, no ambition. Hundreds of thousands of children yearly have to do with a little schooling, a little part of a term at school—why? Because Father needs their help on the farm—he isn't making money enough to spare his children's time for school-days, because he has to pay so much for hauling his crops to market he has no profit left for extra hired help!

Isn't it *your* problem too, Mrs. Mother? Isn't it worth *your* while to agitate the question? Isn't it worth *your* while to bring it up in church, in school, in society, in club, in neighborhood—to talk, to inquire, to agitate, to educate, those who don't know, and perhaps don't want to know, to understand that the expense of good roads is like the expense of a new thrashing-machine, plow or pair of horses, sure to come back many fold in the course of time?

Think it over. And, while you are thinking, look at these two pictures, and see which condition your own neighbor-

—or are they stony, muddy and full of bad ruts like this?

hood school is in, your own roads are in, and then, if they are not the best, isn't it worth while to change them from likenesses of No. 2 to No. 1?

Grains of Wisdom

The latest thing in the kitchen is bag-time cooking.

Study your boy—and *steady* yourself in correcting your boy.

Don't overwork that boy of yours, nor his mother, nor his father.

Make your money go a long way, but not such a long way that it won't come back.

The money lost because the road is rough would build a road quite good enough.

Mind your own business, and if you are paid to mind some other man's, mind it as if it were your own.

He who forgets the bad he knows about people and remembers only the good could not have a better memory.

Wise men lay up knowledge for a rainy day, since those are the days upon which they have the most time to talk.

There are corn-club boys of sixteen who know more about raising corn than their grandfathers knew at sixty.

The paper bag seems to have found its way into our cooking—or, to be accurate, our cooking has found its way into the paper bag.

The cow that attempted to jump over the moon never came back to earth. The man in the moon caught her and has been making green cheese ever since.

In that part of the cities where the rich people live the residences are far apart, and in that part where the poor people live the houses are close to each other—showing that wealth has a tendency to drive people farther apart, while poverty brings them into closer proximity.

"A Merry Heart Doeth Good"

By Hilda Richmond

ISN'T it odd that devout persons who have read the Bible many times never come upon that important sentence several thousand years old, "A merry heart doeth good like medicine." It is literally true, yet many women deliberately disregard it. The other day I met a middle-aged, sad-looking woman who said she had not been to town for two years, nor to church in that time—in short, she had not been anywhere but at home. Her farm home was back off the main road, and one would imagine she would want to go more than ever on that account, but she didn't, and was content to just sit at home day in and day out. Nothing but the funeral of a relative coaxes her from home, and then she goes with a martyr-like expression that proclaims to the world that the dead person was very inconsiderate to cause her all this trouble. Once she was a rosy-faced, happy country bride, but now she looks ten years older than her more sensible neighbors and "enjoys" poor health continually.

While she is mixing the bread she thinks out her ideas for her club paper

With clubs for farmers' wives, Grange activities, socials, church gatherings of a social nature, picnics, parties and sewing-bees the country is almost as lively as the town nowadays, and yet there are ladies who refuse to be drawn into the innocent pleasures. To them it is all "gadding" and neglecting the home, so they virtuously sit at home and sew, while the neighbors get together and sew. Just as much work is accomplished one place as the other, and both are satisfied, the stay-at-home and the one who gads, but the difference in health is far different.

The other day at a gathering of country ladies nobody mentioned feeling badly all the afternoon. An elderly lady was moved to remark that times had changed wonderfully, for at social gatherings when she was a child the chief topic of conversation was always sickness. Deaths, sufferings and funerals had been common topics of conversation, while to-day the care of children, house-plants, chicken-raising, canning, fancy-work and kindred topics are discussed where ladies gather. And the elderly lady thought this a most encouraging sign and said she was glad to have lived to see the change. She enjoyed entertainments, socials, parties and club meetings, and she thought the general health of women who went away from home frequently was much improved.

Why, do you know, in sanatoriums they study to amuse and entertain patients as a part of the cure? Music, cheerful conversation, light reading and all the amusing things possible are there brought into the lives darkened by too much work or too close confinement, and the patient improves at once. Many farm women might cure themselves by going out to the social gatherings of the neighborhood and to town more, but they lose heart and just stay at home. Life narrows and narrows until they fade away and few people miss them.

But, on the other hand, the cheerful, alert, social woman occupies a prominent place in the home and the neighborhood, and her health is not broken by monotony. She knows how to be a good wife, mother and housekeeper, and yet a good neighbor and friend. While she is mixing the bread she thinks out her ideas for her club paper, and while riding to town with her husband commits to memory the "speech" she is to make at the Grange or church meeting. Amusement is not the bread of her existence, but the dessert, and she enjoys the bread all the better for the dessert. And besides she is a better, healthier and happier wife and mother.

The Housewife's Club

EDITOR'S NOTE—Monthly we give prizes of $2.00 for the two best descriptions (with rough sketch) of original, home-made household conveniences or labor-saving devices, and $1.00 for the third best or any that can be used. ¶ We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, and not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. ¶ All copy must be in by the third of March and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copies, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio.

To Make Puffy Butter Firm—If you get the milk too warm, and the butter is puffy, just put it away until you churn again, and when through churning the next time pour all your buttermilk off except a half-gallon, and into this put your puffy butter, cut it up very fine, and churn for ten or fifteen minutes, then treat as other butter, and note results.

MRS. W. C. S., Oklahoma.

For a Tired Mother—To the tired mother this home-made box on wheels is a boon in helping to care for the baby. I took four wheels of a go-cart and fitted a box over them. The box should be about one foot high; then a stick is nailed in each corner and a few laths nailed around so baby can stand up without falling out.

It can be pushed from one room to the other like a cab, but it is so much more roomy for baby to play in. It can be padded inside or a quilt or mattress put in the bottom and also a pillow, then when baby gets tired playing he will lie down and sleep.

In summer-time, when outdoors, a piece of mosquito-netting can be thrown over the top to keep him safe from insects, and he will be safer than when creeping over the floor, and save his clothes, making less work. MRS. B. F. S., Michigan.

Curtain Tool—The wire device shown here will let you out of the usual difficulties in handling lace curtains—that is, putting them up, taking them down, taking down molding hooks, pictures and arch poles and in putting up the same. It may be fastened to the end of a broomstick and wrapped with fine wire. Use stiff wire for the lifter, and bend as shown. MRS. J. K. L.

The greatest labor-saving method in the home is to teach the children to put things in place, and in order to do this one must have a suitable place provided.

The accompanying illustration shows a small rack on which to set the shoes and hang the clothes of the children before going to bed. Make the bottom board long enough to hold the necessary number of shoes, and drive a sufficient number of

nails. Set it in the closet during the day, and when bedtime comes bring it out, and each tiny tot will be delighted to put her shoes and dress in place. In the morning when they dress have them put their bedroom-slippers and nightgowns on it before setting it away. Try this plan, and see what a sense of neatness it will develop in the children. L. M. B., Ohio.

A Handy Book-Shelf—Use a board the desired length; around each end wrap a strong cord or a wire, fasten the cord with a small staple so it will not slip. Draw the four ends together just as illustrated, tie them securely, and hang over a stout nail driven firmly into the wall. The cord may be covered with ribbon and a pretty covering draped over the board. A shelf like this is quite convenient for articles in almost any room and is easily made. L. M. B., Ohio.

B-U-S-T-E-D!

ROOFING LUMBER PRICES WIRE and FENCING BUILDING MATERIAL

No Money Down

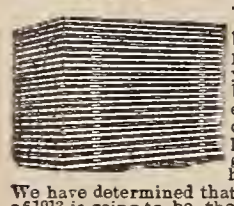
Our Great 1913 Announcement

You can order a complete carload of material including everything you need to construct a building and we will ship it forword to you without you paying us a cent down.

Write Us for Our Liberal Terms

You are safe when you deal with us. Our capital stock is $2,000,000.00 and 20 yeors of honest dealing have earned a ploce for us in the public confidence that is unquestioned.

Lumber Prices S-m-a-s-h-e-d

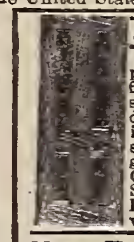


Yes, we mean smashed. Absolutely busted to pieces. That's our policy. We quote prices on lumber that will positively save you big money. If you will send your lumber bill we will send you a freight paid estimate that will mean a saving to you of from 30% to 50%. Every stick is absolutely first class, brand new and fully up-to-grade such as you would buy from any reputable house in the United States.

We have determined that the year of 1913 is going to be the Banner Year in our great lumber department. We have on hand 20,000,000 feet of high-grade lumber suitable for the construction of Buildings, no matter for what purpose intended. Come to our great yards in Chicago and let us show you this stuff actually in stock. No other concern in the world has a more complete stock of everything needed to build, whether Lumber, Shingles, Structural Iron, Plumbing, Heating, Doors or anything else that you may need. Do you know that lumber is getting scarcer and scarcer every year? Yet our pricee are lowest and will continne so until our stock is gone. WRITE TODAY.

Shingles at Big Saving

We have a special lot of 1,000,000 5 to 2 Common Clear Shingles Coming in, on which we are making an exceptionally low price of $2.47. Other grades at lowest prices.



This Door at 98c

Lot MS-39. Four panel painted door, size 2 ft. 6 in.x6 ft. 6 in. 1200 in stock. A high quality door for the price. This is only one of our many special bargains. Our grand Building Material Catalog and Bargain Sheets will show a full line of Inside Millwork of all kinds.

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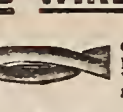
A 200-page Book of Bargains in Millwork, Building Material of all kinds, including Paints, Plumbing, Heating, Structnral Iron, Metal and Composition Roofing, Hardware, Carpenter's and Blacksmith's Tools, Wire Fencing. No prospective builder should be without it. It Is Free.

Smash Go WIRE and FENCE Prices

BARB WIRE Less Than 2c Per Rod



New galvanized, heavy weight barb wire, put up on reels about 100 lbs. to the reel. Lot 2-AD-26 per 100 lbs. $1.95. Galvanized barb wire, light weight, first grade, best made, put up exactly 80 rods to reel, 2-point barbs. Lot 2-AD-28, per reel, $1.40.

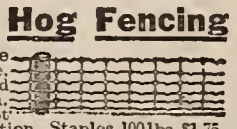
Wire Nails, Per Keg, $1.50

10,000 kegs, put up 100 lbs. to the keg mixed, all kinds together, regular nails, such as made by nail factories. Lot 2-AD-33, price per keg. $1.50. 1,000 kegs of 10 penny-weight regular new wire nails, 100 lbs. to the keg, while they last, per keg, $1.85. Write for our free Wire and Fence Catalog. Gives valuable information to any land owner. Fill in the coupon below.

Smooth Galvanized Wire Per 100 Lbs. $1.25

It is suitable for fences, stay wires, grape vines or fur any ordinary purpose where wire is used. This galvanized wire is irregular in length—it ranges anywhere from 50 to 250 ft. $1.25 is our price for No. 6 gauge. Other sizes in proportion.

15c Per Rod Buys Best Hog Fencing



Here is another one of our remarkable bargains. A high grade, strictly perfect fence, made of No. 9, 11 and 12 wires, perfectly adapted for hugs and general farm purposes, 26 in. high, squaresmesh, put np in suitable size rolls. Lot 2-AD-31, price per rod 15c. Other heights in proportion. Staples, 100 lbs. $1.75.

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Our paint department is under the personal supervision of Mr. V. Michaelson, for 30 years the foremost paint man in America. His picture has appeared on over 8,000,000 cans, and his name is known from ocean to ocean. Paint of quality is his specialty. Every gallon has our strongest guarantee. Our Ready Mixed Barn Paint at 67c a gallon will outlast any similar paint produced. If you want quality paint, write us; or write to Mr. Michaelson if you prefer. Finest, most valuable paint book ever published sent FREE. Send coupon.

$1.05 PER GAL.

Fill in This Coupon

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- ☐ Plnn Book of Houses & Barns
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You can buy a carload of Building Material from us without paying us one cent in advance. All we want to know is that the money will be paid us as soon as the material is received, unloaded and checked up. Our terms are more liberal than anyone else offers.

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Why We Are Called the "Price Wreckers"

CONSIDER what becomes of the stock of goods when a manufacturer, joboer or big retail merchant goes bankrupt, or "busted" as the saying goes. In the year 1911 ten thousand merchants met with financial distress—that's why the Chicago House Wrecking Co. exists. If the stocks offered are sufficiently large, if the goods are new, clean and desirable, they find their way naturally to our 40 acre plant for distribution, at a small added profit to our hundreds of thousands of customers, who, in this way get wonderful bargains.

In many cases our prices do not represent the original cost of production. There is not another concern on earth that can meet our prices, simply because no other concern has the buying and economical distributing facilities which we enjoy. It is only natural therefore, that we have become known as "Price Wreckers".

Where Your Dollar Does Double Duty

Every time you buy from us, your dollar takes on an increased purchasing power. We are the safety valve between the public and high prices. We recognize no Trusts or Associations—our methods are along original and unique lines. We are not plodders—we are merchants in the fullest meaning of the word, and the wise public have not been slow in realizing our position in the world.

Our great plant at 35th and Iron Sts. is a Mecca for the people of Chicago and surrounding country. Thousands of visitors from every part of tho country make a yearly pilgrimage to our institution, and buy their yearly supplies. Are you getting all tho benefit that you should from this excellent opportunity? We urge you to learn more about the wonders of our plant, and the opportunities that we afford when you deal with us. You get full value for your money. There is nothing fanciful abont our methods—we are just straight, clean business men.

WE SELL PRACTICALLY EVERYTHING

Our stock includes practically "everything under the sun". It's in truth, from a needle to a locomotive. No matter what your vocation, or what position in life you occupy, or what your business, or huw great a merchant you are, yon have use for us, and wo have the goods that you can buy from us to a decided advantage. The quicker yon learn to recognize this fact, the sooner yon will be "putting money in your pocket".

Our stock includes Building Material, Lumber, Roofing, Sash, Doors, Millwork, Wire and Foncing, Hardware, Plumbing Material, Heating Apparatus and Supplies, Furniture, Household Goods, Rugs, Stoves and everything needed to furnish or equip your home, your club or hotel. It includes Groceries, Clothing, Dry Goods, Boots and Shoes, Furnishing Goods, and every single article to clothe a man, woman or child. It includes Sporting Goods, Fishing Tackle, Hunting Outfits, Tents, Guns, Harness and Vehicles, Jewelry, Sowing Machines, Clocks; also structural iron needed in the construction of buildings, bridges, etc. Machinery, gasoline, gas and electric power outfits. In fact you cannot think of a single manufactured article that we cannot supply you st a saving in price. Let us convince you—it means but little effort on yonr part to prove the truth of all we say. Write us to-day for our Catalogue and literature. Fill in the coupon shown below.

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This Is Our House No. 6A.

A beautiful up-to-date full 2 story, 7 rooms and bath, home. Has been sold over 400 times. Copied and imitated all over the U. S., but our price and quality cannot be equaled. The price is easily 25% to 50% below local dealer's prices.

Immediate shipment right from our Chicago stocks, where you can come and see it loaded. NO MONEY DOWN. $2.00 buys a perfect Blue Print Plans, complete specifications and detailed descriptive material list, with a refund of $1.50 if you do not like them.

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We are the originators of a system of selling practically complete Houses direct to the consumer, at a great saving.

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Write ns for letters from people in your vicinity who have bought from ns. We have thousands of unsolicited testimonials.

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If you intend building, you will lose money if you don't write us at once. Tell us what you want. We will answer you promptly and give you valuable infurmation regarding building. Send rough pencil sketch showing the kind of house you want. We will make you a freight paid price that will save you big money on material necessary to build same. Every stick first class.

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Our Book of Plans contains 100 Designs of different kinds of buildings. Everything from a 2 room Portable House for $147.50 to the finest kind of a 10 room residence.

Houses are completely illustrated showing the floor plans, prices lumber, millwork, plumbing, heating, paint, etc. And it's free.

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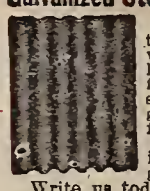
Galvanized Steel Roofing is Fire, Water and Lightning Proof



We bought 20,000 squares of this Corrugated Iron Roofing, which we offer at this remarkably low price. It is new, perfect, and first-class, but light weight. The sheets aro 22x24 in. x 1¼ in. corrugated. Our price of $1.25 per sq. is f. c. b. cars Chicago.

When ordering this item, specify Lot No. AD-700. This is not galvanized, but black steel roofing.

$1.25 per 100 sq. ft. buys best steel roofing

Write us today for our special FREIGHT PREPAID PRICES on new, galvanized roofing. We are offering prices lower than ever before offered in the roofing business. Galvanized roofing at $2.50 per square and up. Ask for free samples.

We can furnish anything needed in Roofing, Siding or Ceiling.

62 CENTS PER 108 SQUARE FEET BUYS BEST RUBBER SURFACED "AJAX" ROOFING

Here again we show the lowest price ever known for roofing of quality. This smooth surfaced roofing we are offering is our one-ply "Ajax" brand, and the price includes necessary cement and caps to lay it; this price is f.o.b. Chicago; at 65c per square, **we pay the freight in full** to any point East of Kansas and Nebraska and North of the Ohio River. Prices to other points on application.

roofing is guaranteed to wear as lung and give as good service as any Ready Rubber Surfaced Roofing on the market.

It is put up in rolls of 108 square feet, and contains 3 to 4 pieces to the roll.

Wo have other grades of Ready Roofing, which we offer at prices easily 30 per cent below regular quotations. Write to-day for free samples and Roofing Catalog. Fill in the coupon.

Freight Paid Prices

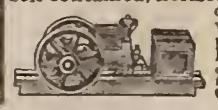
Send Us Today Your Complete List of Lumber and Building Materials for Our FREIGHT PAID PRICES.

$8.50 for a High-Grade, Sanitary, Complete Closet

Syphon acting, vitreous bowl, hardwood seat and cover. Low down, latest style, copper lined tank. Outfit is Lot 5-AD-105.

1½ H.P. Gasoline Engine $24.75

The lightest, strongest and most compact Gasoline Engine ever produced. Thirty days' free trial. It is 4-cycle, self-contained, horizontal, hopper cooled; on heavy wood skids, with battery box, shipped complete, wt. 250 lbs. Has automatic governor. Easy to start. Send for Special Gasoline Engine Catalog.



Kitchen Cabinet

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$30.00 VALUE. Every Good Feature Known.

See our free big book.

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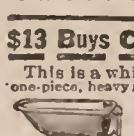
Fill in the coupon.

$13 Buys Complete BATHTUB

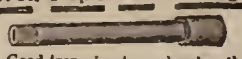


This is a white enamelod, cast iron, one-piece, heavy roll rim bathtub; fitted with the latest style nickel-plated trimmings, including Fuller donble bath cocks for hot and cold water, nickel-plated connected waste and overflow, and nickel-plated supply pipes. It is 5 ft. long and is good enough to answer the needs of any man. Lot 5AD-101.

Hot Water Heating Plants

We are headquarters for steam, hot water and warm air heating plants. They are suitable either for new or old homes. It is easy to install one of these plants in your old building. For this great Fall Sale of ours we are offering a warm air heating plant large enough for the ordinary 5 room house, with all necessary plans and complete instructions for installing, for $45.00.

Iron Pipe and Fittings



Good iron pipe in random lengths complete with couplings, suitable for gas, oil, water and conveyance of all liquids; size 3-8 to 12 inches; our price on 1-in. per foot 3c; 1 1-4 inch at 4c per foot. Complete stock of valves and fittings. Send us your specifications.

Rugs at 75c

We bought at New York Auction an enormous stock of high grade, brand new rugs and floor coverings. 75c buys Axminster Rugs of Extra grade. This is a sample of our money-saving bargains. Write for our complete Free Rug Catalog, showing actual colors and designs.

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We are the World's Bargain Headquarters for the outfitting of your home, club, lodge or hotel, from the very latest to the finest. An assortment of Household Goods and everything such as will be found in no other institution in the land. Write for free copy of our Furniture and Household Goods Catalog.

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EASTERN EDITION

FARM AND FIRESIDE

EVERY OTHER WEEK — THE NATIONAL FARM PAPER

ESTABLISHED 1877 — SATURDAY, MARCH 1, 1913

Read—"The Use of Explosives in Clearing Land"—Page 4

THE EDITOR'S BILLBOARD OF COMING ATTRACTIONS

Special Articles

Taxation is a subject that is always interesting. Land taxation especially affects nearly every farmer, and we ought to know more about it. In "Land Taxation in Canada," an article to appear shortly, we have the basis for much comment and debate. "Quality Prices for Quality Eggs," by Wm. A. Lippincott of Kansas, tells why the bad egg is bad for the farmer as well as for the man who eats it. "Asparagus Farms of the Sacramento Valley" is the title of an article which tells where a large amount of our asparagus comes from and how it is grown, canned and marketed. And, of course, The Headwork Shop.

Farm Notes

"My Auto Truck" is a most interesting description of the work that an auto can be made to do. "The Penniless Farmer's Chance" is a study in farm economics intended especially for young married couples.

Garden and Orchard

"Growing Plums with Fire and Mulch" tells how a thinking farmer turned a rough and stony hillside into a profitable plum-orchard. "Economy in Spraying" and "Early Tomatoes by Topping" are unusual experiences by which all gardeners may profit. Mr. Greiner will have his usual grist of eighteen-karat advice on special gardening subjects.

Poultry

In an illustrated discussion entitled "The First Ladies of the Land," Mr. B. F. W. Thorpe throws the spot-light on some of the record-breaking fowls and pens which were successful contestants for honors in last year's egg-laying contests in Missouri and Connecticut. "Making Poultry Pay from the Start" is the story of a flock of pullets which with good care earned for their owner nearly two dollars apiece during the first laying year.

Crops and Soils

"Raising Cauliflower with Cows" is a new combination to many readers, but results secured seem to prove it most profitable. "Testing the Sorghums," by C. Bolles of Nebraska, is the result of practical experiments with some of the newer forage crops in the Central West.

Live Stock and Dairy

"Selling Cream de Luxe" is a snappy story of how a wise dairyman produced an exceptionally pure and high-testing cream that satisfied a critical trade.

The Adventures of a Beneficiary

Emery Wright stays in the game, notwithstanding the admonitions to keep out. And he sees more of the red car.

Easter Features

The next issue, which is the last one before Easter, will contain a page of Easter eggs and Easter cards. Appropriate stories will carry out the Easter idea. Prominent space will be given the labor-saving devices contained in The Housewife's Club, and there will be a column of very practical "Helps for Wash-Day."

Sundoy Reading

In addition to the Sunday-school lessons there will be an Easter sermon by the Rev. Richard Braunstein, who has written so many good things for the readers of FARM AND FIRESIDE.

A Woman Homesteader

Tells most interestingly how she and some other women, by their perseverance-to-the-end, have earned for themselves some of Uncle Sam's best farms.

The Coke She Wouldn't Make

The story of a girl who wanted her brother "all to herself," but who finally came to want to share him with "the other girl." There are three charming illustrations by Stockton Mulford.

Delicious Recipes

Cakes and cookies from far-away Holland, the "Land of Cakes," and many delectable dishes made from the eggs which your hens are going to lay in abundance very soon.

Fancy-Work

Miss Gould has a page of practical, up-to-date designs for the early spring wardrobe.

Fashions

A pretty Dutch collar of crochet will prove a useful accessory to the new spring gown.

WITH THE EDITOR

Why Bother About It?

Whether or not we shall get anything out of the agitation for farmers' banks is of course a question. It looks, however, as if we should. When a whole class of people begin to ponder on a question, something usually develops from it.

A farm paper published in Minnesota takes the ground that the farmers don't want any better borrowing than they now have. It gets its data from a canvass of the farmers of the Northwest. It says that if the farmers themselves aren't kicking why should anyone else bother?

Well, there are two sides to this. How many people in any walk of life really are conscious of the needs of their own business or profession? How many city people really know how rotten their street-car service is, or their telephone service? How many are conscious of the horrible evil of the loan-shark system? How many farmers really know how bad our rural schools are? The most of them know, in city and country, only when the matter is pointed out to them.

Then are the borrowing facilities of the Northwestern farmers a good sample of the conditions in the remainder of the country? How is the borrowing for the small farmer who wants to bring back into productiveness a bit of New England or the South? I know an Iowa man who went to Louisiana and began developing a rice-plantation. Having some financial connections, he started a small bank and began loaning money to the surrounding farmers just as is done in Iowa. But he found that wasn't popular in Louisiana.

Poor Men Kept Poor

He found himself in hot water with his brother bankers at once. The custom down there was not to let the small fellow have any money at all save what he could get from his merchant. The merchant borrowed from the banker and gave credit to the farmer. Thus the latter had to pay a middleman's profit on his money. No better recipe for perpetuating the poverty of the poor man could be given.

A letter on this subject has just come in from Mr. J. L. Berg, a South Carolina farmer. Here it is:

I have recently read your editorial in the January 4th issue and am glad the question of better banking facilities and easier money for farmers is now being agitated all over the country. The cooperative system as used in Europe would not suit us, at least not just at present, and I am very glad you have made the suggestion that the funds in the Government postal banks be used in this way. Now I have one more suggestion to add, namely: that, as the Department of Agriculture has demonstration agents all over the country, and that as such loans are made, the men getting them be under the supervision of these experts and held down to up-to-date methods, showing that our Government does not set any premium on ignorance or shiftlessness, but stands for intelligence and progress. I am told that in a certain county of this State (one of the most progressive and where land commands a good price) that the banks watch and supervise the farmers to whom they make loans and assure them that now that the bank has its money in their hands they must make good, and that the bank will see them through, provided they use industry and right methods, but not a dollar can they obtain otherwise. I believe all the machinery needed to establish the right sort of rural banks is already here; now let the Government harness it up and use it. By way of explanation I will add that I have spent ten years in a city national bank, from 1885 to 1895, the reconstruction era in South Carolina. I am now a market grower.

Bankers' Advice Not Wanted

It is very probable that the supervision of banks which Mr. Berg speaks of, over the methods of farmers, will continue to increase. It is already under way in places. For instance, in certain parts of the semi-arid Southwest—Oklahoma is especially in mind—the banks have insisted on the planting of milo maize and Kafir-corn as a part of the farmers' operations if they were to receive credit. The banks found this necessary for the protection of their loans. The temptation was for the farmers to sow too much wheat—which went to the bad when the droughts came, while the sorghums would withstand the dry weather and make a crop.

This was good for the farmers. But we will not take the dictation of the bankers as to our farming. We must use our judgment in the main. The bankers know very little about farming. And the farmers as a class will not surrender their independence into the hands of men who may know credits and loans, but are theorists as to farming. In certain things the advice and cooperation of the bankers will be good for us. Whatever we can get from them in the matter of better methods, we ought to thank them for. We should keep our minds open to new and better things—and rely on our own judgment as to the conduct of our own business.

But the Raiffeisen banks of Europe have done a great deal in the way of bringing in better methods, because they are run by the best farmers in the community. They help their members by advice as well as by loans. They can tell whether the plans of the man who wants to borrow are wise or not, because the directors are themselves practical, working farmers.

Go Slow at First

The American farmer would be glad to have help of this kind from his fellow farmers, for it would be just like a farmers' institute when the board of directors went with him into the matter of making him a loan.

Of course the European system would have to be changed to meet our conditions. Probably the funds in the postal savings banks could not reach farther than to give the cooperative banks a start. After that they would have to find their own moneys. And no cooperative banks should be started without the advice and aid of the very best expert help possible. If we rush blindly into the formation of such concerns, we shall make the most dreadful mistake possible. We should feel our way carefully. We should ask the aid of the best brains to be had. There is no hurry. If we make haste very slowly, we ought, in some parts of the country at least, work something out which will be a blessing to the people who need it most—the farmers who lack capital.

ADVERTISEMENTS ALL ADVERTISERS GUARANTEED

[CONCLUDED ON PAGE 29]

ABOUT ADVERTISING

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Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and sqnare treatment. Of conrse we do not undertake to adjnst petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incnrred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is pnblished every other Saturday. Copy for advertisements must be received three weeks in advance of publication date. $2.50 per agate line for both editions; $1.25 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 381 Fourth Avenue, New York City; Tribune Building, Chicago, Illinois

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter

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Vol. XXXVI. No. 11 Springfield, Ohio, March 1, 1913 PUBLISHED BI-WEEKLY

Let Uncle Sam Guard the Public Domain

THE Farmers' Lobby in the last issue of FARM AND FIRESIDE told something about the big interests which are trying to induce Congress to turn the public domain over to the various States. Mr. Welliver pointed out that the Federal Government was the only logical watch-dog for the national forests, the deposits of fertilizer, coal, water-power and other resources.

Those who are interested in the development of this important question—and everyone should be interested—will like to hear Gifford Pinchot on the subject. Gifford Pinchot was the head of the Forest Service before he was let out by the administration, together with a lot of other good men. Gifford Pinchot is now President of the National Conservation Association. This is what he says about the matter in hand:

> A movement is afoot to break down the whole national forest system by turning the national forests over to the States. Turning the national forests over to the States means turning them over to the interests, as well as making the administration of a great national resource impossible with benefit to the whole people.
>
> The 600,000,000,000 board feet of merchandise timber in national forests is worth, if valued at only one dollar per thousand on the stump, $600,000,000 or more than one half the national debt; while the land itself is capable of growing not less than 4,000,000,000 feet of timber annually to replace what is cut. At present the forests are administered for the welfare of the whole nation by a central office which sets the policy and the pace, and by local organizations which handle the work on the ground.

Mr. Pinchot probably knows more about forests and forest control than any man in the country. His counsel is worthy of not only serious study, but a letter to your congressman and senators.

Feed the Mouth Nearest

THE short haul and the quick delivery, as a rule, is the economical one. Mr. Express Man and Mrs. Cock Robin will both endorse this statement. When Mrs. C. R. can snatch the early or late Mr. Worm from the dewy lawn and with a single sweep of wing and flirt of tail convey said worm to her nest over the porch post and repeat the performance a few dozen times, varying the menu with beetles from the flower-bed hard by, tender curculio infants from the garden plum-tree and luscious snails from the lettuce-patch, her wide-mouthed nestlings' morning meal is soon provided for and leisure is hers for preening her feathers and a word of conversation with Father C. R. while resting on the ridgepole.

The American farmer has never taken this economic lesson to heart that Mother Robin every year illustrates before him. Indeed we can say with truth the lesson is presented as a moving-picture show, and a pretty one it is. Suppose Mother Robin laboriously brought the endless meals of slugs and worms from the Jones farm a mile and a half down the pike and left the fat, ripe worms in sight of her nest for Mother Meadow-Lark whose nestlings are in the back-forty meadow a full mile south.

Wouldn't we class these feathered dames lacking in even the rudiments of economics? But there are tens of thousands of farmers ignoring hungry mouths that would make possible the short haul, quick delivery and larger net returns for produce. There is too great a tendency to consider the full load or car-lot shipment to a distant market to be the businesslike way of selling produce even though the long haul and middlemen reduce the net returns to a negligible quantity.

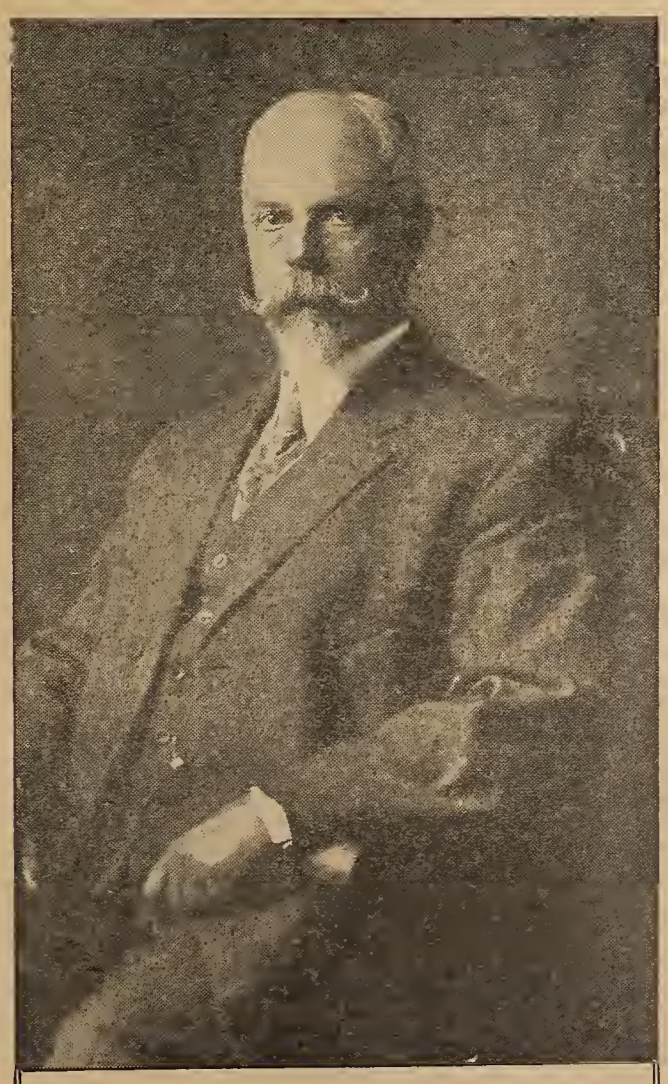
Farmers generally are not yet ready to feed first their own town and near-by city consumers fresh, guaranteed, high-quality, home-grown produce from their own delivery vehicles or the same coöperatively delivered. Neither are the near-by consumers quite ready to patronize the local producers and pay a higher price for fresh produce, every ounce of which will be edible. The natural and economic procedure for marketing many kinds of produce is well exemplified by Mother Robin and Mr. Worm, and the time is surely ripe for the near-by producer and consumer to "nudge up nudgier."

In cutting back trees the mistake of cutting too much is frequently made. There should always be enough foliage left to shade the trunk of the tree and to enable the tree to keep up the life processes.

The dead bark which falls away from tree-trunks which have been scalded by the sun is nearly always the result of ignorant pruning. Let us try to think more of the reasons for doing our work.

More Cement Every Year

ACCORDING to Ernest F. Burchard of the United States Geological Survey, 81,941,998 barrels of Portland cement were manufactured in the United States during 1912. This quantity represents an increase of nearly three and one-half million barrels of Portland cement over the production in 1911. There has never been a drop in the annual production of Portland cement in the United States since it was first manufactured.



THE name of David Buffum, FARM AND FIRESIDE'S principal horse expert, is well known to every reader who has asked for advice on horse problems, and to other readers in a more general way. We take pleasure in here presenting Mr. Buffum's latest portrait.

Since his boyhood days Mr. Buffum has worked and played and become acquainted with horses as few men in the country have done. We venture to say that there is little worth knowing about horses which Mr. Buffum does not have either at his tongue's end or that he cannot put his finger on quickly.

If any readers are groping in the dark for horse information, we invite them to come on with their questions. Mr. Buffum is now living near Prudence Island, Rhode Island.

A Check on the Commission Man

FOR several years in a number of States repeated attempts have been made to get legislation passed that will provide an effective check to prevent dishonest commission men from juggling the returns to shippers. Albany, New York, has been a hotly contested battle-ground, the skirmish lines extending over the entire State.

Last year New York farmers and other shippers felt rather confident of the passage of a law that would compel all commission men to take out a license and furnish complete publicity concerning sales whenever requested by shippers. But Gotham and allied opposed interests saved the day for the commission men. The battle is to be fought over again this year. In the meantime Illinois shippers made the goal first in a similar fight. A license clause was also a part of the Illinois bill, but a Supreme Court decision has already made the license and inspection-board provisions unconstitutional. There is still left the provision that compels commission men to furnish an itemized statement to consigners. The shipper in Illinois can now know the gross amount received by the commission men when his shipment is sold and every item of charge placed against his account. All facts bearing on every sale must be recorded, and the books containing the records must always be open to the inspection of the shipper or his agents.

Even this law, deprived of its major provisions of importance, will cause the "black-sheep" commission men to avoid transactions that are shadiest and which have been responsible for the blot that has long disfigured the commission business as a whole.

This reform is sure to be generally demanded, and all responsible, fair-dealing commission men should get behind the movement and help put the shyster commission men out of business.

Classifying Cucumbers

THIS is an age of classification and standards. The Produce Reporter Company of Chicago has just sent a circular letter to the commission trade with the view of gathering information by which cucumbers can be graded.

The company is working toward the establishment of a standard package and standard terms to use in buying cucumbers according to grade.

Agricultural Colleges as Libraries

THE Extension Department of the North Dakota Agricultural College at Fargo, North Dakota, has inaugurated a package library service.

When a citizen of the State desires information on any agricultural subject, he can procure it from the Extension Department either by mail or express in the form of a package containing books, papers, magazines and bulletins dealing with the subject on which he desires information. The only cost is the postage or express.

The information contained in the package is suitable for getting up an entertainment, a farmers' club meeting, or a ladies' club program.

During the first ten months that the package-library system was in operation ten thousand articles were loaned.

The average public library is not nearly so well equipped for distributing literature on agricultural subjects as the various agricultural colleges. The idea as carried out in North Dakota is not new. Wisconsin has such a service, and other agricultural colleges supply similar information, though not on such an extensive scale. We think the idea is a good one and should be developed further.

Hay damaged by rain loses from a sixth to a third in weight. It loses fully as much in feeding value.

The Use of Explosives in Clearing Land

With Intelligent Handling There is Practically no Danger, and Excellent Results are Secured After a Little Practice

How to Handle Dynamite

By J. H. Murphy

ONLY about twenty-five per cent. of the entire land area of the United States is improved farm land, yet we already hear the wail of new settlers and would-be landowners, who find improved farms too expensive for their limited capital, and who claim that unimproved farm land is more than scarce. Statistics, however, show that in Michigan and Wisconsin nearly fifty per cent. of the land is still in the unimproved state and can be purchased at a very cheap rate. This unimproved land consists mostly of cut-over timber lands, lands containing a second growth of timber, and rocky lands too rough to be profitably worked.

The dynamite charge should be placed below the depth of plowing and at the center of greatest resistance

Only those who have tried to clear such land by the use of explosives know how efficient the method is and what a great time and labor saver it is compared to the primitive man, horse and machinery method. The explosive method is of especial interest to new settlers and those of limited capital because it requires no large initial outlay of money, and every cent invested can be immediately used for the purpose of clearing up the farm. Besides this, if properly handled explosives are as safe as the machinery method. Explosives will do as good work in clearing land as the most expensive machinery and generally at less total cost.

The common explosives which are used to-day for clearing land are dynamite and virite. Virite is the more stable of the two and does not freeze. It is therefore of value for use in a cold climate or during the winter. However, dynamite is more easily handled, and when there is no danger of freezing it is more satisfactory for the farmer to use than is the virite. Dynamite ranges in strength from twenty per cent. to sixty per cent. The strength most universally used and which gives the best satisfaction is the forty per cent. The "sixty per cent. straight" acts very rapidly, with a shattering effect, and should only be used in very loose ground such as sand. In heavy land such as heavy clay loams a thirty per cent. dynamite will usually give the best satisfaction because this strength has a slow propelling force and will lift a stump or rock, breaking it into several large pieces, while a stronger charge would shatter the stump, breaking off the upper portions and leaving the roots in the ground above the plow-line. If in doubt as to the right strength to use, take either a thirty per cent. or forty per cent. It is put up in cartridges, each containing one-half pound of dynamite, and besides these you will need a roll of fuse and a box of caps. A handy box for carrying these materials can be made by putting a handle on a small dry-goods box and dividing the box into two compartments. One of these should be large and act as a receptacle for the dynamite, while the smaller one can be used for the caps and fuse. Be sure to keep the caps in the small box in which they are purchased, and never under any circumstances put the caps in the same compartment with the dynamite.

No Expensive Tools are Required

A crowbar, a long auger and a wooden ramrod are the only tools required. Either the crowbar or auger may be used to make a hole under the stump. This hole should be bored at an angle of from thirty-five to forty-five degrees and it should terminate a short distance past the center of the stump, which is usually the center of resistance. If this work is done when the ground is moist, it will be easier and more satisfactory than when the ground is in a dry, pulverized condition. Very often when boring a hole under the stump a stone or other obstruction is encountered. This can usually be quickly and effectively removed by placing a cap on one end of a piece of fuse about eight inches long, then cut a stick of dynamite in two, insert the cap and end of the fuse into one of these half-cartridges, and drop it into the hole until it rests against the obstruction.

After exploding it, the obstruction is usually missing. Very often, when blasting out large stumps, the entire middle of the stump is either open or so badly decayed that a charge of dynamite would shoot up through the middle of the stump without removing any part of it. In such cases several charges must be used, placing them under the largest and most prominent roots, and then they can be exploded at the same time, or one of these can be removed at a time, just as the operator wishes.

Placing the charge is a very important part of the operation, and the size of the charge will depend entirely upon the size and stability of the stump. One cartridge is usually sufficient for small hard-wood

New settlers should be interested in the use of explosives

stumps, but large stumps, especially pines, will require from six to ten pounds of dynamite to remove all their members, and several charges may be required.

A Few Wise Precautions

When blasting large stumps, several cartridges may be placed in the same hole, end to end, but only the last cartridge inserted need have a fuse attached. The fuse on such a charge should be about two feet long at least, or long enough to project from the hole. As said before, this is attached by putting a cap on one end, crimping it and then inserting this end in the cartridge. The end of the fuse should not touch the bottom of the cap, because this is very sensitive. One end of the cartridge is now carefully opened, the dynamite is loosened up with a small *wooden* pin and the cap is inserted in this loose dynamite. The charge is then placed under the stump and the hole filled with damp earth and carefully tamped with the wooden ramrod. This wooden ramrod may also be used to push the cartridges down into place, but never under any circumstances should a metal instrument be used for this purpose, nor for loosening up the dynamite when inserting the cap.

After lighting the fuse, the operator should retreat at least one hundred feet, and the supply-box should be carried at least seventy-five feet from the charge. However, it is wise for the operator to keep a short distance from the supply-box when an explosion takes place.

If virite is used for blasting, it should never be packed and tamped, but dynamite must be tightly packed in order to give the best results. Charges should not be placed too shallow, because this is likely to result in blowing off the top of the stump, while, on the other hand, a deep charge will often leave an extensive hole in the ground which must be filled. In this, as in all other parts of the operation, the operator must use his own judgment, and a little experience and practice will make one wonderfully proficient and accurate, not only in placing charges, but in using the correct amount of explosive.

The same practices and precautions which are applicable to the blasting of stumps should be followed in clearing land of stones. The charge should be placed under stones at the point where a crowbar would be inserted if the operator wished to pry the stone up. A large stone above ground can often be broken up by placing a cartridge, with a fuse attached, on top of it, packing with moist earth and then exploding.

Methods for Blasting Stones

The concussion usually results in breaking the rock into pieces which can be handled. Another method is to use a stone-drill and a mallet to make a hole into the rock, thus forming a receptacle for the cartridge.

At all times be careful to keep the dynamite away from any concussion or fire, and do not use metal instruments in handling it. Never smoke while handling dynamite, and never light a match near the supply-box. If the dynamite is frozen and you wish to use it, thaw it out by putting it in warm water, but do not set it near a stove. If your land is of a light, sandy nature, use dynamite of a higher per cent. purity than if the land is clay or clay loam. Very often much time can be saved by placing charges for several hours and then firing them all at the same time. This saves time and a great deal of running and usually proves very satisfactory. In case a charge fails to explode, do not investigate immediately, but allow it to remain until the next day, to be on the safe side.

A strict adherence to the simple precautions given will eliminate all danger to the operator, and his own good judgment should make even these precautions unnecessary.

First Blast, Then Use a Puller

By A. J. Rogers

THE old prejudices against dynamite because of its dangerous character are gradually being withdrawn, mostly due to improved methods of manufacture which now render it comparatively safe to use. Getting rid of stumps and stones by the ax, grub-hoe, block and tackle and sheer strength of man and beast has been too slow and tedious. Blasting is one of a number of important uses of dynamite on the farm, where its tremendous concentrated strength will do in a few moments' time the work of many days of hard manual work.

I have used a great deal of dynamite for blowing out stumps on my farm and also own and use a stump-puller of the tripod type. It appears to me, after trying both, that each has its place, not only for removing stumps, but stones as well. The stump-puller will actually lift out hemlock stumps, which may have several large tap roots extending through hardpan. We have pulled such stumps up to thirty-six inches in diameter, but it has taken sometimes over a day for two men to pull one.

The use of dynamite on all such stumps either in aiding the puller or alone, has many advantages. It saves much time, the dirt is blown loose from the roots, and the stump is usually broken into pieces that can be handled by a team of horses. The stump-puller of the tripod type, too, has its advantages; it can be used in the orchard without any danger to the trees, the dirt from the hanging stump readily falls back into the hole, and although cumbersome and slow it may be used in a dull time, when one's time would be pitted against the actual cost of the dynamite.

The Combination Method is Cheapest

Hard-wood stumps, such as maple, beech and elm, will decay in five to seven years' time after the tree is cut and then can quickly and easily be lifted with a puller, but stumps of cherry, basswood and hemlock are more cheaply disposed of by the use of dynamite alone or in conjunction with the puller.

The other day our puller absolutely refused to pull out a certain stump. It was a great hemlock, four feet in diameter, with eight or ten huge tap roots as sound as they were sixteen years ago when the tree was cut.

With the aid of two and one-half pounds of forty per cent. dynamite placed under the points of greatest resistance, it came out in splendid shape. To have blown the stump out free, and without the aid of the stump-puller, would have taken about sixteen pounds of dynamite. At sixteen and one-half cents per pound, the difference in cost of materials was $1.23. This and similar experiences make me feel that the combination method cannot be too highly recommended. Stumps so large that they cannot be handled and piled up by two teams of horses we split up by boring a one-and-one-half-inch hole into the heart and firing a small charge of dynamite.

In general there are three quite distinct types of stumps: first, those having lateral roots; second, those having tap roots, and, third, those having several "semi-tap roots." Where the lateral roots are large, it is best to "split up" the charge, placing a portion under the largest roots and connecting the charges with an electric discharge system, so that all will act at once. Where the stump has but a single tap root, the charge is placed a foot or two under the surface of the ground, in a hole bored directly to the center of the root. The discharge will cut the tap root in two at this point and lift the stump out. Where the stump has many roots growing down deep into the ground, the charge is placed under the point which would seem to offer the greatest resistance.

The kind and amount of explosive to use one will soon learn from experience, depending on the character of the stump and the soil. The tools necessary for this work are few and simple: a two-inch auger connected to a long iron rod, at the other [CONCLUDED ON PAGE 23]

Effect of a charge placed too shallow; a large hole torn in the ground is the result

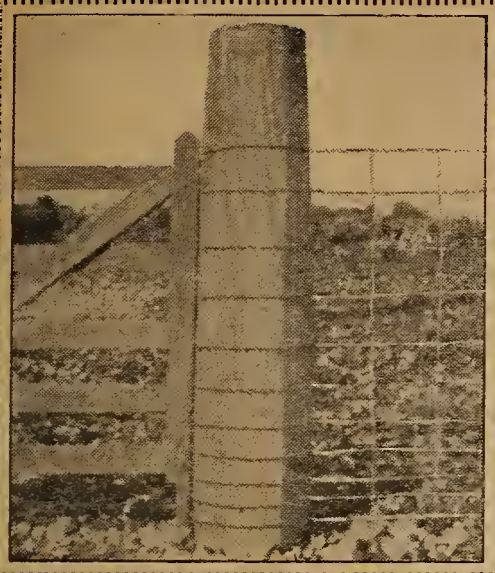
Effect of a charge correctly placed; the stump is shattered and completely removed

Effect of a charge placed too deep; the stump is split, but not blown out

For Permanent Improvements Use Concrete

For Many Uses on the Farm It is More Satisfactory Than Stone Itself

By Willis O. Wing



Concrete corner posts are easy to make

The watering-tank constructed by the author

A fire-proof concrete engine-house

WHERE gravel or crushed stone and sand are at hand and of easy access, it is surprising how cheaply and well one may build many things upon the farm and have the feeling that he is building something that may serve as a monument long after he is gone. With this thought in view, if one is planning a building, he should well consider proportions with respect to symmetry and harmony as well as utility.

Any farmer mechanical and intelligent enough to run a self-binder, or with eye enough to build a shapely stack of hay or of wheat, without square or level, may, with the help of square and level, erect many things that will be a source of permanent comfort, convenience and beauty.

There are a few simple principles that must be observed in using concrete properly. The first is that the pores and spaces between the larger pieces of gravel or crushed stone must be entirely closed with sand and cement.

I do not think one may say just what proportions should always be used, because the gravel and the stone vary so much in size. But in figuring count on filling the pores as well with sand as you can, and then use enough cement to make the mixture smooth under the trowel. If enough sand and cement have been added, a creamy coat of cement will constantly be at the surface. With pit-gravel so much sand is often present that a mixture of one part cement to five of gravel makes excellent concrete.

Use Heavy Lumber for the Forms

The gravel, sand and cement should be mixed together dry and shoveled from one cone-shaped pile to another, each shovelful being thrown square on top of the cone so that it rolls down on all sides to secure a thorough mixing. This dry mixture should be shoveled three times before water is added. Water enough should be used to make a thin mortar—not into a dry dough—and then it is ready for the forms.

In making these forms, the amateur will generally be surprised to find how strong they must be made in order to hold. For making wall forms two-inch planks are better than inch boards. If inch boards are used, they must be held by studding every two feet. Studding may be wired together right through the wall and afterward cut and left sticking in the wall. This tie makes a strong yet simple way of bracing. In addition, walls should be braced to keep the walls plumb until the cement has hardened.

As cement dries, it contracts, and on this account it is well to see that it be allowed to do so without obstruction, whenever possible, to prevent its cracking. Furthermore, when building a wall, run a course of forms the full length of the wall and then pour concrete so that it may all unite and pull evenly when contraction takes place.

And further, in every wall fortify the cement with iron rods, preferably rough corrugated rods, as frequently as every two feet vertically, and every foot horizontally.

The forms may come off in from one to five days, varying with the weather. In warm weather concrete hardens more quickly than in cold weather. As soon as the forms are off, water the concrete. It is surprising how much water the cement will "drink" for days, and much of this water combines chemically with the concrete and is a permanent part of it just as in plaster of Paris.

Good Concrete Work Should be Four Inches Thick

Concrete blocks are seldom allowed enough water in the curing process, even though they may have been allowed enough cement and water in the construction; and frequently will crumble or allow storms to beat all the way through them.

Poor concrete is an annoyance, but good concrete is more satisfactory for farm uses than stone itself. Concrete will be found most satisfactory when some bulk and thickness is desired. I should say that four inches is about the minimum thickness that a farmer should undertake in any structure.

We have tried repeatedly to make cement roofs with a thickness of two inches or even three inches, and all attempts have been failures. Part of our failure was doubtless due to the support. For a floor for a cellar or cistern three inches would have served very well.

Big concrete posts for gates or end posts are entirely satisfactory and easy to make. We build them right in place with a big end running four feet into the ground with trenches running to this for braces like the roots of a tree. For the part above ground take two pieces of heavy wood. Cut in the center a hole two inches larger than the size of post desired and nail wooden slats one inch thick on inside. A tapering post can be secured by making the upper circle somewhat smaller than the lower one. The form should be built in half sections so that it can be removed. Wire these half sections together in about four places by encircling them with No. 9 wire. When it has been plumbed and braced in position, put a piece of two-inch pipe down the center and pour the concrete.

The smaller posts we build in iron forms. We fortify with three-eighths-inch wire and partly cure in forms. The big posts are entirely satisfactory, but a small concrete post will break more easily than a wooden post of same dimensions.

Plenty of Chance for Originality

Still we believe that now we have learned to cure them partly in the form (about one week) that they will serve very satisfactorily with one barbed wire at top of fence to keep stock from crowding them too hard.

One of the useful ways of using concrete is in the construction of tanks for watering stock. In the circular trough shown above we used sand for the form. We made the mold for the exterior form by revolving a board shaped like half of a vertical cross-section around a bar in the center. Two boards served as a rigid radius. As we gradually built it up, sand was shoveled into the center to support it. The sand was moistened and packed to make it hold. The concrete silo shown was built at the time with wooden forms and built by our own farm labor with no skilled workmen to assist. A core of two-inch staves was made first. Then we set up studding outside and put in one-half-inch boards bent horizontally for the exterior form. It is a good silo and without a crack, although eight years old.

Unless one desired to use this form for other things when through with it, the modern way of using galvanized iron forms would be more economical. We later used the wood used in the silo form for shed-construction. Exclusive of this wood, the silo, which was sixteen by thirty feet with wall eight inches thick at bottom to four inches on top, cost $250, roof and all.

Concrete in the ground or near the ground is more easily handled than when used on high structures.

So concrete walks or culverts or feeding-platforms are comparatively easy forms of construction with which to learn what your material is like and what can be done with it.

In the construction of more difficult structures there is a good chance for a little headwork, for a little genius if one has any and for much good common sense as to the necessary strength of forms, of practical ways to hold these forms and of necessary strength to be used in fortifying the concrete.

The Satisfaction of Building with Concrete

The concrete engine-house shown above is another example of a satisfactory concrete structure. Barring severe earthquakes or other forces not commonly encountered, the engine-house will last for generations. The nails and hinges of the doors will have to be replaced several times before the concrete shows any signs of wear.

For hitching-posts which will discourage the most impatient horse from gnawing, concrete is the logical material.

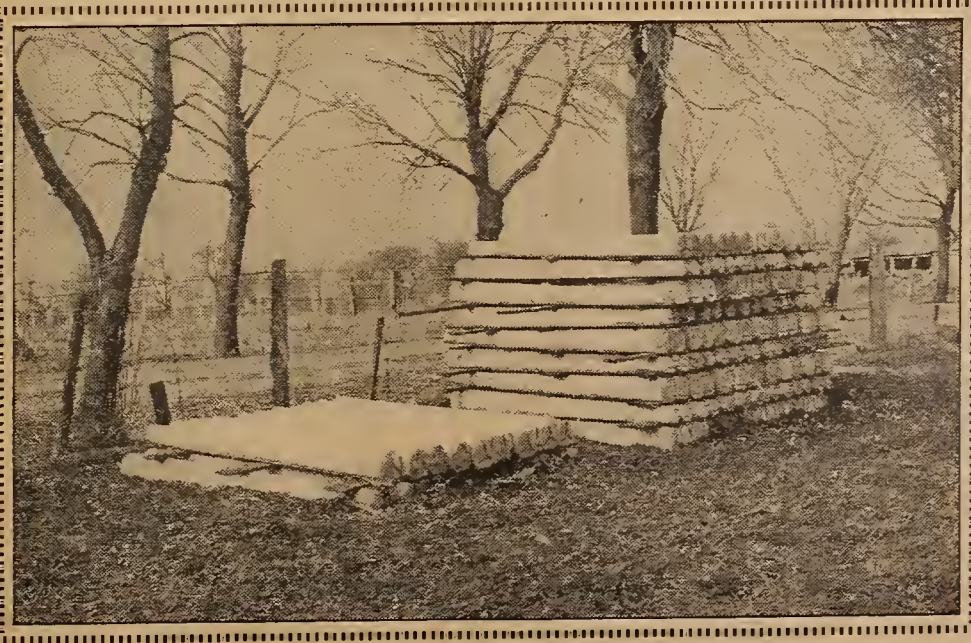
Concrete walks—and they need not be more than two feet wide—are a great convenience as they save hours and hours of house cleaning because of dirt brought into the house in the form of either dust or mud.

The roughness of the exterior of concrete is often criticized especially by architects who are looking for beauty more than permanency. This can be avoided to a large extent by using only the smoothest lumber for the forms and by moving a long handled wooden paddle along the inside of the forms just after the concrete has been poured.

The paddle will crowd back the coarser stones and prevent them from finally showing on the outside of the wall. Other details and contrivances for getting best results will suggest themselves to the thoughtful builder in concrete.

One feels a certain glow of satisfaction when he has faced a problem and satisfactorily solved it, and as each problem will likely be a new one it will be well for a beginner to err for a while on the side of having the concrete unnecessarily thick and strong rather than too thin and weak.

This silo was built with ordinary farm labor



Small concrete posts going through the curing process

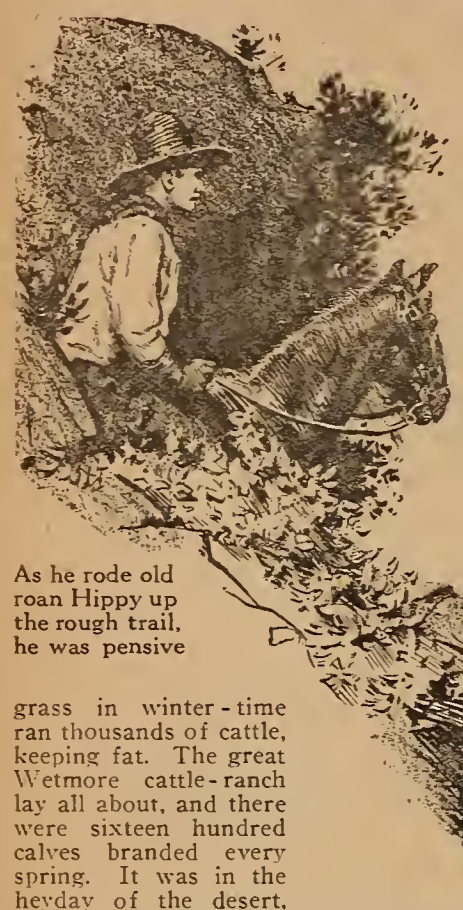
Concrete hitching-post and wagon-shed

Men and Music

A Rollicking Tale of an Incident in the Great Southwest Cow-Country

By Vaquero Viejo

"Every time I go to town
The boys keep kicking my dog aroun'.
I don't care if he is a houn',
They gotta quit kicking my dog aroun'."
(Tune of "Tarra ra ra boom de ay.")



As he rode old roan Hippy up the rough trail, he was pensive

THUS musically chanted Dad MacBall as he rode alone up Soda Wash in the heart of the Book Mountains down in southern Utah. Soda Wash had straight walls that led up and then up again, until after some hundreds of feet they terminated in an abrupt rim, terracing great mesas or tablelands covered with bunch-grass. On that bunch-grass in winter-time ran thousands of cattle, keeping fat. The great Wetmore cattle-ranch lay all about, and there were sixteen hundred calves branded every spring. It was in the heyday of the desert, when the western world was young, the bunch-grass unseared, the cowboys a rollicking, care-free lot and the owner making money from his long-horned cows.

A Warning for a Judge of Human Nature

Dad was a Texan. Well he knew the Brazos Bottoms; he was a good cattle man too, but the youngest of the cowboys of the Wetmore ranch. He was tall, gangling, awkward, soft-spoken, humorous, full of smiles and silences. Naturally he was the butt of a thousand jests and, as men believe after a while what they say often enough, he was considered a little weak, both in head and heart. The one trouble with Dad MacBall was that he was young and good-humored and too easily imposed upon. Now, as he rode old roan Hippy up the rough trail in Soda Wash he was pensive, almost sad, and over and over he crooned the song:

"Every time I go to town
The boys keep kicking my dog aroun'.
I don't care if he is a houn',
They gotta quit kicking my dog aroun'."

There are ninety-nine verses to this good old song, each verse like the preceding one, and in the ten-mile ride I think Dad sang them all, unconsciously. The truth is that Dad was vaguely troubled. He had stood the guff and slighting remarks of the boys for years, it seemed to him, and now that he had suddenly become six feet three in his moccasins he was tired of them, so he sang, with meaning and emphasis that would have given warning to any judge of human nature, "The boys keep kicking my dog aroun'."

A sound of cattle ahead of him made him look, and coming around a point of rock he saw in the bottom of the canyon a camp-fire with horses standing saddled near, and beyond up the narrow box he could see a dense mob of cattle. They were great four and five year old steers, long of horn and leg, beef-steers fit for the market of that day, and were en route to the railway. There were seven hundred of them, and they had halted for the night in Soda Wash, where night herding would be easy, although there was neither feed nor water. Dad had stayed behind to point back some younger cattle and now had rejoined his comrades.

He Said Not a Word

"Hello, here comes old Dad," one sang out. "Dad, how is the widow?" inquired another, referring to a love episode between the Texas boy, to whom every woman was a lady, and a biscuit-shooter at the railway eating-house.

"Why look at him, a riding old Hippy," delightedly exclaimed another. "Say, Dad, how many times did he throw you?"

Dad's only response to these sallies was a slow, sad smile. He unsaddled Hippy and staked him on a little point where there was bunch-grass. As he did this, he hummed, "They gotta quit kicking my dog aroun'."

Tobe Wetmore was foreman, a man of few words. "Dad, you better saddle something fresh and be ready. Holding wild steers in a canyon like this isn't a very safe thing to do, and you want to have your horse handy." A little band of saddle-horses stood within a rope corral made by tying reatas from cedar-tree to cedar-tree. Dad went and looked at the lot. It included the best horses of the ranch, and the ranch was famous for good horses, great gaunt geldings, full of a weird mixture of thoroughbred and broncho and something else that gave size, half of them wicked, all of them devils to run, and most of them apt to buck on provocation. None of Dad's own were there, in fact half the horses in the corral were claimed by none of the vaqueros, and were ridden by anyone who dared.

Rope in hand, Dad scanned the lot of them. He knew their records. Carelessly he hummed the air, "Every time I go to town the boys keep kicking my dog aroun'." "Here, you old Yellow, I'll try you to-night," and he threw his rope easily over one of the biggest, gamiest and wildest horses in the lot. Dad could almost charm a horse, or any beast, by his caressing tones and his manner, and with far less trouble than the other men would have had, he got to the head of his mount and bridled him, ceaselessly humming:

"I don't care if he is a houn',
They gotta quit kicking my dog aroun'."

"Think you can ride him?"

Uproarious exclamations greeted Dad as he led his mount down by the camp-fire where the saddles lay and supper was about ready. "Think you can ride him, Dad?" "Got your life insured, Dad?" "Did you say good-by to the widow, Dad?" These and many more, but Dad said not a word. Only Tobe Wetmore spoke seriously and kindly: "Look to your cinches, boy; be sure your saddle is all right. You have never night-herded cattle in these mountains. It is more dangerous than on the plains. You may need to ride, and ride hard, even for your life."

As they ate supper, one man was stationed, mounted, up the canyon a little way, watching the cattle. A quarter of a mile farther up the canyon was another. There ought to be no trouble, unless something happened, unless a wolf or a bear came along, a most unlikely thing, or unless that strange, unreasoning panic fear came over the cattle and they attempted to stampede.

The Fire in the Canyon

There were but two directions for them to go, up the canyon or down the canyon. The cliff walls were hundreds of feet high and unscalable.

"Do you know what I would do if those cattle stampeded down this way?" said one of the men. "You bet I would never try to turn them nor to outrun them, a hoss would go down on this rough trail and the cattle would sure get you. I would take to that side gulch below here and let the cattle kill themselves if they wanted to. No hoss could outrun those steers." To this the others assented, all but Tobe Wetmore and Dad, who kept silent.

Supper was finished, and Tobe and Dad mounted their horses to take a turn at night herding. Old Yellow pitched and jumped a little as Dad mounted him, then settled down to business, and the two men rode side by side up the gravelly bottom of the wash. The cattle were huddled in a black mass in the shadow of the cliffs. "I don't like this place much," remarked Tobe. "I don't like the way the cattle stand, either. They are bunched too much; they don't bawl, and they don't lie down. Keep a watching them, boy, and if they come for us try to keep in front of them. We can maybe stop them down a few miles where the canyon is wider and hold them. If they get away, there is a month's work lost, and some of them we never would see again."

There was not room to ride back and forth; the canyon was too narrow. So they simply sat on their horses watching the cattle. The shadows were very dark down there, but up a little way the moon shone as brilliantly almost as daylight. It made a weird effect. Then, in the deep shadow in the canyon above them, a spark of light glowed. It grew to a flame. Suddenly there became visible a man on horseback on the other side of the cattle and a man afoot, running about the place, trying to extinguish the fire. The flame shot up suddenly into a great torch, and a cedar-tree, dry with the heat of the midsummer desert, had caught from the neglected camp-fire. "My God, my God," exclaimed Tobe. "Look at those cattle!" The cattle crowded together, their heads held high, a sound of rattling as their horns were clashing together. Tobe leaned low on his horse, "We'd ought to sing," he whispered, but neither he nor Dad could start a tune. "Make some sort of noise, boy," commanded Tobe. Then Dad opened his mouth and sang in a firm though hoarse voice:

"Every time I go to town
The boys keep kicking my dog aroun'.
I don't care if he is a houn'—"

The flame shot up sixty feet high

but it was too late. The flame shot up sixty feet high, there was a sound of thousands of feet in the gravel, a mad bellow of fear, and the cattle were off down the canyon, headed directly for the men. With one wild yell the men gave up, wheeled their horses and fled before them. The men below at the camp-fire had heard the alarm too and were in the saddle before they reached them. Led by Slim Bates, they dashed off to the side and up the narrow gulch that gave sure shelter and safety, letting the cattle go by. Dad and Tobe rode on, straight down the canyon. Old Yellow was in his element. The great gaunt horse leaped the rocks in the trail, leaped the sage-brush and the logs. Tobe on his own good horse followed hard; the cattle thundered perilously close behind, an avalanche of fear-maddened animal life filling the canyon.

A mile was made safely. Then Tobe's horse fell among the rocks, throwing its rider into a clump of greasewood. Dad wheeled and stopped. Tobe scrambled to his feet, but the horse lay where it had fallen, evidently seriously hurt, perhaps with a broken leg. A cedar-tree was near. Without a moment's hesitation Tobe sprang to the tree and climbed, shouting, "Go on, Dad," and Dad went on.

The cattle were close to him now. The sound of them coming on was indescribably terrible. But cattle tire sooner than horses. In another half-mile Yellow was easily leading the herd. They came on still doggedly, frantically, but they were tiring. Then Dad lingered a little to let them come closer and began to call, to shout, to sing. Song, he knew, has a soothing effect on cattle.

The cattle dropped into a trot. Dad took hope, and the song was sung with renewed courage. The cliff walls echoed "gotta quit kicking my dog aroun'." The canyon widened soon. There was a flat of six acres. If only he could stop them there! Old Yellow did miracles, racing from side to side in front of the steers. Dad never hesitated an instant in his wild refrain. The cattle spread, as he had hoped, at the flat. They were hot and winded, they had run hard for nearly four miles. They dropped to a walk. Some of the leaders came to a standstill, and some of the steers began to bawl.

The herd was at rest at last. Yellow was breathing hard, but his muscles were still like coiled steel springs. Back and forth, back and forth, rode Dad MacBall from canyon side to canyon side. The cliffs echoed with his rich manly voice, and now, to his joy, he heard coming down the canyon another rider, singing as he came, for all of the boys knew better than to come unawares upon a herd of cattle in the night.

The Judgment of His Comrades

The next day was a scorcher. The cattle were gotten safely over the divide and were trailing easily toward the shipping pens. Dad, who had slept no more than an hour during the eventful night, was dozing in his saddle. "Hello, Dad, dreamin' about the widow?" mocked one of the boys. It was Slim Bates himself who turned to the tormentor, who in truth spoke only out of long habit. "Say, your face looks so much better shut. It needs somebody who is a man to talk so, a sure-enough man; you keep still." The guff stopped abruptly, while Dad smiled shyly to himself and said not a word.

Then Tobe's horse fell, throwing him

Farm Notes

Mulch Your Evergreens

By V. D. Hill

THERE is nothing delicate about any of the common evergreens as they come from the nurseries ready for planting in windbreaks, shelter-belts, hedges and timber blocks. If they get reasonable care, such as you would give an apple-tree, in the unpacking, storing and planting, they are pretty certain to live and thrive from the beginning.

But, in spite of this natural toughness, every once in a while we hear of some fellow who says that he would like to have a windbreak or a shelter-belt, but that it is out of the question because evergreens are so hard to start. Probably he is honest in his idea, but that does not change the fact that he is mistaken. A little investigation of the habits of evergreens will show wherein the trouble lies.

The very name "evergreen" suggests moisture. It is only at the moist places on the earth that green things grow. Such evergreen trees as we plant in the northern half of the United States do not require an excessive amount of moisture, nor special cultivation, but the little attention they do require should be given to them without fail. The baby trees, like all babies, are especially touchy about this, and soon will curl up and die if their regular ration is not forthcoming about the proper times.

Moisture is Indispensable

The fact that moisture is the one indispensable need of evergreens is proven by spruces and pines and junipers that grow in soil so coarse and full of rocks that half the roots are exposed to the air, or are only half covered with earth, but with a few roots reaching damp earth. A year or two ago the writer saw an illustration of this on a farm. About five hundred eighteen-inch transplanted white pines and Norway spruces had been bought to plant a combined windbreak and snowbreak. The shipment arrived early, but planting was interfered with by the press of spring work. Finally, one rainy afternoon all hands turned out, the soil was worked up in a jiffy with a plow and cutaway, and three fourths of the trees had been planted by quitting-time. Next morning other work took the men away, and the remaining trees were simply dumped into a near-by ditch containing about two inches of water and some soft mud. The trees that were planted really were put in carefully, with plenty of fine dirt well packed about the roots, but there was no further attempt to keep this fine and loose on top, nor to mulch. In about three months two thirds of the planted trees were dead, while, surprising to the owner, almost every one of the trees in the ditch was living and growing.

In this case the trees in the ditch had a few roots in the water and mud all the time. The roots exposed to the air died and dried, of course, but all the nourishment required to start the trees was got from the few roots underneath. The trees that were planted had moist soil to start with, but the sun came out hot, and there was no more rain for several weeks. The newly worked soil, tramped and packed hard right over the roots, quickly dried on the surface, and baked into a crust.

This is an old story to a good farmer, who knows that any cultivated crop will be stunted hundreds of pounds on each acre for every day he allows hot sun and dry winds to touch a hard, baked crust. In the case of corn, to which we can compare evergreens in their first year, the remedy is to break up this crust with cultivators as often as it forms. If the evergreen-planting is not too big, this is a practicable method with the trees, but most planters are looking for some way that calls for less work and less careful watching. They want to put their windbreak in place and then have as little as possible to do with it ever afterward.

A Manure Mulch is Damaging

If the men mentioned above had raked loose and fine an inch of soil for a couple of feet on each side of the trees they planted, and then had covered the surface with hay, sawdust, leaves, straw, weeds or "any old thing," the dampness of the little rain they had that day would have remained all summer. An old sawdust-pile or old hay-stack is wet a foot or so down, no matter how dry the surface gets. The depth of mulch to apply will vary with the material used and the amount of summer rainfall you have. Ordinarily six inches is about right.

Do not use manure for mulching. You will damage your evergreens if you do. They do not ask for much plant-food, merely for an opportunity to send their roots down and about in soil that is moist and not packed too hard. The only thing that will take the place of the mulch is cultivation after every rain. If you make use of this plan, keep a dry layer of dirt, even dust, at least two inches deep all around under the trees and a foot or two more, all summer up till August. When you plant, it is well, however, to remember how busy you will be later on and prepare the evergreens to shift for themselves. Whether your planting is a stretch of screen only ten feet long or a shelter-belt extending a mile, have the mulching material right there ready to put on as soon as the trees are planted. Do not allow the soil to dry out at all. If the ground is very dry, it is best to water the little trees; if you do this, put the mulch on first to hold the water.

Guard the Windbreak Against Fire

As the trees get older, they will shade the surface more and more and also will cover it with needles and foliage. The shade and the needles are the natural mulch. However, as most breaks are only two or three rows wide, the conditions of shade and litter of this kind are not nearly so good as in a thick natural forest, and you had better apply more hay or sawdust every two or three years, under the trees. Pine-needles or forest-leaves make the very best mulch and should be used if you can get them easily. Be careful about fire. While the trees are small, the burning of the mulch would kill them surely. Make it a rule about your place that the windbreak is to be watched and guarded against fire as carefully as the haymows.

An efficient windbreak of Norway spruce

Increasing Bees

By N. F. Gute

THE subject of increasing bees will be given much thought by the bee-keeper the coming season, and well it might, as the honey-producing industry has grown to be very profitable. In less than five years honey has advanced in Michigan cities near which I live from twelve and one-half cents to twenty cents wholesale. The same increase is found in most sections. The coming season will be an excellent one. All clovers and most honey-producing plants are in better condition than for years and a large honey crop is predicted.

Order Your Supplies Early

Here is a simple method of increasing bees which results in a good increase of colonies and honey crop. It is given at this time that preparations may be made. Your hives, supers and supplies should be ordered early so that time will be available for putting up and painting them. The early orders receive a discount, and if wrong goods are sent or shipments delayed, the honey crop will not be lost as has been the case at times when goods are not ordered until needed.

Keep your bees as warm as possible after removing winter packing or removing from cellar. Build them up as strong as possible by feeding a half to a full pint of warm sugar syrup each day.

When colonies are nearly full enough to swarm naturally and you wish to divide

Spring examination to determine conditions of brood-chamber

them so as to make two from one, go to the colony you wish to divide, lift it from its stand, and put in its place a hive containing frames of comb foundation, the same as you would put the swarm in, providing it had just swarmed.

Now remove the center comb from your empty hive, and put in its place a frame of brood either from the hive you wish to divide or some other colony that can spare one, and be sure you find the queen and put her on this frame of brood in the new hive; also look it over and see that it contains no eggs or larvæ in any queen-cells. If it does, destroy them.

Now put a queen-excluding honey-board on top of this new hive that contains the queen and frame of brood with their empty combs, then set your full queenless colony on top of the excluder; put in the empty comb, close the upper hive except entrance they have through the excluder into the hive.

Examine the Combs After Five Days

Leave them five days, at the end of which time look combs over carefully, destroying any larvæ you may find in queen cells unless they are a good strain of bees that you care to breed from; for they frequently start the rearing of queens above the excluder soon after their queen has been put below the excluder.

If so, you had better separate them at once, but if they have not started any queen-cells above leave them together ten days, during which time the queen will get a fine lot of brood started in the lower hive, and every egg and particle of larvæ that was in the old hive on top will have matured, so that it will be capped over and saved; now separate them, putting the old hive on a new stand. It will be full of young bees mostly and capped brood, which in about twenty-four hours will accept a ripe queen-cell, a virgin or laying queen, as they will realize that they are hopelessly queenless. I would advise the giving of a laying queen if possible.

With this method you have two strong colonies from one, as you have not lost a particle of brood, nor checked the laying of your queen, prevented swarming and made possible the producing of a large amount of surplus honey.

Barbless-Wire Fences and Dehorned Cows

By Charles Cristodoro

A DOCTOR holds a post-mortem on a badly infected subject. His knife or scalpel slips, and he cuts a finger. Blood-poison and death ensue. A tuberculous cow is stung by an insect. She goes to the barbed-wire fence and scratches the itching spot, breaks the skin and leaves infected blood on the barbs, which dries, but the germs remain dormant waiting for, perhaps, a healthy cow to come along; and she does, and scratches, and automatically inoculates her blood with the tuberculosis germ.

This isn't theory. Any surgeon or bacteriologist will O. K. all the above as to germ-transference.

A cow "hooks" another, draws blood with the tip of her horn, which, when smeared with dried infected blood, is just as deadly as the sharp barbed wire.

A new dairyman has come to San Diego, California, with 250 Jersey cows, registered. The first thing he did preparatory to the arrival of the cows was to tear down every foot of barbed-wire fence and replace it with smooth-wire fencing. No keeper of valuable horses permits a foot of barbed wire on his ranch.

Profits in Marten-Trapping

By Thos. L. Elliott

I HAVE been asked about the profits in marten-trapping up here in British Columbia. Last winter I caught thirty-eight martens, as well as some other furs, receiving as high as twenty-five dollars each for several of the skins, the whole bunch bringing over six hundred dollars.

On my last trip I was out exactly fifty-six days and made a poor catch, for I caught only twelve martens, one fisher, two muskrats, one mink, one black bear and twenty-four ermine, which gives me but little better than two hundred dollars for fifty-six days' work.

I am holding down a preëmption on one hundred and sixty acres of agricultural land at the same time I am doing my trapping. In the summer I work on my preëmption, the balance of the year I trap.

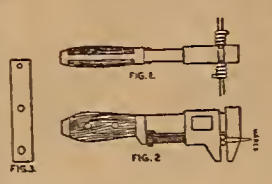
February and March being the two best months for marten-trapping, I am going to hustle and expect to get four hundred dollars for these two months' marten-trapping.

If you have come into possession of a farm that is all run down, be the man to run it up again. Ten times as much fun in it and lots more money in the long run.

The Headwork Shop

Its Motto: To Lighten Labor is to Lengthen Life

For the Fence-Builder



THOSE who do not own connecting-pliers can use a monkey-wrench to good advantage in splicing. Place the wires in the wrench as shown in Fig. 2, and then with ordinary pliers the wires may be spliced as shown in Fig. 1.

Fig. 3 shows a home-made twister. It can be made of any piece of iron of suitable length, five or six inches long, an inch wide and one-fourth inch thick, with holes bored through. Slipped on the wire, it makes as good a twister as you can buy. Holes of different sizes are very handy.

E. J. WARLIN.

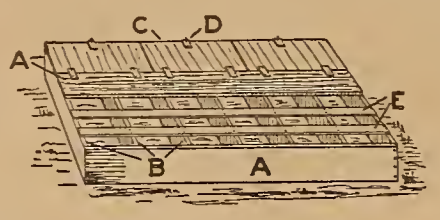
Water-Proof Garden Marker

TAKE a piece of stiff paper, and print or write on it plainly the name of the seed to be sown. Roll the paper up slightly with the name on the outside, and put it into a small bottle such as a pill-bottle. Whittle a stick to fit the mouth of the bottle as illustrated. This marker is not injured by wind or rain. If it becomes splashed with mud, the bottle can be wiped with a damp cloth when the name will be as clear as ever.

HARVEY CHASE.

Home-Made Hatching Quarters

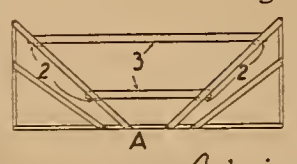
THE sketch shows a hatcher which is easily made and very convenient when one has no house separate from other fowls in which to set hens. Twelve-inch boards (A) nine feet long are used for front and back. The boards (B) for sides and divisions are five feet long and eighteen inches apart, making plenty of room for nest and run. Pieces of boards are fitted in divisions, forming nests all on one side. One twelve-inch board (A)



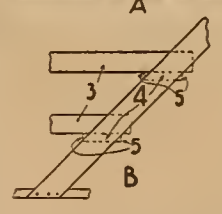
should be nailed over top just in front of these to darken nests and exclude rain. Boards (C) covering one or two nests can be hinged to this and kept shut by a weight or leather strap (D) buttoned over a nail. The runs have lath or boards (E) nailed over them, through which the hens can be fed and watered. Boards can be nailed under nests to form bottom, but a bottom is not necessary, unless rats are troublesome. The hatcher rests on ground and can be moved when desired.

MRS. ALICE WILSON.

Labor-Saving Box Rack



THE illustration (A) shows the side view of a hay or straw rack with built-up corners. The wide horizontal boards are fence-boards which are removable. The manner in which they are held in place is the principal success of this kind of rack, which one man can fully load from the ground with hay or straw.

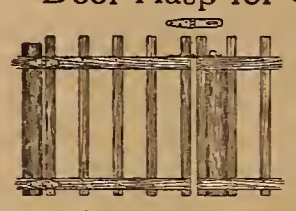


To provide a support for the fence-boards, first nail short pieces of one-by-four to each of the upper corner braces (2 2) of the rack. One should be about two and a half and the other about four feet above the floor of a rack having five-foot corners. Now nail another one-by-four on these blocks from the upper to the lower block to form a slot. When the four braces, two on each side, have been fixed in this way, two fence-boards (3) just long enough to reach over the blocks may be inserted in the slot. With this device the boards may be instantly removed. If the hay or straw is very fine, the device may be made for three or four boards on a side. One man may easily load a rack made this way by removing all the boards on the near side and keeping his load a little the highest on the far side. As the load piles on the near side, a board may be put in place, and so on till done. When unloading, as you get down to a board, it may be taken out. This saves pitching most of the load over the high sides.

B is an enlarged diagram of a corner; 3 represents the fence-boards, 4 the piece nailed over the blocks and 5 the corners of the blocks which may be sawed off as shown by 2 in sketch A.

H. A. ROBINSON.

Door-Hasp for Gate-Latch



I FIND the following to be a very handy gate-latch: Take a common door-hasp, and attach to top of gate as shown. The frost can raise and lower the post some and the latch still works. Another advantage of this kind of a latch is that the gate can be locked with an ordinary padlock.

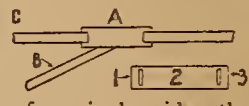
SMITH PERSHING.

Hog-Loading Discovery

ONE of the best labor-saving devices that I have used is a bushel basket over the head of a hog when loading. Place the basket over the hog's head and back him into the chute. The hog will continue to back, and is very quickly and easily loaded.

FRANK D. HICKOK.

Everlasting Line-Buckle Guard

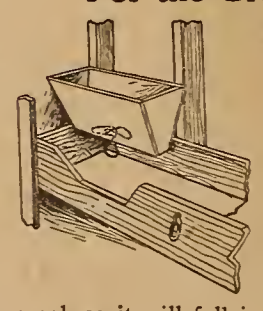


THIS guard is made of an oblong piece of medium-stiff leather about two thirds of an inch wider than the line and a little more than twice the length of the buckle. About half an inch from each end cut a hole just a little larger than the line in width and thickness. It is now ready to attach. To do this, take the line out of the buckle, hold the guard lengthwise over the buckle with the ends 1 and 3 hanging down.

Take the end of the line (C), and start it in the hole at 1 as shown in A, draw the line through the buckle under 2 and out at 3. B is the other line. If you have done as directed, the buckle will be completely covered and cannot catch in any kind of flynet.

H. A. ROBINSON.

For the Greedy Horse



HERE is a feed-box for a horse that eats too greedily. Nail a box on the wall, have the sides sloping so they come nearly together at the bottom, and put a crooked wire in the crack at bottom for the horse to wiggle, to work feed out of crack so it will fall into the box below. He cannot eat too fast this way.

JESSE RAHN.

For the Stubborn Staple

THIS handy staple-puller will pull the closest staple from the hardest post. Simply select a piece of wrought iron about one inch in width to a quarter of an inch in thickness and about a foot long. Taper one side of the iron to a point, and you have the best staple-puller that was ever known.

JOHN M. NEWTON.

Headwork Winner—February Fifteenth

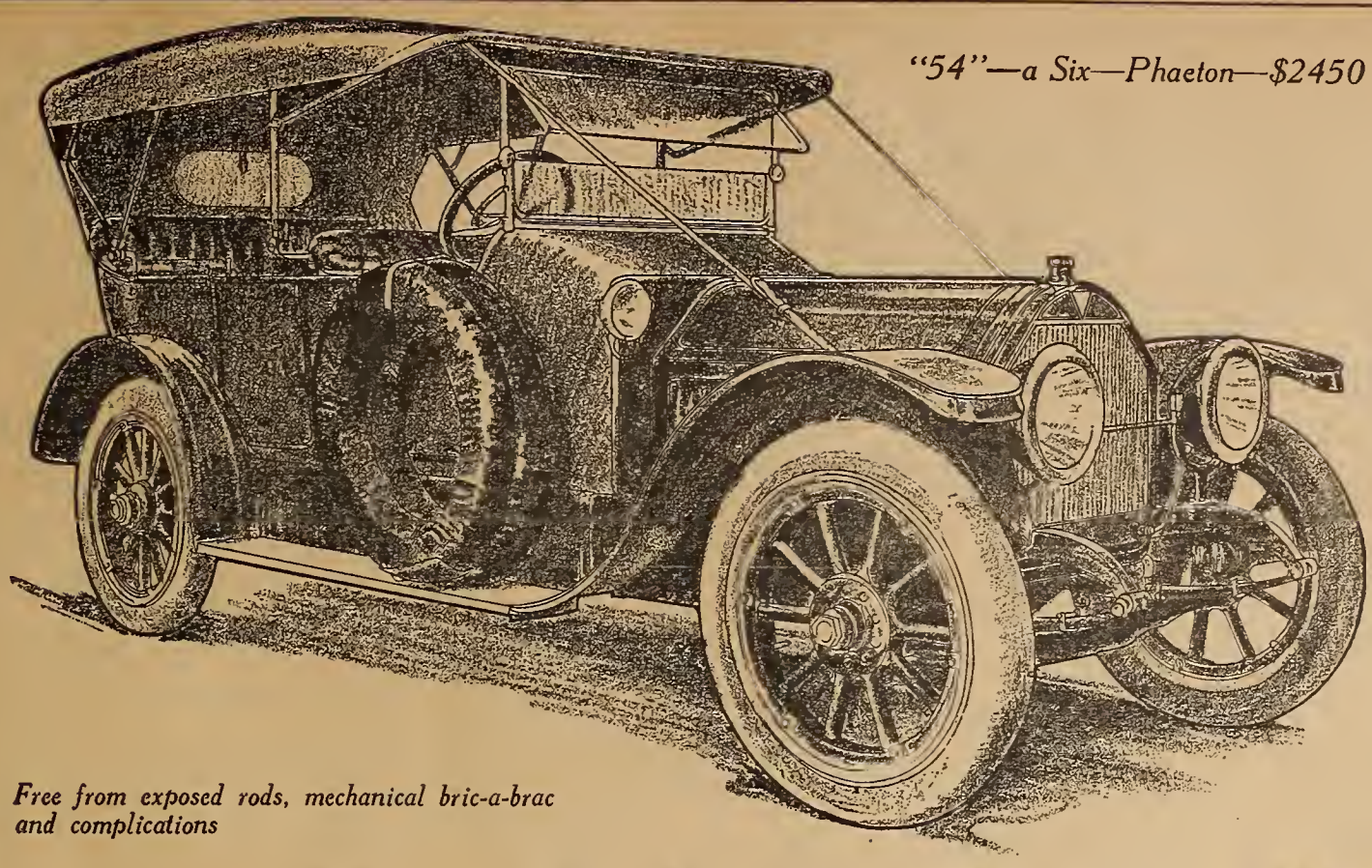
The first-prize contribution in the Headwork Shop in the February 15th issue was "Better Than Stake or Trellis," by G. W. Starrett.

FEW FARM AND FIRESIDE readers need an introduction to the Headwork Shop. Its success in interesting its readers can easily be attributed to the ingenuity of the American farmer.

In order to make it better and brighter than ever we invite you to tell in a few words about your newest home-made contrivance for lightening labor. Make a clear pencil sketch to illustrate it, and send it to Editor, Headwork Shop, FARM AND FIRESIDE. No hackneyed ideas can be used.

Only new and original ideas are solicited, and as further encouragement we offer a prize of $3 for the best contribution used in each issue, and $1 each for all others of Headwork Shop caliber. The right is reserved to use contributions in any department of FARM AND FIRESIDE, paying for same at the usual department rates. No manuscript will be returned unless accompanied by stamped and self-addressed envelope.

THE EDITOR.



"54"—a Six—Phaeton—$2450

Free from exposed rods, mechanical bric-a-brac and complications

These Only Are The Cars You Should Buy

While there are approximately 250 different makes of automobiles on the American market, it is not so difficult to choose a car that will prove satisfactory. Your neighbors tell you of their experiences. The dealers speak in highest terms of the cars they sell. You are appealed to from practically every angle to consider the advisability of this car and that car.

In all this there is apt to be much confusion as to what car can really be trusted unless you bear in mind easily understood conditions that often result in selecting the very car you should not have bought.

If you will bear these facts in mind in weighing the guarantee of each car it will save you much worry.

These Are the Cars You Should Not Buy

Cars offered at a cut price should never be purchased. Just think what effect a cut price has upon the second-hand value of the car when you want to sell it. In reality the apparent price reduction means no more, so far as actual value is concerned, than does the offer of a quoted $25 suit of clothes at $14. The suit never was worth $25, it is out of date or the dealer is losing money.

Now the most important thing any motor buyer should consider is that the dealer makes money.

If the dealer is so poor as a business man that he will sell cars at no profit, he is an unsafe man with whom to trade.

Every time a dealer fails he does inestimable injury to the manufacturer in shaking the confidence of the people of the community in the car and also depreciates the market value of your car.

The service you should have received is made impossible and when you come to sell the car you find it difficult to realize full value.

Be sure the manufacturer is prosperous. Be sure he has had years of successful experience. New companies may have a well designed car, sufficient capital and the intention to give generous values, but are unable to always produce just what they intend because a smoothly working organization of men cannot be quickly perfected.

Really there are so few fundamentals needed to be understood that the most inexperienced buyer cannot go far wrong in the selection of a car.

A Car You Can Trust

Howard E. Coffin, America's foremost engineer, and his board of engineers —48 in all—combined in building the new HUDSONS.

The "37," the four-cylinder car is a masterpiece of its type. The "54," a Six, is offered as the equal of any motor car ever built at any price.

Road performance, comfort of riding, deep, luxurious seats, small maintenance cost, long service without attention further than lubricating and cleaning are distinctive qualites.

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Ask anyone about the HUDSON. Its records will always assure you of the value of the car. Don't expect to buy it at a discount. You must pay just what your neighbor pays—no more, no less.

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We have no stockholders who are not also directly engaged in operating this Company. They give all their time to it. Their one ambition is HUDSON supremacy. With so much at stake you are guaranteed that the HUDSON is a safe car for you to buy.

Send for catalog of either the "37" which sells at $1875, or the "54" the Six, at $2450, the prices are f. o. b. Detroit. Or go to a HUDSON dealer and he will prove their value in a hundred different ways.

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Important Notice

All the leading makers find this year, as in the past, that they have more orders than they have cars.

Therefore whatever car you choose should be ordered now. Otherwise you will not be able to get any of the makes it would be safe for you to buy.

See the Triangle on the Radiator

Hudson Motor Car Company

7598 Jefferson Ave., Detroit, Mich.

The Market Outlook

A Large 1913 Hog Crop Expected

By L. K. Brown, South Dakota

THE large packers gave up their idea of seven-cent hogs when the dwindling supply during January gradually worked the market upward against their effort to the contrary, and when the market failed to decline on the heavier receipts in early February. The market has been on a firm, healthy basis most of the winter, but it has been of a hand-to-mouth nature. Fresh-meat demand has been large because of the excessive price of beef and mutton, and has taken a larger share of the pork than usual.

Nearly everything that could be used as retail cuts has been merchandised in this way. The packers seem averse to put much into the lard-tanks, consequently their increase for the month of January has been but 8,000 tierces, as against 64,000 tierces during January a year ago.

The Government Live-Stock Census

They are of the opinion that there will be a heavy marketing of fat sows in midsummer and that current supply at that time will take care of the demand. This makes them indifferent buyers at present, as they cannot see a good profit in putting in meat now to be sold six months hence.

While current supply and demand are the primary factors in determining prices, the market during the past few weeks has not responded as would be expected.

The Government live-stock census published on January 29th may be partly responsible. It shows a decrease in the number of hogs of but 6.5 per cent. from the number one year ago. Three private reports show a decrease of double this, and general opinion nearly agreed with these figures prior to the publication of the Government census.

Government Figures Not Necessarily Correct

These figures will aid the packers in their endeavor to hold the advances, and should they be correct the supply on the spring market will be larger than that heretofore expected. However, the Government report in 1910 showed a decrease of ten per cent., while the actual receipts showed later a decrease of twenty-four per cent., so the difference this year may prove later to be around fifteen per cent.

The current supply is of excellent quality, showing but a small portion of unfinished hogs. But few sows are in the offerings, showing that breeding operations this spring will be heavy. The heavy hog has lost his top place and the two-hundred-pound hog commands the highest price.

Small Supply of Cured Meat on Hand

Provision prices advanced with live-hog values and touched the highest mark of the season. It does not look as if they would decline, for European demand, which has been slack till lately, has turned, and the supply in packers' cellars of fully cured meats is the smallest in years. There is nothing in the market conditions to discourage the farmer.

Mutton and the Tariff

By John P. Ross, Illinois

REPORTS from most of the Western States, now that it is possible to get reliable estimates, are to the effect that sheep and lambs on feed are anywhere between twenty-five and fifty per cent. less in number than at this period last year. Colorado is the only State which appears to be feeding its full quota, and is already shipping considerable numbers of exceptionally good quality and finish to Chicago. Most of the sheep-feeding Eastern States are in even a worse condition in this repect.

Beef is Preferred to Mutton at the Same Price

Though the excessively high prices of the early part of January were not long maintained, the market soon assumed a firmer and healthier tone, which still continues. If it were possible to recognize any law in so uncertain a matter as the price of any food commodity, I would say that the danger-line of a fall in the values of lambs and sheep is reached whenever their market price exceeds that of cattle, for it is certain that, as long as American people can buy beef as cheaply as mutton, beef will have the call.

A month ago attention was called in these columns to the question of what effect any change in the tariff that is at all likely to be made will have on sheep interests, and reasons were given for the belief that the conditions of supply and demand have changed so greatly of late as to materially lessen the chances of injury by any rash changes that Congress may make.

Congressmen Do Not Care to Antagonize the Sheepmen

It is to be regretted that some of the live-stock journals are taking pessimistic views as to what is likely to be done in the matter, thereby creating an uncalled-for state of alarm. They appear to forget that members of the legislative body are not especially desirous of antagonizing a large and powerful class of their constituents just now.

When, during the Cleveland administration, the tariff blow was struck that drove so many sheepmen out of the business, sheep were raised largely for their wool alone, and their flesh, as compared with that of cattle and hogs, was regarded as but of little value. To-day, taking the cost of its production into account, mutton stands equal, if not superior, to either of them; and, as regards wool, the wonderful growth of our population and its determination not only to be well fed but also to be well clothed makes any violent fall in its value improbable.

The only danger to be feared is that a reasonless panic may cause a sudden rush of half-finished stuff which would demoralize the market, still further deplete our already too low stock of sheep and drive that great mass of people to have their stomachs filled and their backs clothed by foreigners who have already bitten deeply into our export trade. As long as our farmers do their duty to themselves and to their country in the line of animal production, they need not fear too greatly what ill-considered tariff tinkerings can do to injure them.

Don't Keep Sheep if You Dislike Them

As spring approaches I feel an enthusiasm for sheep culture arising within me which I wish I could share with every American farmer who has no sheep. A dozen good-grade ewes of one of the Down breeds—two-year-old Shropshires for choice—bought in the spring and run on the pastures, with a little help, if poor, from forage crops and a few oats, and mated with a thoroughbred ram of their own breed late in June or early in July, should produce eighteen lambs, the males to be ready for the high prices of early spring, and the females to form a nucleus of a permanent flock. That will be sufficient to give a good lot of experience on an investment of about $100, and to pay a very satisfactory profit.

One thing only should keep a man from trying this, and that is a rooted dislike for sheep. That is a hard matter to overcome, and it is usually fatal to success, for sheep are sympathetic creatures and seem quickly to find out if their caretaker has no taste for them.

Unsafe to Buy High-Priced Stockers

By W. S. A. Smith, Iowa

THE country evidently wants stock cattle, price no object at present. The great thing now is to get the cattle and let the future take care of itself.

Allowing that there is a shortage of cattle, there is also in many cases a shortage of common sense. Buying these high-priced stockers now and turning them out on stacks, or just waiting to put them on grass in the summer, may come out all right, but it is not safe business.

This is a big country, and we are all talking shortage of cattle, but if the grass is short this summer there will be plenty of cattle on the market. When hogs a few years ago went to eleven cents, none of us could tell where they would go to, but we found out very quickly when we woke up one morning and found they had dropped to five cents.

The Present Condition Cannot Last

When a thin nine-hundred-pound stock steer sells within fifty cents per hundredweight of a three months' fed steer, we have a condition that cannot last. Either the stock steer is too high, or the beef steer too low. I wish I knew which of the two will change in the next four months. One thing we do know, and that is that feeders costing $7.50 must, on a four months' feed, sell for nine cents to pay out, especially if we have cold March weather, when so much of the food consumed goes for animal heat.

It is needless to say that when four months' fed steers sell for nine cents, beef will be higher than ever.

Less Risk in Cows Than in Steers

The packers are even now looking for the cheaper beef. What is the cheaper beef? Steers in little better than stocker condition, or cow stuff? There is far less risk in buying cows for feeding than buying steers at present prices.

Is it scarcity of cattle only that is causing the high prices on stockers? I think not. It is rather the demand from men who are not in the habit of handling cattle. I personally know of many such cases not satisfied with thirty-six-cent corn. They are buying cattle. It will not take much of a flurry to dump these cattle on the market again.

Play a Safe Game

Sheep have paid well this winter. If you stop to think back a minute, you will realize that something generally pays well every year. For that reason farmers handling live stock will find it to their advantage, instead of running to all cattle or sheep or hogs, to

One of W. S. A. Smith's farms near Sioux City, Iowa

split their risks and keep some of each. You may not make a killing, but you will be playing the game safe.

Keep Your Business Appointments

By Clifford E. Davis

I MET an angry man to-day. He said: "Here I've gone and killed a fine fat beef. Jones and Robinson each engaged a quarter, and neither came after it. Warm weather has set in, and the meat won't keep, and I don't know what to do. If I go to town and engage it, they may come and get it while I'm gone, and if I don't, it will spoil. That's several times I've been hung up this way."

For Example

This is merely a sample of the unbusiness-like methods of many, too many, farmers. They engage a thing in the heat of talking, or examining some crop or specialty, and then in cooler moments regret their haste, and never notify the unlucky owner of their change of mind, so that he refuses good offers, or chances, and is involved in loss and vexation.

They say to a storekeeper, "Well, I'll be in on Thursday and bring you ten bushels of that kind" (vegetable or fruit), and on Thursday go to hauling wood or husking corn, and don't go until Saturday. Meanwhile the merchant has sold part of the expected load and has to make good from outside stock picked up as he can.

Again they will meet a creditor and say, "Well, I'll be in next week and pay that bill right up. You can depend upon me." And the creditor does to his sorrow and is lucky if he gets his money in a month.

Keep Your Word

The moral of it all is this: When you promise a man to be at a certain place at a stated hour, be there. No matter who comes, or what presses, be right there; and when you are there talk business. Attend to business, and then go home.

When you promise a man to pay a certain bill at a certain time, scratch gravel to pay it, and if you cannot, go and tell the man plainly why you cannot do so.

If you engage any article, if only one chicken, deliver it on time, if you have to carry it.

Thus you get the reputation of being a man of your word. The industrial world moves on the efforts of the dependahle men.

I know of one case where over fifteen dollars' worth of important business was delayed a week by the failure of a man to pay a bill for three dollars promptly.

Of course the phrase "weather permitting" is an excusing clause; but even then provision should be made so that weather would not delay delivery. The use of the telephone saves time and loss.

How the Parcel Post is Working Out

By Frederick F. Ingram

OUR experience with the new parcel post, short as it is, gives us an opportunity to take account of stock. In spite of the unpreparedness of the Post-Office Department, it has already demonstrated great possibilities in the way of making possible the interchange of urhan and farming products, and after all that is the only motive for their production. Its tendency in the city field is to loosen the hold of monopoly, and in the country to make the farmer more indepcndent, hecause so far as the service extends, if he is enterprising, he can find a direct market in the city for his butter, eggs, and such products.

The regulations issued by the Department, if construed literally, would restrict the service in a manner prohably not expected by Congress when the hill passed.

Sending Liquids by Parcel Post

In the bill is the statement that the service is intended for "all farm and factory products," excluding, of course, merchandise that from its nature cannot he so transported and merchandise the transportation of which is prohibited by the Government. The discussion in Congress and before the committee clearly establishes the fact that the service it inaugurated would include all merchandise now shipped by express. In formulating the regulations, however, the Department has in Section 22 placed such restrictions upon admissihle liquids that only liquids in small round bottles in turned wood cases or a similar case are mailable. This is the package the manufacturers use for mailing samples of liquids, and finished liquid preparations necessarily cannot he mailed in that manner, therefore, if the rule was literally construed. A finished package such as the consumer buys would he unmailable, for the consumer identifies the package by its label and carton or other dress as a finished package. This section is so contrary to the spirit of the law that the Post-Office Department up to date has not enforced it, and there is little or no complaint. No douht the committee of six appointed by Congress to consider these rules will modify them so that the obvious intent of the law can he carried out.

Special Containers for Butter and Lard

Section 34 permits the farmer to ship via parcel post "butter, lard and perishable articles" for local delivery either at "the office of mailing or on any rural route starting therefrom." Paragraph 3 of this section, however, prohihits the shipment of such farm products beyond the above designation unless they are "packed in accordance with Section 22." This rule, if followed, would exclude all such shipments, for Section 22, as I have just shown, is for small round bottles packed in little sample mailing cases.

The farmer should he ahle to send his butter and eggs freely via parcel post to the near-hy city. Economically he can do so from the first and second zone, and there are few, if any, farms so located but what they could reach a large city usually with the first-zone rate, and in any event with the second-zone rate. The regulations should be amended so that these goods and all goods that have moved for ages through the express service and are now so moving should be admitted under the same conditions to the parcel-post service.

Sacks and Hampers

The present difficulties now hampering the parcel-post service in its effort to give free entry to farmers' products will disappear when the Post-Office Department adopts the common every-day methods now employed in transportation of light-weight parcels. The Post-Office Department requires mail to move in sacks, separate packages are prohibited and no container provided hut sacks. It is plain the express companies could not do business if their transportation was limited to sacks, which are intended only for papers, magazines, books and similar unbreakable merchandise. The Department, no douht, will see the necessity of using hampers such as are employed in the German parcel-post service. These nest so they travel empty as economically as do sacks. When used, hutter, eggs, liquids and fragile merchandise are simply placed in hampers, which are transferred from car to wagon and to post-office speedily and safely. Without such extension of the equipment of the Department the usefulness of the post-office cannot develop. Mail-sacks are not only handled by being thrown, but they are filled by the packages being dropped into their mouths held in iron frames, and in the country districts are caught by trains running at full speed and thrown from trains running at full speed.

Repair Parts for Machinery

One of the very important results that may he expected from the parcel post is the great advantage the farmer will have in securing repairs and parts for his machinery. The rural carrier will take it to his door while the cost of repairs mailed from distant places will not be prohibitive, as they are under present conditions. This will enable the farmer to have competition in purchasing his machinery, for with the parcel post he is not dependent on the local agency for repairs and parts. The parcel post will give the small manufacturer a chance and will discourage monopoly.

One Georgia farmer is claimed to have originated a strictly seedless watermelon.

No Room for the Middleman

A unique suggestion for a poultryman's trade-mark on eggs sent direct to the consumer by parcel post

Poultry-Raising

Poultry Records That are Easily Kept

By Claude Chamberlin

I HAVE always believed that the farmer should be as good a business man as the man engaged in trade in the city. He should know whether he is making a suitable profit from his land and stock investment, should be able to distinguish the profitable crops from the unprofitable, and in general keep an account of his business nearly, if not quite, on a par with the merchant.

Some years ago I adapted a simplified form of bookkeeping to the work of my farm and have always taken the small amount of time needed to write out the necessary entries. When I began to specialize in the poultry business, making egg production my object, I devised a system by which I could keep a more careful and complete account of the business than was possible merely as one item in the work of the farm. After various changes, I have at last settled upon a system which is simple, yet furnishes me all the information I wish to know.

There are Two Main Divisions

These accounts are kept under two separate headings. One is the general list of expenses and receipts, of debits and credits. The other is a special egg-production record. The accompanying diagrams will illustrate.

INVENTORY OF POULTRY BUSINESS, JANUARY 1, 1913 TABLE 1

Five houses, about 18 by 26 feet	$375 00
One 150-egg incubator	20 00
Three brooders	21 00
One storage-room	50 00
Miscellaneous equipment	10 00
240 hens, various breeds	100 00
70 pullets, various breeds	35 00
10 cock birds	6 50
6 young cockerels	4 50
45 bushels shelled corn	36 00
9 bushels oats	6 30
14 bushels wheat-screenings	5 60
Total	$669 90

When beginning the business—that is, opening the first account—I made an inventory of all property on hand used directly in the poultry business. This included, first, the value of the fowls on hand rated at a fair price such as they would bring under ordinary circumstances. Then I listed my buildings, being careful not to place the value too high. I added also the value of all incubators, bone machines or other similar machinery used strictly in this business. I also listed the feed on hand used exclusively for poultry-feeding. It is best, in order to keep an accurate account, to measure out a certain amount of grain from the regular farm supply, crediting the value to your farm accounts, and placing it on the debit side of the poultry account. Debits include anything used in the business which is worth money or costs money to procure. Your own work is a debit item. Anything which makes the business less profitable through increased expense in money, labor or other commodity is a debit item. Having made the inventory of what is on hand when you open the account, enter it as shown in Table 1.

Table 2 shows how to keep a record of the business transacted.

In the credit columns enter anything produced by the poultry which is worth money or brings it. Thus, if you sell eggs, the item is a credit. If you eat eggs, the item is a credit in the poultry account, since it is an income produced by the poultry. Eggs eaten take the place of some other food which would have been purchased, hence they are worth their value to you as food and should be debited in your household or general farm account. Fowls sold or eaten are credit entries just as the eggs. These items are not large in my accounts, especially the fowls sold, since my object is egg production, and the only fowls sold are the old ones in the fall and an occasional broiler to a neighbor.

Keep Complete Records or None

These accounts should be carefully kept if kept at all. A small pocket memorandum-book in which to record an item whenever it takes place is an excellent way of keeping track of everything. A fowl found dead is a loss and should be kept account of along with any other losses. Colored, heated or otherwise affected eggs I usually feed back to the fowls and make no entry of as loss.

The egg account is a sheet ruled for every month, as shown in Table 3. I keep three columns daily, as I like to know what per cent. of first-grade eggs I get, as well as the entire number. The first column contains the number of carefully graded, high-class eggs laid.

The second column contains the number of large, small, odd shapes, and the like, such as are sold at the local market, and the third column, the soft-shelled, discolored or cracked eggs, which are used in the family, or the poorer ones fed back to the fowls. This enables me to get at the number of soft shells, which is valuable to know, especially in winter, when they do not eat so much of the shell-material. It is necessary sometimes to mix ground oyster-shells in soft feed if they otherwise do not take enough to keep the eggs in firm shells.

At the end of the month the sums of these columns show the whole number of eggs laid. As I keep a list of the number of fowls on hand which are supposed to be layers, I can easily determine the average number of eggs per hen. By dividing by the number of days in the month, I get the average number of eggs per day. By dividing this number by the number of laying fowls I secure a fractional number which technically represents the average number of eggs laid daily by one fowl. Practically, this is a number which, expressed as per cent., gives what one may term the percentage of efficiency of the flock.

This same number obtained on the sum of all the twelve months gives a per cent. which is of value for purposes of comparison, since it shows the average number of eggs per day laid by each fowl or the percentage of production. By comparing it with similar terms for other years, I can determine whether my flock has been more or less productive than during former years. An increase in this number would indicate increased efficiency on my part in giving the proper feed and care.

The Value of Your Own Labor

An account of this kind is highly essential if one would give the business the same specialized attention that a merchant gives his business. Without it, everything is guess-work. I prefer to value my labor, but to keep it in a separate column from the hired labor of others which may at times be needed. The balance, without considering my labor, would show me what the business pays me for my time and the amount invested in stock. When my labor value is entered as an expense and taken from the receipts along with others, the result is the net profit which the business produces on

TABLE 2
PROFIT AND LOSS

Date	Debit Items	Feed	Labor	Equipment	Misc.	Total
Jan. 5	100 lb oyster-shell	$ 1.00				
" 10	10 gal. kerosene				$0.80	
" 12	30 bushels wheat-screenings	12.00				
" 12	My labor on building		$1.50			
" 20	Egg-crates				3.50	

Date	Credit Items	Eggs Shipped	Local Sales	Eggs Eaten	Fowls Sold	Fowls Eaten	Total
Jan. 5	Sold locally, 6 doz., @ 27c		$1.62				
" 5	Shipped, 50 doz., @ 42c	$21.00					
" 6	Eggs eaten, 2 doz., @ 20c			$0.40			
" 9	Shipped, 25 doz., @ 42c	10.50					
" 12	" 25 " " 42c	10.50					
" 12	Local sales, 46 doz, @ 28c		12.88				
" 12	Eggs eaten, 1 doz., @ 20c			20			

TABLE 3
EGG RECORD

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	No Layers	Av. Eggs
Firsts																																		
Locals																																		
Damaged																																		
Total																																		

my investment. Both items are easily secured from the business account shown.

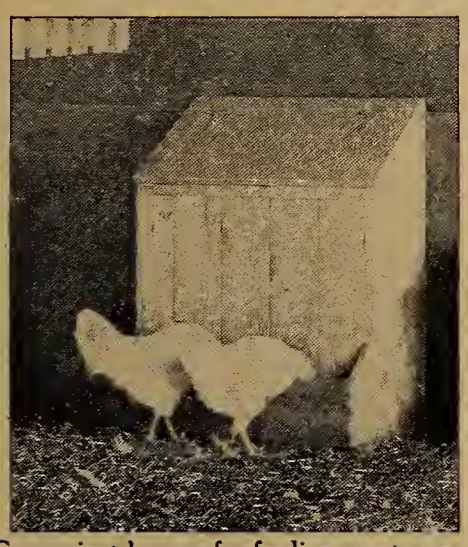
At the beginning of each year, or at any convenient date during the year, the inventory will be taken again. It is customary to allow five to ten per cent. for deterioration of buildings and implements. If repairs were made, they offset the losses partially, completely or may increase the value of the buildings. Losses from deterioration are really expenses of the business, since the value of the investment is lower by that much. Losses of stock, dead fowls, etc., are losses to be taken from the value of the stock the previous year. If fowls on hand are worth less than a year previous, there is depreciation of investment which counts as an expense, since the value you placed in the original investment has thus depreciated.

After a few weeks the keeping of these accounts will be as easy as feeding the birds. You think no more of making the entries after the eggs are gathered and sorted than you do any other chore of a few minutes' time. And by their use you can tell whether you are making as much as is possible, as much as others make, or whether there is a leak in your system which allows all the profits to escape.

Animal Foods for Poultry

By A. E. Vandervort

ANIMAL food in some form is necessary for the best results in egg production, and for the growth and development of chicks. We have several commercial products prepared especially for poultry that are designed to furnish animal protein and other elements required by the laying hen and growing chick. These feeds are variously branded by the manufacturers, but can



Convenient hopper for feeding meat-scraps

be divided into five general classes: (1) meat-scrap, (2) meat-and-bone meal, (3) blood-meal, (4) fish-meal and (5) bone.

Do Not Feed Tainted Meat

Meat-scraps are composed chiefly of flesh, with varying amounts of fat and bone, and vary widely in feeding value, some having nearly twice the value of others. In twenty samples analyzed by an experimental station, the highest sample showed 65.56 per cent. protein and 30.58 per cent. fat; the lowest, 34.06 per cent. protein and 9.7 per cent. fat; the average being 45.9 per cent. protein and 18.48 per cent. fat. Nearly all meat-scraps are branded "beef" irrespective of the source.

Scraps are valuable for hopper feeding of laying hens, a supply being constantly kept before them. For little chicks it has no equal, as it is not as likely to cause bowel trouble as fresh-cut bone. When raising chicks, I keep a supply before them from the time they are four days old until the pullets are placed in winter quarters. It is the dependence of the New England growers of roasting chickens as a source of animal food. Many raise their chicks on an almost exclusive diet of beef-scraps and cracked corn. In purchasing beef-scraps, prefcrence should be given to that containing a high percentage of protein, medium amounts of bone and less than twenty per cent. fat. They should always be sweet and fresh. Beef-scraps are best fed from hoppers or troughs, although they may be mixed in a mash.

Different Kinds of Bone-Meal

Meat-and-bone meals are finely ground animal products variously branded, and sold under the names of "Beef-Meal," "Beef-and-Bone Meal," "Meat-Meal," "Animal Meal," etc. In these, too, there is a wide difference in their feeding values. As a general thing they are lower in both protein and fat than beef-scraps, and decidedly higher in the mineral elements. The best grades contain from thirty-five to forty per cent. protein, while occasionally some go higher, up to over fifty per cent. These products are usually sold at a little lower price than beef-scraps, and are better suited to mixing in a mash meal for wet or dry feeding. A number of years ago I tried some experiments to determine the relative value of wheat and corn as egg-producing foods.

The animal protein in the ration was animal meal, which is relatively low in fat, and to my surprise I found that the corn-fed hens came out ahead. Had the animal food been beef-scraps, I think the result would have been in favor of the wheat. The corn contains all the fat required, and the meat-meal the protein and shell-producing elements. As wheat is deficient in fat and richer in protein than corn, I believed it to be more nearly what the hens needed. When beef-scraps were the source of animal protein, the corn-fed hens did not do as well. Our deductions then are that if corn is to enter largely into the ration meat-meal is to be preferred to beef-scraps for egg production.

Blood-meal, or blood-flour, is used some by poultry-keepers as a source of animal protein. It is very highly concentrated and should be used in small quantities. A good article will contain about eighty-five per cent. protein; in fact, it is nearly all protein. It is only serviceable for mixing in a moist mash. The cost is considerably more than beef-scraps or meat-meal, but in some cases it may not be expensive, especially where it is used to balance a ration of cheap ground grains low in protein.

Fish-meal is largely the refuse after extracting the glue. It has the right elements for a good egg-producing food, but cannot be fed in large quantities, as it is apt to impart a disagreeable flavor to the eggs. It usually contains about forty per cent. protein and two per cent. fat.

Bone is prepared in several ways for poultry. There is fine-ground bone-meal, granulated and cracked bone. It contains about sixty per cent. protein and five per cent. fat.

Digester tankage is a meat-meal feed made from the residue of slaughter-houses. It is being used by many poultry-keepers, though originally designed as hog-feed. Some brands are claimed to contain sixty per cent. protein and are sold at a lower price than meat-meal. I have never used this product and would not care to unless I was convinced it was wholesome.

Why I Prefer Beef-Scraps

In many States all the meat products here mentioned are required by law to have printed on the bag, or attached thereto, the guaranteed analysis of its contents, so the buyer can tell what he is buying. Occasionally a product will fall below the guarantee, but in most cases the guarantee is decidedly low. When purchased of a reliable dealer, there is very little likelihood of goods being adulterated or of inferior feeding value to the claims made for them.

These prepared meat products make a very convenient form of supplying animal protein to the fowls and do away with the work and worry incident to cutting fresh bone, for which they make a very good substitute. They are the feed for the busy man, and the various products are such as to meet the requirements whether he feeds an all dry or a moist ration. Beef-scraps and meat-meal can be fed in larger quantities than fresh-cut bone, as they are less likely to cause bowel trouble, and in mixing a mash-meal for laying hens I would make it fifteen per cent. meat-meal if no other animal food is to be given.

Personally I prefer beef-scraps for growing chicks, and, as I am now practising feeding all ground grain from hoppers, I like to feed beef-scraps in the same way, then if the birds do not take what I consider a sufficient quantity of animal food, I can give them an occasional feed of fresh-cut green bone. If fine-ground grain is fed, I can more closely regulate the quantity the birds consume. Poultry-keepers with small flocks who do not care to go to the expense of purchasing a bone-cutter, or who do not have time to cut bone will find good substitutes in the prepared meat products.

Barred Rocks of Quality

By B. F. W. Thorpe

DOCTOR WOODS, No. 12, the attractive cockerel here pictured, is an exceptionally promising specimen of the Barred Plymouth Rock stock bred by Dr. Raymond Pearl at the Maine Experiment Station. Doctor Pearl believes it is safe to expect seventy-five per cent. of the female chicks hatched from mating this cockerel with good Plymouth Rock stock of average breeding will be heavy layers. And when mated with known heavy-producing hens, some of the resulting pullets should be exceptionally prolific layers.

"Dr. Woods," Maine State Experiment Station cockerel, scientifically bred to transmit heavy laying qualities to his progeny

The hen in the picture is Sairey Gamp, No. 33, the Barred Plymouth Rock referred to on Page 2 in the December 21, 1912, issue of FARM AND FIRESIDE. This hen last year, in her third year of production, laid two hundred and seventeen eggs distributed by months as follows:

Sairey Gamp and her record

January	8
February	23
March	23
April	23
May	28
June	22
July	18
August	17
September	14
October	22
November	18
December	1
Total	217

As this is written, January 14, 1913. Sairey Gamp has practically completed her molt and looks promising for her fourth year's work. She is as sprightly and vigorous as a pullet. The photograph was taken when two hundred eggs had been laid.

Her exact production in her pullet and second years was not recorded, but she has probably laid more than six hundred eggs, perfectly shelled and of normal size, during her three years of production.

This hen has each season laid steadily up to about December before molting, then rapidly grows new feathers and is again on the egg job. Sairey Gamp has a direct line of descent from the Maine Experiment Station stock bred by Professor Gowel during his famous breeding experiments conducted several years ago.

There should be lively interest in the outcome of the mating of these two high-quality birds of "bred-to-lay" stock.

"They Won't Lay an Egg"

By Chesla Sherlock

WHILE careful breeding and selection has a great deal to do with success in getting winter eggs, feeding is an important matter. It makes no difference how good your stock is, or how careful you have been in the selection of your layers, they will not meet your expectations unless they are properly fed.

I am not an expert in the analysis of feeds, but wish merely to give rations that I used on a flock of common hens which were offered with the remark, "They won't lay an egg. You can have them for fifty cents apiece."

I think my success with them was due to feeding a ration that exactly met the requirements of those hens. They had been good full-blooded stock at one time, but the owner had neglected them in various ways until they had degenerated into nothing but scrubs.

These hens were purchased about the first of September and were immediately placed in a well-built house.

In the morning we fed them only a handful or two of wheat in litter. The purpose of this morning feed was not to gratify their hunger, but to set them to work. That little handful or two would usually keep them working until noon, if the litter was deep.

At noon green food of some sort was given, usually in the form of sprouted oats, about four inches long, or the tops of vegetables that were growing in the garden. We were surprised to find that these particular hens preferred the vegetable-tops to the sprouted oats.

Every other day, instead of feeding the sprouted oats or green food regularly, I would alternate with dry oats, which was placed in an open hopper. They would usually eat all of the oats placed before them. I limited the amount to prevent their eating too much at one time, which would have a tendency to loosen the bowels.

Sure of a Balanced Ration

About five o'clock in the afternoon I fed them a liberal feed of grain, either of cracked corn, wheat or oats, whichever the hens seemed to prefer, as they would grow tired of one variety if it was fed regularly for several nights.

Before them at all times was a hopper full of dry mash composed of corn, Kafir-corn, wheat, oats, bone-meal and alfalfa, all ground up and properly mixed. This mash is of great advantage. It serves as a mainstay in two respects. If a hen gets hungry during the day, she goes to the hopper and eats as large a quantity as she wishes. Then we are certain that every hen is getting a balanced ration, which is not so positive when you attempt to feed them on grain alone, even though the grain ration be balanced properly when placed before them.

We had no difficulty in getting eggs from the hens. It was not, however, a question of who was doing it. Anyone could have done it who was willing to give the hens a working chance.

Have you been thinking as the owner of those hens did? That your hens will never lay a single egg? Have you ever stopped to consider if they had a working chance? Give it a little thought, and give the hens a chance. They are not lazy by nature and will surprise you with what they can do.

The Slogan of Success

By Berton Braley

IF YOU'RE sick of doing business unassisted
And of getting every lemon that is listed,
If the railroads seem to make a point to loot you
And their merry way of dealing doesn't suit you,
If the trusts and combinations always skin you
And they rouse the sullen anger that is in you,
Cease to blame it on the Senate or the weather;
"Get together!" That's the answer, "Get together!"

When the western farmer tackled irrigation,
He discovered that he faced a situation
Where he simply had to chip in with his neighbor
For the capital, material and labor,
So he conquered all the wilderness which braved him,
For he tried coöperation—and it saved him.
If you want to know the wherefore and the whether,
"Get together!" is the answer, "Get together!"

You have fought for many decades single-handed,
And it's mighty little benefit you've landed,
For commission men and other speculators
Have robbed you on your wheat and your "potaters."
If you like the sort of treatment you are getting,
Then, of course, there's nary use in any fretting,
But if everlasting patience slips its tether,
"Get together!" that's the answer, "Get together!"

Spring Poultrygrams

Stoneware drinking-vessels are the most sanitary and serviceable.

For full egg-baskets try equal parts of wheat, oats and corn, scattered in litter.

Save all the table-scraps, parings, etc.; boil, and thicken with wheat-bran, and feed warm at night.

Ice-water is not conducive to egg-laying. Give the hens their water at about blood heat in cold weather.

Hens prefer dark nests. It will take less time to darken the hen-house nests than to hunt for stolen nests.

A teaspoonful of powdered sulphur sprinkled in each nest will aid in keeping them sweet and free from mites.

Every poultry farm should have a small house for an "awkward squad" composed of the injured, stunted and hen-pecked chickens.

Dirty eggs come principally from dirty nests. An egg is moist when laid and is easily soiled unless the nests are cleaned frequently. A dirty egg is a poor advertisement of the sanitary condition of the henhouse as well as difficult to sell.

To Raise 100 per Cent. of Chicks Hatched

By A. E. Vandervort

THERE are very many methods and ideas that different poultry-raisers recommend for caring and feeding young chicks, and very much has been written upon this subject. Each person has his own method, which has brought on much success, while on the other hand others' methods have not proved so satisfactory or are a total failure. Some methods are good and some are useful only to help fill up space in a paper, and tend to discourage the amateur if he follows their directions.

Do Not Feed Raw Corn-Meal

I believe many failures in the poultry business are caused by following someone's ideas who perhaps has never had any practical experience or any knowledge of poultry-raising. Knowledge is good, but practice is very essential. My experiences cost me considerable before I could account for my losses and find a way of overcoming them. Feeding chicks and giving them the right kind of start are no easy matters. Chicks should not be fed too soon after they are hatched. Let them go without feeding for a day. This gives them time to absorb the yolk and by so doing they are in a better condition to begin feeding and less liable to bowel trouble, a common disorder among young chicks. Nature has supplied them with sufficient nourishment, and to feed them too quickly is an injury rather than a benefit. Many farmers will mix up a sloppy mess of raw corn-meal mixed with cold water twice a day and then wonder why they lose their chicks. If the raw meal is given, it sours in the chicks' crops and forms an acid which causes an irregularity of the bowels. Filth, overcrowding and impure water are causes of bowel disorders and should be avoided. Corn-meal is a good feed if cooked and fed right, but the best results are obtained from dry feeding.

For the first few days I feed the little chicks hard-boiled eggs, shell and all, ground fine, cracker-crumbs and oatmeal. After they begin to eat freely, a little sand or fine baby-chick grit is added to their food. Take care not to give them grit until they have learned to eat well, as they are likely to be attracted by the sparkling particles of grit and pick up too much of it at first, before they have learned the difference between food and grit. A chick that is with the mother hen will not eat such things, as it has the hen to teach it what to eat, but a brooder chick has to find out for itself, and unless we help, it will make mistakes which will prove fatal. Be careful about having straw or chaff where they will pick it up with their feed.

Some Good Feeds for Growing Chicks

After the chicks are a few days old I begin feeding a prepared chick-food consisting of a variety of small grains, which is very essential for young chicks, as well as older ones. If a prepared food cannot be obtained, feed a mixture of finely cracked corn, wheat and millet-seed. The more variety you give them, the better, but do not feed one thing continually. The chicks are fed this feed until they are old enough to eat larger grains.

If you do not have grass runs for your chicks, supply them with green food in some form. Lettuce-leaves and lawn-clippings are excellent. Meat is another important item, although you should not feed too much to begin with, as it is likely to cause indigestion. If they are yarded, they should be fed green bone or good beef-scraps, but keep meat before them all the time whether they have free range or not Also keep before them a dry grain mixture in hoppers from the time they are hatched. To make this grain mixture, I take one hundred pounds of bran, one hundred pounds of hominy and about seventy-five pounds of beef-scraps and mix well together. This is greatly relished by the little fellows and makes them grow.

Another important item is water. As soon as the chicks are first fed, they should be supplied with clean water, and that often, also keeping the water-dishes clean. Use small vessels so they cannot get into the water and get themselves wet. There are several kinds of drinking-vessels on the market for little chicks, and the cost of them is so trifling it does not pay to use open dishes where chicks can fall in. In cold weather warm the water slightly.

Don't Try to Raise Chicks if You Can't Take Care of Them

Another essential is cleanliness. Your brooders and brood-coops should be kept very clean. Clean them out often, and disinfect them. I use Zenoleum, using three or four teapoonfuls to three pints of water. Put this solution in a sprayer, and spray the inside of the coops thoroughly. This makes a very good disinfectant, keeps away the lice and gives the coops a pleasing smell. Put in new litter and sand each time. Of course all these things take time, but if you haven't the time, don't try to raise chicks.

Last but not least comes the lice question. A few lice will suck the vitality out of the most healthy and strongest chicks. If your chicks sit around with closed eyes and drooping wings, you may be pretty sure that they are covered with lice. The best way to keep lice away is to keep everything clean, using whitewash in your hen-houses and coops. The most destructive louse to the young chicks is the large gray louse. These you will find on top of the chick's head. They are very large and can easily be seen. A little carbolated vaseline or melted lard on the head and under the wings is very good, if not used too freely, to rid the chicks of these lice.

After the chicks are old enough to distinguish the cockerels from the pullets, they are separated and the pullets removed to the corn-fields and orchard in colony houses.

Three drops of carbolic acid to a gallon of water will sterilize the water and prevent throat troubles in poultry.

Boys' Club

IT IS only fair that the boys of every family should have a publication devoted to their particular interests. The American Boy is both entertaining and instructive. Its editors seem to have a peculiar knowledge of the stories and subjects in which our boys are especially interested. This magazine will brighten and enliven the home life of every boy. Its reading matter is wholesome and will inspire and bring out the best traits of character in the boys who read it. Here is our Boys' Club for our FARM AND FIRESIDE boys. This offer will expire in two weeks.

Farm and Fireside, 1 year, regular price 50c
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} Both for only $1.00

Farm and Fireside, Springfield, Ohio

Live Stock and Dairy

Farm Fables—The Mule

I AM Maud the mule. I have no pedigree, but have a reputation, as had my ancestors. My family has served your family these many decades. Your father, your father's father, your grandfather's father knew our family, as did also the women folk of those times.

So please remember that I am a part of this farm; that I belong here just as surely as you belong here. Little as you wot it, I appreciate well-tilled fields perhaps as much as you appreciate them—for with your prosperity I prosper. If there is plenty of hay and corn, I eat well; if crops are poor, I have to eat straw and corn-stalks.

Remember that Maud helps plant and care for and harvest the corn and wheat and potatoes, and helps market everything we produce. This should insure me against back-pads which make sore spots, against collars which gall, and certainly it should assure me of a comfortable stall and good bedding. Maud has had her say.

MAUD THE MULE.

Get Together and Grow Sheep

By V. A. Place

Sheep Expert, Illinois Experiment Station

WE THINK that every corn-belt farm would be benefited by a small flock of sheep. For capital invested a small flock of well-selected individuals of any of the better known mutton breeds bring better returns, everything considered, than an equal investment in any other class of live stock. As a consumer of waste, the sheep surpasses any other of the farm animals. On every farm there is waste, such as stubble-fields, fence-corners, late fall pastures and weeds in old pastures that can well be utilized by the sheep. The sheep responds to good feeding readily, but by nature he requires a variety, and such feeds as those mentioned above help furnish this variety at a very low cost.

The consumption of mutton is increasing every year. Why is it that we find comparatively few flocks where many should exist? To me one great difficulty attending the growing of sheep in the manner suggested above lies in a satisfactory system of marketing. The small size of the flock means that the lamb crop, as well as the wool clip, will necessarily be small, and when only a few lambs are to be offered at market-time, or a small amount of wool is to be sold, both are likely to be disposed of at a loss to the grower on account of inadequate market facilities. Now if in the same community several farmers were growing sheep circumstances might be different. The local buyer could arrange a time when the growers of lambs in the community could market them in such numbers as to make up car-load lots. But this is not a sure method because of the different ages of lambs and the mixed lots that are offered.

The Goodlettsville Lamb and Wool Club

By far the most satisfactory means of handling this situation that has yet been found is through coöperation among the growers. As a means of systematizing the business and eliminating the much-talked-of middleman, coöperation seems to offer the best solution of the problem. Coöperation is by no means a new thing in the live-stock business. Some of the strongest live-stock-breeding centers of the country are operated on this plan. Wisconsin and Minnesota have wide reputations for their coöperative centers in breeding dairy cattle. Nor are they lacking in the sheep industry itself. At Goodlettsville, Tennessee, is an organization which has been operating for thirty years, known as the Goodlettsville Lamb and Wool Club. This is an organization of fifty members, all of whom live within a few miles of the station. Among other things, it has these two primary objects in view: (1) elimination of the local shipper, (2) the production of a uniform lot of spring lambs.

The club holds an annual meeting every spring at which every member is expected to be present. At this time the number of lambs which each member expects to market is ascertained. Generally lambs are marketed at three different dates during the season so that the shipments are made up of uniform stuff each time. These sale days are advertised so that buyers may know. This is an advantage. On the date of these deliveries a committee, appointed at the spring meeting, accepts bids from reputable buyers. Buyers have been known to come from some of the larger cities to bid on these shipments. It is claimed by the members of the club that their average sales are three fourths of a cent higher than prices paid to local growers who are not in the club.

The wool is disposed of largely on the same plan. It is graded on the day set for the sale. This sale date is advertised. Buyers may see and know for what they are bidding. Here again the club has received the benefit of higher prices than have been received by other sheepmen of the community. As an example of what they have saved through coöperation, I give the following figures: In 1909 the club marketed 2,500 lambs. These lambs averaged seventy pounds, making a total weight of 175,000 pounds. Their records show that their sales are three fourths of a cent higher, therefore they received $1,312.50 for being organized.

The Uniform Product Commands the Best Price

Let us see about the wool. Members of the club receive two cents more per pound than non-member farmers. Suppose the 2,500 ewes in the club average six pounds per head, which is low enough for good ewes, this means an annual clip of 15,000 pounds. Two cents on each pound of this means $300 for the club-members as a result of better methods of selling and elimination of local wool-buyers.

Not only is attention paid to the marketing end of the business, but the breeding end as well is kept in mind. In fact, the higher price received by the club for lambs is attributed to uniformity and high standard of quality. These are secured by use of the Southdown ram.

It is easy to see then the reason for success among these farmers—coöperation through organization. Nor is this the only club of its kind in this country. The same State has one at Mt. Juliet which is very successful. At Farmington, Minnesota, there is a coöperative organization for marketing wool. Ohio has coöperative shearing clubs which mean a saving to flock-owner as well as shearer. Many more examples might be cited, but these serve to show what may be done if proper means are taken. What these clubs and coöperative societies have done and are doing may be duplicated by the farmer in any sheep-growing section. The advantages of coöperation are many. The old adage "In union there is strength" was never more applicable than it is to-day in the sheep business. We know that sheep may be raised successfully without coöperation, but the rewards will be greater if the efforts of a community are combined to produce a uniform product. This uniform product will command a higher price, hence more profit, which shall go directly to the grower and not to the local buyer, who will no longer be in the game. Sheep-grower, why not organize a coöperative sheep-growing club among your neighbors?

Circumstantial Evidence

By Mary E. Hardy

FARMER McLEAN had picked a bushel of Northern Spies handsome enough to have been matched against the apples of Hesperides. He put the finest in a barrel, resolving to take them to the fair, and pride swelled his heart as he thought of the premium they were sure to win. But at dawn apples and barrel were gone.

It was a mystery. Suspicion and anger burned in the farmer's heart as he went down the lane with his milking-pail.

Suddenly he stopped. There stood his handsome Holstein, her head deep in the barrel which had held his Northern Spies. Her sharp horns had pierced the staves, and she stood convicted.

"You'll pay for this!" said Farmer McLean. "You shall go to the fair yourself!"

She stood convicted

And five days later, when she stood with a blue ribbon tied to her horn, the farmer was reconciled to the loss of his apples.

No Cure for Bloodworms

By Dr. A. S. Alexander

"PLEASE tell me what ails this colt," writes an Illinois reader. "The colt is nine months old. When three weeks old, it tried to eat its mother's tail and mane. It never has done well. Its hide is loose and its hair long and shaggy. It is in very poor condition, yet it has always eaten fairly well. During the summer it had the run of a clover-field.

"Since it was taken from its mother it has had oats, some corn, good hay and corn-fodder, all feed being clean and in good condition. When it gets out in a cold wind a few hours, it gets a soft swelling under its throat. After being in the stable a few hours, this passes away. To-day it would not eat. Instead, it laid down and would roll and stretch its front legs out, then pull them back again. The belly was quite inflated, also. I took this as a symptom of colic and gave two teaspoonfuls of bicarbonate of soda in one pint of warm water."

The colt described is evidently infected with bloodworms (*schlerostoma equinum*), and these often cause death. They are blood-suckers and also cause aneurisms (dilations of the mesenteric arteries). There is no sure cure. Prevention is all important, and it consists in keeping colts out of contaminated pastures, generous feeding before and after weaning and free access to a mixture of salt, sulphate of iron and sulphur.

Feed sweet skim-milk, crushed oats, wheat-bran, mixed clover-hay and roots.

In the oats and bran twice daily mix a heaping teaspoonful of a mixture of two parts salt and one part each of dried sulphate of iron and sulphur. Increase the dose after a week or ten days, if improvement is slow.

Breed Only Sound Animals

By Dr. A. S. Alexander

A UTAH dairyman writes: "I have a two-year-old heifer that calved last spring. After calving she refused to own the calf. We tried every way we could think of, but without success.

"The worst trouble was that she gave bad milk; it seemed to be poisoned. It made the calf fail in health. It got thin and poor. I then fed the milk to pigs, and it seemed to hurt them, too. She is due to calve again. Will she be apt to own calf, and will her milk be good?"

It was a great mistake to breed the unsound heifer, and she will be sure to be just as bad as ever when she has her next calf, and the milk will not be likely to be better in quality or nutritive value.

If this proves to be so, she should be dried off as soon as possible and sold to the butcher.

Treatment for Bit-Champing

By David Buffum

A WYOMING horseman has a mare nine years old that started chewing the bit last spring. He writes, "She is a pet mare that weighs about one thousand pounds. She is a tough little animal and can do considerable work, but I don't wish to work an animal with such a habit. If taken off of farm work, she ceases to chew the bit, but when put to heavy work she starts in again. I have used both straight and jointed bits, but to no avail. Have had her teeth examined, but still am at a loss to know the cause."

The habit mentioned is somewhat allied to weaving, crib-biting and wind-sucking, in that it is purely a nervous trouble in its inception; afterward it becomes a habit. Very often—perhaps most frequently—the habit is found in horses that are generously fed and lightly worked and who therefore have an excess of nervous energy that they do not know what to do with. In other cases the cause is frequently found in some irritating thing, such as an ill-fitting harness.

To cure the habit give the horse as regular work as possible, being always very gentle and quiet with him, and give special care to the harness and its fitting. The bit should be simple, curb bits and similar devices being avoided if possible. A plain jointed bit is usually the easiest of all for the horse and therefore best, though a horse that has been accustomed to a straight one will be the least irritated by it. The headstall should be short enough to keep the bit well up where it belongs, allowing no play, but not short enough to be uncomfortable for the horse. I have sometimes cured the habit by simply taking these measures and abandoning the use of the checkrein. At other times changing from the overdraw checkrein to the ordinary kind, or vice versa, will prove effective. A little experimenting is often necessary.

Most Collars are Too Large

I now come to one of the most important points of all in the fit of a harness, the collar. Ninety-nine collars out of a hundred are too large. If the horse is to draw a load, the collar should be of the so-called Scotch kind, and it should fit so tightly as to just allow room for the hand between it and the horse's neck, the space being so small as to force the hand against the neck a little, but not tight enough to shut off the horse's wind. Or, to express it a little differently, have your collar as small as possible without interfering with the comfort of the horse in breathing.

Remember that the only cure for bit-champing is to remove every irritating cause and to have the nervous mechanism of the animal running smoothly. This necessitates four things: regular work, a simple, non-irritating bit, a perfect-fitting harness and a quiet, soothing manner while working the horse. Personally, I have never had any difficulty, by following these rules, in curing the habit, though there may be cases where the habit is of long standing and has become thoroughly fixed, which may not yield so readily to the treatment described.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

The Colt's First Lessons

By David Buffum

A READER in Washington asks me how to feed and train a trotting colt, six months old, halter broke and in good condition. The colt is just being weaned.

The colt should be well fed when weaned. If he has not previously been fed grain, he should have a quart of oats at each end of the day, besides all the good sweet hay that he wants. My own practice, unless the pasturage is very abundant, is to begin feeding the colt while running with his dam. If encouraged to eat from the first, a colt when three months old will easily eat two quarts of oats a day, and this greatly promotes his rapid growth.

If fed in this way until weaning-time, his ration of oats should then be doubled. There are many farmers, especially in the Eastern States, who regard this quantity of feed as inordinate; but a colt is rarely injured by too much oats. The great thing is to keep him growing as rapidly as possible all the time with no periods in which he is not gaining, and this is impossible without generous feed.

I would caution all, however, against the feeding of corn. This is a very different thing from oats and should be fed very sparingly, if at all. If oats are not attainable, the next best thing is a mixture of two parts of bran to one part of corn-meal; but if the farmer who is raising horses has no oats it will pay him well to procure them, even at considerable expense, for his colts.

Another very important thing for the colt is that he should have a box stall. This should not be less than ten feet square, and larger will do no harm. If the floor of the stall is of plank, it should be covered to a depth of five or six inches with coarse sand, and on top of this a layer of litter should be kept. The litter, of course, should be changed every day, and in this process the sand will be gradually used up, so that a fresh layer of sand will be required from time to time, say once a month or so, enough in quantity to keep it always about the same depth as when first put in. The growing colt needs considerable exercise, and it is therefore exceedingly important that he should run out in pasture a few hours each day, unless snow or ice make the ground so slippery as to place him in danger. Do not make the mistake of thinking that, because he has a box stall, that he therefore can get sufficient exercise in it, for he needs much more than can be had in such limited space. Regular watering, three times a day, is another important thing; and I have known colts that were well housed and well fed to winter miserably simply because neglected in this respect.

Make His First Lessons Easy

It is best to break the colt to harness when he is about a year old. His muscles and bones are not fit at this age to stand much strain, and therefore great care should be observed in not making his lessons too long or too hard. Without this care injury may be done to the colt; but nevertheless this age is so much better for breaking than when he is older that it pays, and pays well, to bestow the extra care needed and to get him nicely broken to harness while young.

When the colt is thoroughly broken, he should be turned out to pasture and given little or no use until he is two or three years old, this of course according to his breed and the kind of work to which he is to be put. It is a good plan, however, to hitch up the colt now and then so as to keep him in mind of what he has learned, although I have never known a colt, if thoroughly broken, to forget his education, even if running a year or two without being used at all. In such event it is simply necessary, when he is first hooked up, to use a breaking-cart instead of a buggy and to observe a little extra care during the first few drives.

No Hard Work Before Two Years

Judgment on the part of the owner is such an important thing in the management of colts that it is almost impossible to lay down hard and fast rules for the amount of use to which colts of tender age should be put. I have myself never hesitated to put my draft-colts to quite a little work when two years old and have also used my colts of road stock quite often for short and light drives at the same age. It should simply be remembered that the important thing is not the work we get out of an immature colt, but the effect of a little use in keeping him gentle, way-wise and handy.

Egging it Down

By Maurice Floyd

WHENEVER a valuable farm animal becomes choked there is often much excitement and needless running to and fro. Many useless expedients are tried on the victim with the result that, expert aid being inaccessible, the poor beast chokes to death.

As a matter of fact, few emergencies which arise on the farm are more easily dealt with than choking. In cases of this kind we have never known the white of an egg, when poured down the sufferer's throat, to fail to give relief.

To administer the egg quickly and surely, it should be broken into a wide-mouthed bottle. When such a bottle is not quickly available, however, any ordinary bottle can be used by using a funnel to get the egg into it; and where a funnel is not at hand one can be made by rolling a piece of paper into the desired shape.

When everything is ready, the animal's head should be raised as high as possible, the bottle thrust far back in the throat and the contents emptied. The egg will immediately pass down and make the throat passage and the offending obstacle so smooth that it will pass on into the stomach.

Do not let the new-born pigs get chilled, and consequently stunted. Provide warm quarters, if only a leaf-filled shack.

Don't work the horses longer than half a day at a time for the first few spring days. It takes real grit to do this, but otherwise you are liable to kill a horse.

What I Have Learned About Belgian Hares

By W. F. Wilcox

NEARLY every rancher here in Colorado has Belgian hares. So two years ago I started in with a pair. In order to keep them, one should give them plenty of room. They must have a rather large ground pen with an underground burrow. The pen should be fenced with the smallest mesh woven wire obtainable, or the small ones will crawl out.

They have tremendous appetites. A pen of twelve or fifteen will eat almost as much as a cow. They will get away with a big forkful of hay in a day and then go to eating on any boards or sticks in the pen.

Last fall most of ours escaped from the pen by digging out. The garden was harvested and they could do no damage. They rustled about and did well till snow came, then they camped at the stacks about the stable and feed-yard and just ate from morning till night and night till morning. I had several stacks of oats-hay and alfalfa, and they had one continual feast. It was nothing uncommon to see a dozen of them sitting on top of the oats-stack "eating their heads off."

Finally we found a restauranter who wanted a lot of them, so I had a big day's shooting with a .22 and cleaned up all but one or two of those at large and took them down to the restaurant. We have a few left in the pen to start in with again.

Many people are fond of hares and declare they are as good as chicken. The younger ones are more delicious, as they get strong as they get older.

The Belgian hare is an interesting animal It is a study to watch them, especially the little ones.

The Market is Easily Glutted

I know of parties living near big cities and good markets who make a good thing out of them, realizing fifty cents apiece. As they grow quickly, there is money in them at that rate. But where I am, near a small town, and so many raising them, twenty-five or thirty cents is all that can be obtained, and one is not always sure of a market. Then there is such a superabundance of wild rabbits at ten cents each in the winter that the hare-market is injured. But the most of us keep them for our own use. They are handy whenever a bunch of work folks drops in suddenly in haying, harvesting or thrashing, for you can kill as many as you want for the meat part of the dinner. The young ones fried are excellent, and they are also good when they get so large as to demand boiling.

I think the ideal way to keep them is to let them out each fall after the garden and crops are harvested. They can almost make their living and will be much the better for the freedom. In spring at garden-planting time, confine what you need to start in with again. The pens must be kept clean, and they must have fresh water every day, for they consume a very large amount of water.

Do not give them the same thing continually. They will eat anything. We always throw potato and apple parings to them, as well as peelings from other vegetables. Cabbages that did not head are fine, also turnips, carrots, hay, oats, corn and anything that grows in garden or field.

Notes from a Stockman's Diary

By Robert W. Neal

A slat in the ribs hain't cured that kicking cow yet.

Sheep for poor land, is the old saying. Far's I can see sheep will make themselves worth while on any land.

Jenks says this talk about profits in cows is all rot, for he's tried it. I sort of reverence Jenks's opinion; he always uses a scrub bull to save money.

They's more horses than you'd like to count that's made vicious because their owner is too plumb dull to understand that they're nervous.

When you're shunting a way to waste feed, just give the stock a double portion, and go off for the day. They'll have plenty of time to trample it and to get hungry for something clean by night.

Lambs on $200 Land

By Alberta M. Kepper

MY EXPERIENCE here in Iowa in producing and finishing lambs for the early winter market last season, and that has also been duplicated often in the past, will perhaps interest farmers who are under the impression that this cannot be done at a profit where land sells for $200 per acre and over.

Real and Apparent Profits

"Hothouse" lambs—those intended for the Easter trade—bring a higher price per pound at selling-time, to be sure, but these lambs cost much more to produce, since the ewes, lambing in January and February, require a more expensive ration, special housing and the untiring care of the shepherd throughout the period. One faithful attendant did not go to bed for a week when the weather was bitterly cold and the young were coming in twos and threes every few hours.

From the time they are dropped, they and the mothers must be given especial care. This, and the added expense for feed, absorb the apparent profit. One cannot take time to put anything in proper shape, for it must be on market by a certain date, no matter what its condition, or it misses the holiday prices. In that case it must be "run over" till winter, which likely finds the early lambs too heavy for market-toppers and they bring but average returns.

All this is not necessary to the lamb born when pastures are green. Thrifty bluegrass pastures are nature's balanced ration.

To begin with, the lambs I want to tell you about were strong and healthy. Twins predominated. This can only occur with a degree of certainty when there is thrifty breeding stock that tends to rapid increase. Shropshires are my favorite, being large, rugged, good yielders of medium wool and, above all, excellent mothers. It is seldom a ewe refuses to mother her young.

Treating Chilled Lambs

When lambing-time is at hand, though it is April, the ewes are carefully housed at night and on chilly or rainy days. If it happens that a lamb becomes chilled, it is put into a bucket of warm water, permitting the head only to be above. The hand is passed back and forth along the sides to aid in establishing a better circulation of the blood, thus hastening its recovery.

It is not often a lamb is lost if one perseveres in the warm-water treatment. When respiration is good, rub off the surplus water, then wrap it in a piece of old, dry flannel. Keep by the fire or lay in the sun where the wind cannot strike. Return it to the mother at short intervals for nourishment lest she forget it or it becomes too weak to suck.

Ewes and young lambs are not turned into large pastures. Until they are able to gambol about freely, they are turned into a grassy lot where there is ample sunshine and protection from wind.

On a farm of one hundred acres fifty ewes can be supported and their young sent to market as market-toppers or near that coveted point if well bred and well fed.

One cannot increase the number and figure such gains. Sheep do not stand crowding, and overstocked pastures are not paying propositions, but the small flock is a money-maker. The flock pays its board by keeping down the weeds that otherwise usurp the pastures, giving each acre an increased capacity for making flesh. They also enrich the soil more evenly than other animals.

Cattle and Sheep Together

The old fallacy that cattle and sheep do not thrive in the same pasture originated through the fact that nature fits the sheep to subsist in scantier places, and if growth is lean, the sheep get it, while the cows go hungry. This ridding the farm of weeds and with fleece as a side income gives the lambs without cost when weaned.

Last April the lamb crop was ninety from sixty Shropshire sheep. These were very robust little fellows and ran with their dams in bluegrass pasture until August 15th, when the flock was brought in, the ewes and lambs separated.

Docking took place and males were altered long before this time. This is the only way to be always certain of an unchecked growth.

Chiefly a Rape Ration

The corn in a fifteen-acre field was beginning to dent; there was also a fine growth of dwarf Essex rape that had been sown just before the last cultivation. There was abundance of running water and about two acres of bluegrass which the lambs had access to at all times and there were no cockle-burs. Had these been present, even in a limited way, the damage to the wool would have resulted in a cut-price for them at the market because of bad appearance.

About three pounds of rape-seed per acre procured this luxurious growth. This costs from five to seven cents per pound, varying in different years.

They Almost Topped the Market

Aside from the regular salting, no care was exercised over the eighty-four lambs, six having died while they were small, from the day they were turned in the corn-field until the day before they were to be sent to Chicago (early in December), when there were found to be eighty-four head. There was no loss.

Again they were sorted. Ewes predominated, and these were retained, excepting six culls, to increase the flock. There were twenty-eight wether lambs. Wethers and cull ewe lambs were marketed. After a haul of over two hundred miles, delayed trains causing them to come a day late, the wethers averaged eighty-two pounds and sold at $8.25 per hundredweight, just ten cents below the top for that day. The cull ewes sold for $6.

Aside from the money returns, which were gratifying, when we consider there was no labor expended in the finishing, the field was freed from many late weeds that otherwise would have seeded the ground for a greater crop. The lower blades of corn were eaten and some down ears, but lambs do not injure standing corn to any extent. Had the entire lamb crop been disposed of, it would have netted over $500, which is a goodly sum to take in for such slight expenditure of work and feed.

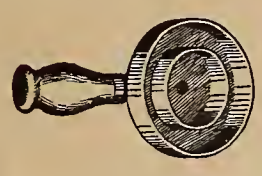
Some Useful Devices for Handling Horses

By R. E. Rogers

AROUND a little country church in northern Ohio there is a method of arranging the hitching-posts that effectively prevents the animals tied there from worrying each other. Instead of one row of posts and hitch-rails, there are two rows all the way around. The space between the hitching-rails is perhaps eight feet. Persons can get in front of their horses, tie them and not be mussed over by the horses on the other side of the railing.

When nose-baskets have to be used on the horses, try fastening a wire to one side on the rim of the basket. Make a long hook in the other end and fasten to the head-band of the bridle. Then snap the line snaps into the rim wire of the basket, and it is fastened at three places and cannot be rubbed off easily.

Sometimes horses have trouble with their feet when the dry weather comes. Probably the hot stone roads are the greatest cause. When the blacksmith shoes for you, have him place a heavy piece of regular sole-leather between the shoes and hoof. It will form a cushion.



After horses are clipped, their hide is tenderer than usual. There are a few curry-combs on the market which do not have any teeth. They are built like two or three tin can covers of different sizes all fastened together, one inside the other. They get the dirt without scratching the horse.

When a horse is really mean and must be handled, it is quickest and safest to twitch him. This is only a stick with a hole bored through and about a foot of rope made into a loop. Put the horse's upper lip through the loop and twist. It is cruel if left too long or twisted tighter than needed to make the animal stay where he is wanted.

Some horses stumble at times in their traveling. A coiled spring can be purchased at most harness-shops which fits in the end of the check-rein. This saves many broken reins and does not show much, since it is only one-half inch in diameter.

A crotched stick should be used to hold the horse's or cow's head up when they are drenched for any reason. A strap around the upper jaw causes no pain, yet allows the lower jaw to move. Unless the lower jaw is permitted to move, there is difficulty in swallowing. The end of the stick may rest on the ground.

The name Nero was once fit for a king, but now most any dog is good enough to be called Nero

Farm Notes

Getting Acquainted with the Gas-Engine

By James A. King

This is the Second of a Series of Short Articles on the Gas-Engine, Its Construction, Uses and Fuels

IN ITS various forms the gas-engine has taken the place of the chore-boy and the family horse. It has lightened the work about the barns and the house. It has taken from boys and girls on the farm tasks that were darkening their lives. It has done much to make farm life and work delightful and desirable instead of drudgery.

It even invades the fields. It does the heavy work which once made old Dobbin grunt, puff and lather with weariness and heat. It decreases the cost of farm work and increases the gross income from it.

The gas-engine is built in myriads of forms and types and sizes. Each year it is built by the hundreds of thousands; built to do a multitude of tasks; tasks so many and varied that no one man can name or know them all.

Fairy Tales Made Real

In their varied forms these engines are the fairy workmen of the industrial world. The things which they accomplish to-day for us would, to our ancestors of a century ago, sound more improbable than do the fairy stories of Hans Andersen or our friend Æsop.

It pumps the water for the house, barns and pastures. It grinds the feed for poultry, pigs, sheep, cattle and horses. It runs the cream separator, the churn and the washing-machine. By its surplus energy while doing these things it runs a dynamo and charges a storage-battery. Current from this battery is used to light the house and barns, to run an electric fan, run the sewing-machine, iron the clothes and heat the incubator.

An engine will shovel the corn and grain, pitch the hay into the barn, bale the hay, shell the corn, run the fanning-mill, milk the cows while they eat the chopped feed which it has prepared. It will even shear the sheep and clip and curry the horses. And, joy of joys to the farm boy, it will turn the grindstone.

These are but some of the chores which it will do about the house and the barns. In the form of a tractor it goes into the fields and plows, tills, seeds, harvests, thrashes, shreds and shells, hauls the crop to town, digs ditches and fills ditches, pulls stumps and hedge and rocks, moves buildings, grades and drags the roads.

It Gives the Horses a Rest

In the form of an automobile it brings joy to all the family. At the close of a hard day's work they can climb into the car and spin around the country a good many miles in half an hour or an hour. They are rested, cooled and refreshed far more than had they sat at home. If a repair or some supplies are needed, the car runs into town and back within less time than it would take to bring a team from the field and hitch it to the buggy. And the team goes on with its work. Or, if the driver of the team must make the trip, they rest while he is gone, and he too is rested by the trip.

Where the automobile takes the place of the driving team and does its work much better, the motor-cycle takes the place of the saddle-pony and outstrips him at nearly every turn. And where there had been no saddle-pony in the family, this two-wheeled wonder is a godsend to the weary legs of the errand-boy.

And one of the great advantages of the gas-engine in all its forms is that it is unfeeling and untiring. It knows no weariness, no pain. A man's conscience never hurts him for driving it to the limit.

And yet, in the face of all this, the age of the gas-engine has only just begun. Each day someone will find some new task for them to do.

One of the greatest things which will help to increase their numbers and their uses upon our farms will be a more thorough knowledge of how they are built and cared for. When a farm boy's knowledge of gas-engines and their peculiarities becomes as thorough and as instinctive as is his knowledge of a horse, just that soon will the use of the engine become as universal as that of the horse.

What Fuels Can be Used

There are four general grades of fuel which may be used successfully and economically in those gas-engines which are generally known as gasolene-engines. These are gasolene, naphtha, kerosene and various grades of the distillates from illuminating-oils. The one which is the most generally used is gasolene. But any of the other three of these general classifications of fuel may be burned successfully in engines equipped for that purpose. Engines equipped for that purpose are coming to be known as kerosene-engines or oil-engines. They can burn successfully any one of the fuels mentioned above. The general tendency of manufacturers of engines is to build them all so that they can burn any of these fuels. So it seems that the engine of the future will be such a one as can burn any of these fuels which may be the cheapest where it is working. [CONTINUED IN THE NEXT ISSUE]

As to Grammar

By Ramsey Benson

MANY a farmer has unthinkingly left grammar and poultry to the women folk, with the result that he never has any ready money to speak of and hardly dares open his head to say anything when the parson drives out to tea.

However, it is better to say "has went" than to be a "has been." In most sections of the country the elevators do not require a farmer to parse a sentence correctly before they grade his wheat. Nor is it by any means certain that if farmers were as a class as grammatical as bankers, or journalists, or politicians, the effect would be to reduce the cost of living materially. Grit, go and grammar, these three; but the greatest of these is not grammar.

The Farmer and the Fence

By D. B. Phillips

THE old saying "I can tell a good housekeeper by her back door" might also have been "I can tell a good farmer by his fences."

Sufficient losses are sustained every year by grain being destroyed, horses foundered, cattle bloated and cut on barbed wire to more than pay for good secure fencing on all farms where cattle and grain are raised.

One farmer of my acquaintance loses from one to three animals every year from barbed-wire cuts.

Young colts will play in the wire or out, and a sudden fright will send even the old horses up against the poisonous barbs.

A good grade of woven wire put up right would allow the farmer to put sheep, hogs or calves where he pleases, and there would be no danger of the stock going through.

Rail fences have about passed away, but if put up right with two good posts and strong wire ties a ten-rail fence will turn most anything.

What People Might Say After We Die

By Robert W. Neal

"The best animal on the farm" is the boy—and some fathers raise him like one.

The open rain-barrel is an attractive piece of yard-furniture, and the mosquitos are strong for it every time.

But considering the wife more than the mosquitos, a water-pipe from the windmill-tank, with a faucet over the sink, would seem to be little more humane.

They tell me a hundred dollars will pipe most any farmhouse for water. An awful price, though, to pay out just to lighten the women's work and make the place more livable.

Got lost coming home in the dark the other night. Couldn't see a splotch, but I knew where I was as soon as I got into Barnes's field, there were so many weeds to stumble through.

GARDENING

By T. Greiner

Little Salad Potatoes

A WESTERN reader writes me that he has grown the Holland salad potato for six or eight years, and that it is thoroughly acclimated, so that it now grows thriftily and yields quite well. The German or Holland salad potatoes are rather small, and in this country usually make a weak and unhealthy growth, producing a small crop of small potatoes without much practical value. I have tried a number of the best varieties and discarded them. The imported tubers find a limited sale at high prices in New York City and other large cities, being used there in high-class restaurants and hotels for making the famous German potato salad. It is not impossible that we may learn how to grow them successfully. Perhaps we have not made the proper efforts to get these potato varieties acclimated. We must repeat the tests and persist in them for a number of years. But if anyone has already succeeded in getting the salad potatoes acclimated so that they will make a healthy growth and give even a moderate crop it will be a good thing and please many of us who like really good potato salad. Grow and introduce them, by all means.

About Hotbed-Making

The Missouri reader who asks for information about hotbed-making has little time to lose if he wants to be right in season. Any box or frame placed on good soil in a sheltered location, then covered with sash or window, placed slanting so that the rain water can run off, may be used for a cold-frame. If it is placed on soil under which is a thick layer of fermenting horse-manure, it becomes a hotbed. The idea is simply to utilize the heat of the fermenting manure underneath the five or six inch layer of good loam, and the sun's rays shining through the glass covering provide the plants with the needed warmth. The light and warmth give the plants excellent opportunities for growth and healthy development for several weeks before the conditions are right in the open ground.

Water the plants occasionally, but not too often, and on warm bright days raise the cover to give fresh air. In almost all large seed-catalogues you will find detailed directions for making and running hotbeds. Such catalogues often contain other information that is useful to the gardener.

Commercial Tomato-Growing

An Indiana reader says he has contracted to grow seven acres of tomatoes. The land is somewhat acid, and he proposes to apply acid phosphate, as the tomatoes are a very acid fruit. My experience tells me that tomatoes do not thrive on sour soil, and if I wanted to plant them on soil that was the least bit sour I would, first of all, apply a good dressing of lime, say a ton of stone-lime or double that amount of air-slaked lime, per acre, and do this soon.

Lime should be mixed with the soil by drilling in, or harrowing in, or by any other means of thoroughly tilling the soil after application. Only a few of our garden crops can stand, or are partial to, sour soils. Among them we have strawberries, black raspberries and huckleberries. Tomatoes do not seem to belong to that class. Top-dressings of manure, ashes, hen-manure or composts may be given with good results after the plants are set out, and a little acid phosphate may well go with such dressings, helping to bring the fruit to earlier maturity. All such top applications, of course, are to be worked into the soil and mixed with it in the ordinary course of cultivation.

Celery in Storage

I am asked how to keep celery all winter in the cellar. It can be done in a cellar that is good for keeping beets or other roots, cabbages, etc., and which is neither so wet that roots or celery will rot or mold, nor so dry that these things will wilt. Dig the celery-plants with soil adhering to their roots, and stand them upright and close together on the moist cellar-bottom in a dark corner, and as the storing proceeds pack moist sand, muck or loam tightly over the roots and part way up the stalks.

Keep them in the dark, if necessary by boxing off or by curtains. In preparing plants for such storage, I remove part of the coarse outer stalks, especially those partially wilted or decayed. Roots moist, tops dry—that is the invariable rule. Celery that is more or less blanched before storage should be used up first. It will not keep long. The greener the stalk when stored, the longer it will keep. Protect stored celery from freezing while in storage.

It is better to study your market before you plant than to plant blindly.

To-morrow never comes, but it gets near enough to borrow trouble from.

Sage for Market

A reader asks about commercial sage-growing. This plant is not used as much as it once was, nor so generally grown. But it is easy to start a bed, either from seed, from cuttings, from layers, or by division of the old rootstocks. I would consider it easiest to grow the plants from seed. You can sow it in flats in the greenhouse, or in a hotbed, or even later in open ground. The seed looks like a particularly plump sample of cabbage-seed.

It is no trouble to start and grow the plants in any good, rich, loamy, well-drained soil. If to be grown as a main crop, the soil may be plowed deeply in the fall or early spring and thoroughly harrowed. When in good condition in early spring, set the young seedlings, a foot apart from row to row and from plant to plant.

Cultivate with wheel-hoe and hand-hoe as long as the size of plants permits, or use a garden-rake. A cutting may be made in August, and if the plants are not cut too short they will grow a second cutting the same season. Or, every other row may be cut out entirely, giving the remaining ones more space to grow. Sage may also be grown as a second crop to follow after early radishes, beets, spring onions, peas or lettuce. A plant should make two to three bunches, and these may be dried by hanging them on walls or from ceilings. It will be found best to renew the plantation quite frequently, by taking up, dividing and replanting the old roots. Old compost, as well as complete fertilizer, may be used with a free hand.

The Truth About Fall-Bearing Strawberries

Fall-bearing strawberries are no humbug. There are quite a number of varieties that have this fall-bearing habit, and they are of an entirely different type from the ordinary sorts. They also need entirely different treatment. All of these sorts are worthless, or next to worthless, for June bearing.

To make them bear good berries in the fall, say from August to the arrival of killing frosts, the blossom-stalks must be removed in May and June, and perhaps later for latest fruit. Some of the varieties of this type, if not all of them, will bear a crop of fall berries on spring-set plants, and they may also be held over for a second year's fruiting in fall. Among the varieties we have Americus Superb, Productive, Progressive and others. The plants are held as yet at a rather high figure, about $1.50 per dozen. A noted strawberry specialist in New York State has ten acres of these berries.

The Glen Mary Strawberry

By A. C. Osterhout

MY EXPERIENCE in cultivating the Glen Mary strawberry was a very successful one. In April, 1910, I selected a patch thirty-two yards square of loose, smooth, level soil. I plowed, cultivated and raked off all refuse sod and stones, leveling it as evenly as if it were intended for a garden. I marked the rows six feet apart and set the plants, which seem to be self-fertilizing, fifteen inches apart in the rows, and used no other variety in between, as recommended by so many fruit-growers. Then I put on a good supply of rich manure and kept it well hoed and free from weeds the remainder of the season.

In late autumn when the ground froze I covered the patch with a mulch. The following spring I removed the heaviest mulch, leaving some of it to fertilize the soil. In June, 1911, the patch was loaded down with large berries. Every green berry, even those on the very end of the stem, ripened, and I had a large picking of them by the first week in July.

I did not remove the runners, and they spread so that there was scarcely a path between the rows.

I sold $200 worth in 1911, and in the spring of 1912 I fertilized the patch with ground bone without any plowing and had equally as many quarts to sell the following summer.

Salt Treatment for the Radish-Maggot

By Mrs. G. Bowman

THIS is my experience with the radish-maggot: When I came to pull radishes, they were full of worms and unfit to eat. I hoed them all up, took some common salt and put it thick in the bottom of the row, then sowed the seed and covered them up. They grew fine, and not one was wormy. This was several years ago; since then if I find the radishes wormy I just water them with good strong salt water.

All I ever do for cabbage-worms is to take a saucer of fine salt at a dry time (if the cabbages are wet they are apt to rot) and sprinkle a good pinch on every plant. I do this two or three times a season, and the worms leave.

Folly is something which only a fool can get away with. Wise men do well to let it severely alone.

Garden and Orchard

Working with Paper Pots

By John R. Spears

ONE day last February while a snowstorm was raging and the drift on the weather side of the house was more than ten feet high I brought a roll of common cheap building-paper into the kitchen, together with a straight-edged board about four feet long. The flooring of the kitchen is six inches wide and I unrolled the paper on the floor so that the squared end of the roll lay along one of the cracks in the floor. Then I laid the straight-edge on the paper over the next crack and drew a sharp knife along it, cutting off a six-inch strip of the paper. The strip was as long as the roll was wide, of course, which was three feet. By cutting each strip in two at the middle I had two pieces of paper of the exact size to make paper pots on a form I had at hand. This form was a one-foot length of an old four-by-four that had been planed all around and was thus three and three-fourths by three and three-fourths inches in diameter. Three inches from one end of this form (A) I marked a heavy black line (B), and the form was done.

The Construction of the Pots is Simple

Sitting down on a solid chair, I put the block between my legs, placed a saucer of small pins on the table at my right hand and a pile of the six-by-eighteen-inch paper on a chair at the left. Picking a piece (C) from the pile, I wrapped it around the block just above the black line so that the ends overlapped on the face toward me. Then I folded the part of the paper that was above the block down across the top of the block—just as the grocery clerk folds the paper over the end of a package. When thus folded, my paper formed a very good pot that was three and three-fourths by three and three-fourths inches in diameter and three inches deep. D in the illustration shows the completed pot; E shows it upside down. On removing it from the form I pinned the overlapping ends together, and the pot was complete. The bottom was not pinned or fastened in any way, and the last fold stuck up until it was filled with dirt, when it settled down in place.

The Cost is But Trifling

A roll of five hundred square feet of paper costs me fifty cents. It makes six hundred and fifty pots of the size named. I used that size because I happened to have the block for a form and because the paper for that size cut without waste. A solid block is, of course, not needed for a form; one made of strips of board nailed together will serve as well.

The time used in making such pots is not of much consequence to a gardener, because it is a stormy-day job. The pins can be saved for use again.

I also made a few hundred two-inch pots. In these pots I planted cucumber and melon seeds. I sowed tomato-seeds in a couple of flats, but when the plants were large enough they were transplanted to the two-inch pots. The two-inch pots were used to save room. I have no greenhouse—only a green kitchen. On the earliest warm day of spring I took the plants out of the two-inch pots and put them in the larger ones. It was a pleasant job on the sunny side of the house. The paper came off the little cubes of earth easily, the roots serving, with the aid of moisture, to keep the dirt intact. Fresh earth mixed with rotten manure was packed around the cubes in the big boxes, and when a wheelbarrow was loaded with the boxes they were wheeled to the cold-frame on which double sashes were placed.

The Roots Were Hardly Disturbed

When the cold-frame was filled, the plants were well watered, the sashes were put on and then burlaps were put over all for that and the next day. No plants were ever transplanted with less disturbance to the roots, and the growth thereafter showed an appreciation of the care taken.

On May 14th the cucumbers were transplanted to the open ground—to the field, rather, for the ground was not at all open. After distributing the pots to the previously prepared hills, I knelt at each hill, turned the pot upside down, tore off the bottom and then replaced the pot in the hill, where the moist earth was drawn around it and well firmed down. This done, it was easy to withdraw the pin from the side of the box, after which the earth was rounded up about the plant, covering the box out of sight.

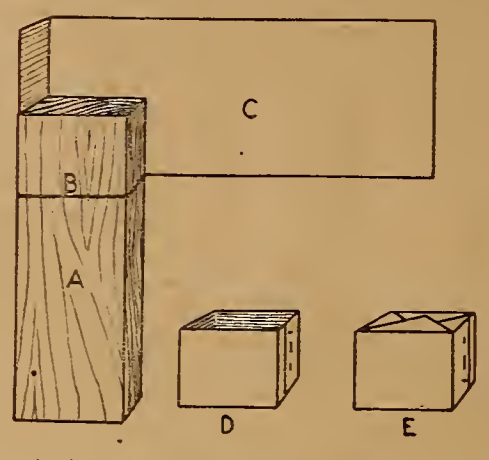
Now, as the fourteenth of May is early here in New York, I put a cold-frame around each plant. The frames were made of old boards and were just large enough to hold an eight-by-ten glass on the top. It was some work to put them in place, but it kept the plants growing. It was more work to make them. I was an hour making the first five. I have them of different depths, but six inches is just right for cucumbers. The glass I bought of photographers—old negatives—and washed them with water and potash. But that is another story.

The Result of a Comparative Test

After the hardest possible luck with weather—cold until late and then so dry that for six weeks there was not one shower heavy enough to wet the soil an inch deep—I took the pots from the cold-frame and put them in the hills and then mulched the plat heavily with manure. The result was an excellent crop of cucumbers and a heavy crop of tomatoes which, however, were very late, in spite of the use of pots.

The potted "cukes" were set in rows near rows of "cukes" planted where they were to grow, with the result that the potted plants gave a picking a week ahead of those planted in the hill, and no other kind of a pot could have done better. I shall use the paper pots for all early crops this spring.

I could have saved nine tenths of last



spring's pots for use next year if I had taken the trouble to remove them carefully, but I was short of help, and it saved time to rip off the bottom of the box and set it in the hill rather than to try saving the box. I thought and now think the time worth more than the loss.

Maple-Orchards

By J. W. Ingham

PLANT sugar-maples on the abandoned farms of New England and the steep hillsides of the Middle States to prevent erosion and gulleying. Much has been written about the abandoned farms of New England, and their impoverished condition is ascribed to their owner's bad farming.

The fact is the number of abandoned farms is much less than has been stated, and the soil originally was so poor they should never have been cleared, but kept for growing timber. When the Government commenced giving away rich prairie farms in the West to all takers who would settle on them, the infertile farms were wisely abandoned.

Why Maple-Trees Will Grow in a Poor Soil

There is no doubt that sugar-maples, like all other trees, will grow faster in a good soil than in a poor one. It is equally certain, that in their native home, where the climate suits them, they will grow even in a poor soil and do very well in a soil too much exhausted to produce grain or grass in paying quantities, because of their ability to extend their roots so much farther and deeper in search of food. New England is the native home of the sugar-maple. For those who do not know this the encyclopedias declare it.

There is not a hillside in New England where there is sufficient loose earth to enclose their roots and sufficient moisture to sustain them on which small maples with proper care in setting could not be made to grow to a fair size.

The First Cost is Practically the Only Cost

When a maple-orchard is planted and the trees have obtained a fair start, there is no further trouble or expense, and, when large enough, sugar can be made from their sap year after year, without any perceptible injury to the trees.

To make sugar from cane, sorghum or beets there must be the same never-ending labor every year to manure the land, plow, plant, cultivate and harvest the crop, extract the juice and evaporate it by boiling. With maple-orchards there is nothing to be done but tap the trees, gather the sap and boil it down to sugar. The work comes in the early spring, when farm work is not pressing and labor is plentiful and cheaper than later in the season, when beets and sorghum are to be planted and hoed.

Stop Erosion with a Sugar-Bush

It may be that in trying to supply our country with sugar from cane, sorghum and beets we have been working in the wrong direction. There is waste land enough in the Northern and Eastern States which, if planted with maple, would produce more sugar than could be consumed in the United States, great as the amount is. In Ohio and New England the "sugar-bush" is esteemed, acre for acre, the most profitable part of the farm.

In Ohio, West Virginia, Pennsylvania and other States where the hillsides have been cleared and nearly destroyed for farming purposes by gulleying, the best way to stop the destruction is to set out maple-trees. As a means of paying a part of the cost of setting the maples, other quicker-growing trees may be intermixed with them and cut when they have reached a size large enough to be profitable.

Burying Peach-Orchards

By Florence L. Clark

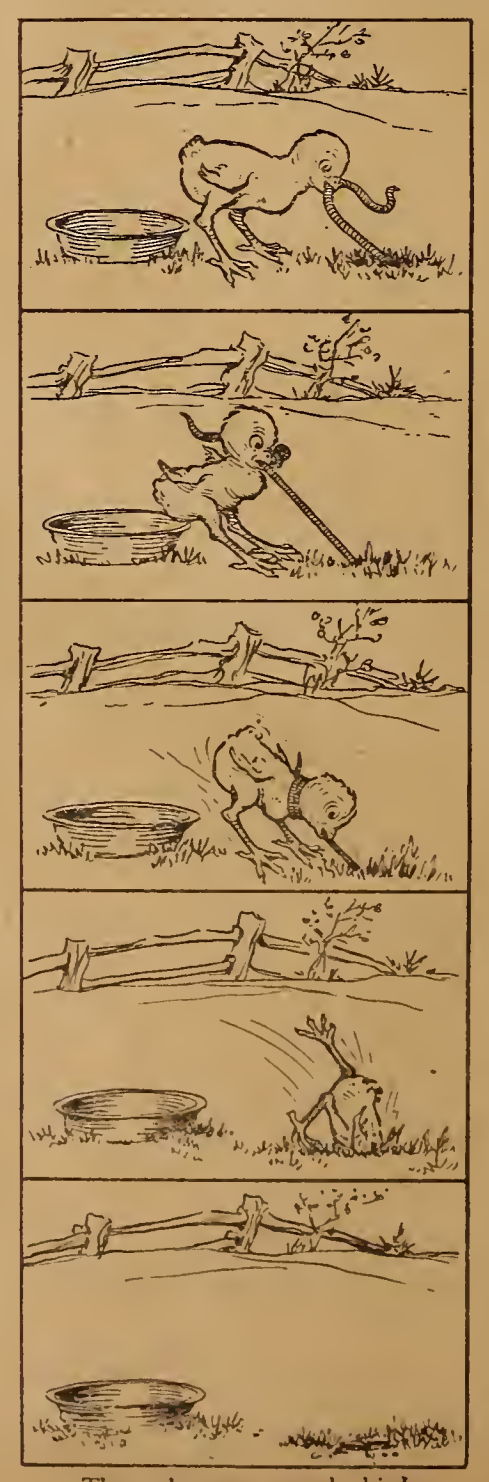
IN THE inter-mountain fruit-valleys of eastern Colorado, where late spring frosts often devastate, the burying of entire peach-orchards for protection is a common practice. The new venture is proving so efficient a method of saving the peach crop that more than one orchardist has dubbed it his "mortgage-lifter." In areas where not more than one full crop in seven or eight years had been previously harvested, annual yields are now to be counted on. In truth, net returns of $25 from a single peach-tree thus protected are not uncommon.

Irrigation facilitates the task of burying the trees. Just before a hard freeze is due in the late fall, the Colorado orchardist digs a trench to each peach-tree which he expects to "lay down" and turns on the water, allowing it to run until the soil about the roots is thoroughly soaked. He then can undermine the trees and bend them down with little difficulty. They are held to the ground by a heavy plank or by ropes until a covering of hay is spread over them and a layer of dirt shoveled on top of that. Two inches of dirt have been found sufficient protection in thirty-below-zero weather.

The Roots are Cut When the Trees are Planted

Formerly orchardists made no special preparation for the burying of their peach-trees until bearing-time approached, and then merely cut the roots on the side of the trees opposite to the direction in which they were to be laid down. Nowadays, however, attention is given to future buryings at the very start when the trees are set out. The roots on two opposite sides are cut off before planting takes place. The little trees with their roots stretching out on only two sides are then set in the ground with these roots at right angles to the direction in which the orchardist proposes subsequently to lay them down. Prevailing winds and convenience in irrigation decide the direction of the laying down.

Orchards are left prostrate and covered until the last bit of danger from frost in the spring has passed. In the higher localities this danger period is not over before the tenth of May. When the hay and dirt are finally removed, a mass of pink bloom greets the eye of the orchardist. He will tell you



The early worm gets the bird

The Downy Woodpecker

By H. W. Weisgerber

WHAT a patient, plodding little fellow is Downy. For whenever I enter the woodland nymph's domain and hear a gentle tapping, tapping, tapping, I know that cousin Downy is after some wood-boring grub that he will soon reach and extract with that barbed tongue of his.

The dead limbs of the forest trees harbor all kinds of wood insects, and it is these that the woodpeckers feed upon. And since the insects remain in the wood through the winter, these little birds always have an abundant food-supply that only needs to be chiseled out. And if the wood be fairly rotten, how the chips do fly! With such a food-supply that only needs to be gathered, and the fact that Downy excavates a neat little hole in some old stub where he can nestle securely and warm on cold winter nights, we have them with us throughout the year.

Downy also delights to peck at a bone or piece of suet fastened to a pole or tree; even in the heart of our little city they were regular daily visitors to the suet all of last winter. While they ate a great deal of it, I observed, too, that they did not depend entirely upon it, but would go and drill for grubs.

They are whitish underneath and black and white above, the male having a red spot on his head, the female has none. Their small size and shorter bill will help to distinguish them from their rarer and larger cousin, the hairy woodpecker. Downy is our most common woodpecker.

Guide-Posts

Getting ahead relates rather to yourself than to the procession.

Time saved is worth as much to you as though you had made it yourself.

Greatness may make a nation prosperous, but prosperity never yet made a nation great.

Folks who are careless of their ways never take much interest in their highways, either.

The hardship that keeps some people down is the difficulty of getting up in the morning.

Most any poor man's excuse for not being rich is better than some rich man's excuse for not being poor.

When a man's Mondays are blue, it is a pretty sure sign that he is not spending his Sundays right.

If will-power could be purchased like gasolene-power, probably we would all be mighty personalities.

The deepest furrow any man ever plowed was cut by the plowshare of anger in the heart of the woman who loved him enough to take his name. Takes forever and a day to fill that furrow up.

That man has no cause to worry whose books show no gain over last year: provided his expense account has been enlarged by the necessary cost of giving his boys and girls a better equipment for life's work.

Crops and Soils

How I Developed My Prolific Corn

By O. M. Conner

HAVING received hundreds of letters from readers of FARM AND FIRESIDE requesting me to give a history of the "Prolific Corn," an illustration of which was published in FARM AND FIRESIDE in the January 4th issue, I have the following to say: First, I will state that I have no corn for sale, having disposed of all my select seed to a firm with which I have no connection.

This article is writfen in the hope that others may be successful in developing a strain of corn which likewise will produce from two to five good-sized ears to the stalk.

I Brought the Seed from South Carolina

While in South Carolina a few years ago I became interested in the wonderful yields the boys of that section were getting in their "one-acre" contests, which were making over two hundred bushels to the acre, so I started to investigate how they succeeded in securing such bountiful yields.

I found that they manured and used fertilizers of different kinds to bring the fertility of their soil up to the highest notch, then gave it the best of care and cultivation; but the most important part was the variety of seed-corn they were using. It was a prolific corn bearing from two to four ears to a stalk.

Believing that what could be done there could be duplicated in the richer corn belt of the North if it were managed right, I secured for seed less than one pound of a certain kind of corn that appealed to me as being the kind I wished to breed from and develop on my farm in Greene County, Ohio.

My First Crop

I brought it to Ohio, and the next spring selected a very fertile plat of ground, prepared it very carefully, putting it in fine condition. I planted in rows three feet apart, two grains to the hill, two feet apart. It was planted on May 6th. In five days it was up with scarcely a grain missing. It was then given very careful cultivation, and when two feet high it was given a coat of fertilizer worked thoroughly into the soil.

It was cultivated from two and one-half to three inches deep. When the corn began to tassel, I removed all the tassels from the stalks that did not show the desired points, leaving only the earliest and strongest tassels to fertilize the ears.

This plat matured and was ready to cut the last of September. It made a yield, when gathered, of one hundred and seventy-eight bushels to the acre, producing from two to five ears to the stalk.

Some Soil Tests

I will give you my experience in field planting tried out on different kinds of soil. One piece of good black loam was plowed and put in good condition, the corn planted with a two-horse check-row corn-planter on May 4th. It was cultivated four times with a two-horse riding cultivator with four small shovels to the side. I used shallow cultivation not over three inches in depth. The corn matured early, being cut and put in the shock September 15th.

No manure or fertilizer was used on this piece, as the land was naturally of a good quality. The yield was one hundred and fifty bushels of shelled corn to the acre.

Wishing to test the corn on land that had been cropped continuously for twenty-five years, everything being taken off and nothing put back, I selected one-half acre and gave it a light coat of manure that had been exposed to the weather for over a year. It was then plowed and put in condition for planting the first week in May. I cultivated four times and hoed it once.

About August 1st a heavy wind-storm blew down and broke off about one half of it. On September 10th the corn was ready to put in shock. It was husked and weighed November 12th, yielding forty-one bushels and fifteen pounds to the half-acre, which I considered a good yield, considering the kind of soil and the amount the crop was damaged by the wind-storm.

Primarily a Fodder-Corn

I will now give a description of the corn. It is a large heavy stalk with short joints heavily bladed, the blades being one third wider and one third longer than the one-eared variety of corn: they hold to the stalk when matured, not shedding the lower blades like our common varieties. As the joints are close and blades heavy and stalks growing from nine to twelve feet tall, it makes double the amount of fodder that ordinary corn does.

The color of grain and cob is white, the average length of ears being eight and one-half inches. The cob is small, with from twelve to sixteen rows of grain to the ear. The stalks bear from two to five ears each, and the corn matures in from one hundred and ten to one hundred and twenty days.

As to feeding qualities, we find it is as good as any we have ever used. We fattened our hogs we butchered this year on this corn.

For ensilage this corn is also good, because it produces double the amount of fodder per acre, and being so heavily eared it requires but little, if any, grain to complete the ration.

I am now breeding a "Yellow Dent Prolific Corn" which I believe will equal, if not excel, the white variety which I am raising and expect to continue raising, as I am well pleased with it.

Give a falsehood neither room nor rumor.

If you have but one talent, bury yourself in that talent.

The time to see a doctor is while you are well enough to go to him.

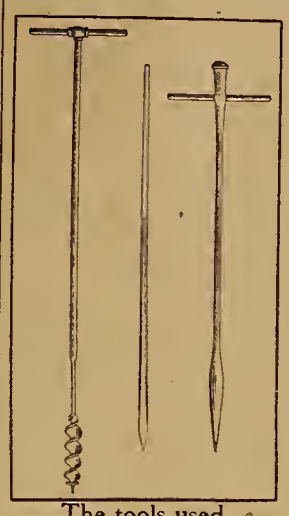
He who thought ignorance bliss and found it blister would do jolly well to get wise.

Farmers would like to have it understood that the good country roads belong to the people who live on them just a little more than the city people who motor on them.

The Use of Explosives in Clearing Land

[CONTINUED FROM PAGE 4]

end of which is fastened a cross-bar, for turning the same; a wooden tamping-stick to press back the dirt after the charge has been placed in the hole, and a cap-crimper or small pair of pliers to fasten the blasting-cap to the fuse are really all the necessary tools.



The tools used

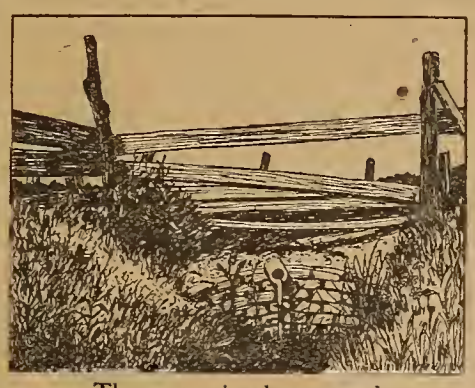
The stump-puller of the tripod type will lift stones weigbing many tons, but to be hauled and handled easily the stone must also be broken up. Dynamite will not only blow out boulders of every description, but it will also break them into smaller pieces. To split up a stone a few holes should be drilled to accommodate the necessary charge, but often dynamite simply laid on top of the stone, covered with some damp clay or, better, placed underneath next to a flattened or concave surface will do tbe work more quickly.

Cistern Fed by a Tile-Drain

By E. S. Richardson

THE picture shows a cistern fed by a tile-drain. Tbis cistern was dug about 1900. It is ten feet deep and ten feet in diameter. Tbe farmer who made it walled it up with brick set on edge until about one foot from the top of the ground, then he laid the brick on their sides and arched it over, and it stood it well until tbe winter of 1911-1912, which was too severe and caused the arched part of it to fall in. But he intends covering it with a reinforced cement top and putting a large sewer-tile in tbe center as an opening for pump or to clean it out.

When he made this cistern, he had two objects in view. First, be wished to tile this field, but the outlet was not very good, so he put this cistern in and ran the tile-drain



The water is always cool

into it and made another hole on the opposite side of the cistern a little lower down, which enters into an open ditch on the roadside. Second, the field was a permanent pasture-lot, and this cistern furnishes water for the stock a greater part of the year. During the thrashing season of the year, thrashermen come long distances to fill their tanks.

Where a farmer does not have water in his pastures, he could place a cistern on a line of the drain at a fence between two pasture-lots, then it could be used for either or both. The stock appreciate a cool drink at noon during the long, hot, summer days and would reward the farmer for this little expense and trouble. Of course, tbe water for the stock would have to be pumped.

As to Culture

By Ramsey Benson

THOUGH the merest of mere farmers, Amzi dares to have his opinion of what is commonly called culture. He frankly believes it no better than it should be. And in that connection he has a bone to pick with the schools.

"Boys and girls," he declares, "encounter a thousand and one influences which conspire to teacb them a false sense of relative values, to esteem the things that are not worth wbile, and the chief concern of the schools ought, in my humble judgment, to be to counteract tbese influences. But is it? Ask my neighbor in tbe big house across the fields yonder, who sent his two sons through the university.

"The university, by the way, costs us taxpayers a cool million a year, but what it did, or rather permitted to be done, to those fine young men I don't like to think about."

He is inclined to put a good share of the blame on big business. Big business favors any old sense of relative values wbich will make things hum commercially, and its sway is pretty much universal.

"But no business," argues Amzi, "can by its bigness make up for dwarfed ideals."

Seed Clover Heavily for Hay

By W. F. Massey

I AM asked by a Kentucky reader how to make a hilly field of twelve acres, now in native grasses, weeds and rye, serve as a pasture for twelve head of cattle. There are on the farm three other twelve-acre fields in rye, which are to be turned under for the good of the land, which is getting thin. These other three fields cannot be pastured later than May 1st. My inquirer wishes to improve the pasture if possible without plowing.

Twelve head of cattle will soon eat down the rye on twelve acres, especially if the field is but partly in rye. It takes very heavy grass to carry one animal per acre. It would be better to pasture all the fields moderately and then put the land into a regular rotation for its improvement.

Sow timothy and clover on mornings when the land is cracked by frost, and the sun will thaw it during the day and so cover the seed. But much pasturage cannot be expected from it the first season. The part of the field that is in wild grass and weeds cannot be gotten into grass properly except by thorough breaking and preparation. Plow it and seed to oats in early spring, and seed to grass and clover with the oats.

Fifteen Pounds of Seed per Acre

Many think that it is harder to get grass with oats than with fall-sown grain, but years ago, when I was running a large stock farm, I found that I always got a good stand of grass on land freshly prepared in the spring with oats. The important matter is to use plenty of seed. My neighbors used to laugh at me for sowing fifteen pounds of clover-seed an acre, but my stand was always so much better than theirs that the difference in the cost of seed amounted to little, as the crop far more than paid the difference. Cut the spring-sown oats when in the milk, and feed them. Sow cow-peas in late May, and either pasture them or cut for feed. If cattle are turned on peas before they bloom, they can eat them down, and then being taken off a while the peas will start up again.

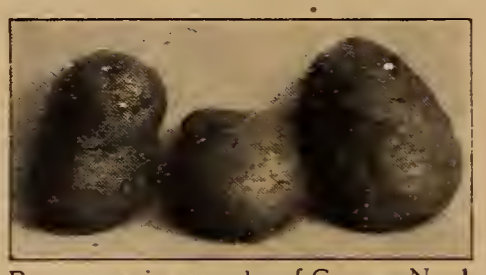
I once pastured peas down three times before they gave it up. Essex rape can be sown on good soil in March, cut and fed green, or if preferred cut the green rye and feed it. Cattle kept up and fed green stuff in the stable will make you a great lot of manure that will do as much good as turning under the green stuff. But spring-grown grass and clover will give little pasturage the first season and should not be pastured much if the future sod is desired.

The Carman No. 1 Potato

By A. J. Legg

SOME fifteen years ago the West Virginia Horticultural Society offered to furnish five-pound packages of five different varieties of potatoes free for trial to farmers of the State who would pay the express charges on them.

I sent for one of these trial packages and got Carman No. 1, Rural New Yorker and three other vareties. They were planted in



Representative samples of Carman No. 1

carefully marked plats, and after a year or two all other varieties except Carman No. 1 were discarded.

I have tried a number of other different kinds of potatoes since that time, but have never found any potato that suited me for the main crop as well as Carman No. 1.

This variety is a medium early, rather short, thick potato with shallow eyes. In a good soil they grow large, but are always smooth and never have hollow places in them, no matter how large they grow. When cooked, they are tender and very dry.

There are very few small potatoes in the hill if they are planted in a good soil and well cultivated.

The Early Rose potato is a little earlier than the Carman No. 1, but I think that in every other respect the Carman is superior to the Early Rose. The three Carman potatoes in the picture weigh two and one-half pounds.

Estimating the Value of Fertilizers

By Lynford J. Haynes

USERS of commercial fertilizers should learn to base values upon the actual amount of plant-food contained in the fertilizer and not upon the price of the goods per ton. One brand may be cheaper at $40 a ton than another is at $20, because it furnishes the fertilizer at a less cost per pound. When farmers begin to judge values by the actual amount of fertility a dollar will buy, regardless of how much weight of carrier goes with it, they will have solved the first step of economical fertilizer-buying.

The largest portion of any commercial fertilizer, including the highest brands, is worthless from a fertility point of view, and is known simply as a carrier. For illustration it might be thought of in comparing it with quantities of cream containing butter-fat of various percentages.

An Example in Butter Prices

One hundred pounds of 15 per cent. cream when churned would yield a little over 17.5 pounds of butter, while the same amount of 25 per cent. cream would contain about 29 pounds of actual butter. If one were buying butter in the cream before churned, the latter would be as cheap at $9.92 per hundred pounds as the former at $5.95. Sixty pounds of the high-grade cream would be equivalent to one hundred pounds of the low grade. A person buying blindly might choose the low grade at $8 per hundred in preference to the high testing at $9.92, and by so doing pay 45 cents a pound for the butter contained, while he could buy it at 34 cents per pound in the cream costing the most money.

It is practically the same with commercial fertilizers, except that the material wanted is plant-food compounds instead of butter. It is the cost of this material that ought to be considered, the amount a dollar will buy, and this can be determined only by a study of the guaranteed analysis in connection with the price, and by comparing the prices with the cost of fertility in other brands.

There are three elements which one buys in fertilizers; namely, nitrogen, phosphoric acid and potash. As a basis for figuring these, the cost when bought in nitrate of soda, acid phosphate and the muriate of potash may be taken. At $60 a ton, nitrate of soda containing 15 per cent. of nitrogen will give 300 pounds to the ton at a net cost of 20 cents a pound for the nitrogen; at $45 a ton, muriate of potash containing 48 per cent of potash will give 960 pounds of actual potash at a net cost of about 4½ cents a pound for the potash, and at $13 a ton for acid phosphate containing 14 per cent. of phosphoric acid the net cost of the 280 pounds contained in a ton will be about the same as the potash.

Study the Tag

In examining a fertilizer tag, first get the guaranteed analysis of the three elements mentioned, multiply the percentage of each by two thousand to get the amount furnished in a ton, and then multiply the amounts furnished by the basic prices for which they may be purchased. Add these together, allow a few dollars for the expense of mixing, freight and commission, and the sum will be the approximate value of the fertilizer, or the cost for which one could mix it himself.

For example, if the tag read 1 per cent. nitrogen, 10 per cent. phosphoric acid and 5 per cent. potash, it would be:

1 % of 2,000: 20 lb N., @ 20c.....	$4.00
10 % of 2,000: 200 lb P. A., @ 4½c..	9.00
5 % of 2,000: 100 lb Pot., @ 5c	5.00
	$18.00

The same method may be applied to the analysis of any brand and the approximate value estimated with a fair degree of accuracy. A few minutes of figuring soon will impress one with the fact that as a general rule the high-grade goods costing $35 or more a ton are more economical than brands costing only $20 or less. A dollar buys more actual plant-food material, even though it buys less of the fertilizer itself. Then the labor item for mixing cheap goods is the same as that for high grade, the freight on a ton of it from the place of manufacture is the same, and it costs more to handle it.

The FARMERS' LOBBY.

Congress—Big Boys at Play

How Plain Politics Mussed Up Useful Public Business

By Judson C. Welliver

NEVER was there a better illustration of how politics plays hob with the serious business of legislation than was produced a few days ago when the Page-Lever bill came before the Senate. There was a time when occasionally felt that possibly a distortion of vision might be responsible for my enthusiasm in behalf of the Page bill. Since the measure was debated in the Senate, and the men whom I look upon as the wisest and broadest in that body declared themselves as they did in favor of that legislation, I feel satisfied that I have been right all along, and that FARM AND FIRESIDE has been right, in earnestly advocating the measure and rating it as a legislative proposition of the very first magnitud

Politics Nearly Shipwrecked the Legislation

THE Lobby has said a good deal about this measure. It favored the bill when it was the Dolliver-Davis measure, before Senator Page had even become a member of the upper chamber. Dolliver believed that to pass it would be the greatest work of his public career. When he died, Senator Page took his place as sponsor and promoter of the measure, and he is entitled to credit for a splendid fight. If he lacked something in parliamentary skill and appeal to the imagination, he fully made it up in earnestness and hard work.

I am going to tell the story of how politics got mixed up in the affair and nearly shipwrecked the legislation. To make the story perfectly plain, it is desirable first to recount very briefly exactly what the row was about.

The Page bill looks to vocational and industrial education, aided by the Federal Government in coöperation with the States. It would, in time, place our public-school system on a practical basis comparable to that of the German schools. It proposes:

To appropriate $3,000,000 annually to college extension work; that is, to carrying to the people the practical demonstration of the scientific agricultural work that the agricultural colleges and experiment stations do.

Next it proposes to give $3,000,000 a year to establish district agricultural schools, the high schools of the agricultural educational system, intermediate between the rural primary schools and the agricultural colleges.

Then it proposes to give $3,000,000 annually to aid education in agriculture, trades and domestic economy in the country schools.

Finally, it gives $3,000,000 annually to aid education in trades and domestic economy in the cities.

Everyone Understood the Party Feeling

TOTAL, $12,000,000 a year for promotion of practical education in city and country. The Page bill provides further that whatever the Federal Government shall give, in either of these four directions, shall be matched, dollar for dollar, by the States. In order to get its pro-rate share of the national money, the State must put up as much more of its own money.

That is the substance of the Page measure. The Lever bill, introduced by Mr. Lever of South Carolina in the House and Mr. Smith of Georgia in the Senate, provides simply for the first one of these four projects; that is, it gives $3,000,000 a year to the college extension work, and adds $480,000 a year to be distributed among the States, $10,000 each, for their agricultural colleges. The Lever bill does not provide that the States shall match up the federal appropriation; it gives them the money outright, without any contribution from them for like purposes.

In short, the Page bill proposes federal aid in establishing a broad, new national system of industrial and vocational education. The Lever bill proposes merely to give federal aid in carrying the results of scientific farming work to the people.

Senator Page is a Republican; Messrs. Smith and Lever are Democrats. Nobody was impolite enough to say, during the rather acrid discussion in the Senate, that that was the real basis of the differences that developed; but everybody, pretty largely, understood.

The Lever bill some time ago passed the House. The Page bill got to the top of the Senate calendar. Senator Page let it be laid aside from time to time, out of courtesy; but at last he insisted on attention.

When the matter came before the Senate, Mr. Smith wanted the Lever bill passed. He pointed out that if the Page measure were substituted, there was danger that the House would balk at it, and the result might be no legislation at all. Page and Smith held various private conferences, at which Senator Page, as he later explained to the Senate, got the idea that they had practically agreed on a plan to amalgamate the two bills into one. In effect this plan was to take the Lever bill as it had come from the House and add to it, as amendments, the various provisions contained only in the Page measure. That seemed to have been settled.

Whether there was such an agreement, it is certain that Page and Smith didn't agree in their understanding of it when the matter came up in the Senate. Mr. Smith denied the agreement in toto, and proceeded to take up the House measure and offer amendments which Mr. Page was not willing to accept. Mr. Smith said the amendments he was offering would make the measure practically the same thing as the Page bill; Senator Page denied this. Anyhow, the Senate, in committee of the whole, finally adopted the Smith amendments and some others and reported it to the Senate proper.

The Quarrel for Credit

IN THE Senate Mr. Page moved to substitute, entire, his own bill. The feeling by this time became pretty tense. Charges of bad faith were illy concealed in the sharp exchanges between the Vermonter and the Georgian. Senator Page insisted that his own bill was the one to which members had pledged themselves. He pointed out that there was a very essential difference between the two, which was, that the Lever bill, with the Smith amendments, provided for an outright gift of the federal money to the States, without requiring that the States make an equal contribution. He protested that this element of coöperation between States and Nation must be insisted upon in order to get the best results from the project; and, despite urgencies from many senators, he insisted on his motion to substitute his own bill for the Lever-Smith measure.

On this motion to substitute, a roll-call was finally reached; and the Page measure was adopted by the vote of 31 yeas, 30 nays! Many senators who had all along favored the Page plan voted with Mr. Smith, the ultimate reason being politics. Democrats wanted a Democrat's name to be associated with the inauguration of so important a measure; Republicans wanted a Republican name attached; and between them the quarrel for credit drifted to the point where there is, at the time of writing, grave danger that no legislation at all will come out of the muddle.

After the Page bill had been substituted for the Lever-Smith measure, it was passed without a roll-call and sent back to the House as a substitute for the original Lever-House bill. There Mr. Lever moved that it lie on the Speaker's table subject to call; which means that Mr. Lever will take his time to decide whether he will move that the two bills be referred to the committee on agriculture, or that a conference with the Senate be asked. If the bills go to the committee at so late a date, there is grave doubt whether it will agree on any report in time to make legislation possible at this session.

BEFORE this article appears in print, the end of the fight will be known, for the end of the session is at hand. Senator Page hopes his measure will get accepted in the House; but in the jam of business in the closing days of a short session it is impossible to predict what may happen. If there is no legislation at all, it will be one more sorry monument to the capacity of plain politics to muss up a useful piece of public business.

Probably a Democratic Label

IF THEY are sent to conference, there is a good chance that at least the Lever bill, with most of the Page proposals added, will be reported out. A good majority of the House, it is confidently believed, favor the Page measure; certainly two thirds of the Senate prefer it; yet there is, at this date, the utmost danger that no legislation at all will pass, simply because two opposing political camps went to war over the question of whether the bill should bear the label of the Democratic or the Republican party.

That's rather a cheerless view of the situation, but it's exactly the fact. Gentlemen didn't put it so baldly and bluntly on the floor in their discussions, but they almost all agreed on that statement of the case in private conversations.

If the Lever bill alone comes out—that is, the appropriation merely of $3,480,000 for college extension work—nearly everybody confidently expects that at some future date the substance of the Page provisions will be added to it. When they come, they will come from a Congress Democratic in both houses, and the measure will have a Democratic label that nobody will be able to mistake.

A Small Sort of Performance

IN TELLING this story, I don't blame the Democrats; they have made a fight that I have seen Republicans make many a time. For instance, in 1906, when the Dolliver-Hepburn railroad bill was before the Senate, a crisis came at last in which there must be the final test of strength on its passage. Most of the Republicans were opposed to it; a minority of them favored it. Mr. Roosevelt and his friends went out to enlist Democrats in its support. When enough Democrats had been lined up in favor of it to insure, together with the minority of Republicans, that it would pass even though the conservative Republicans voted "no," the conservatives yielded in a body and voted for the bill so that it could be presented to the country as a Republican measure, backed by enough Republican votes to have passed it even if there had not been a single Democrat in its favor!

Isn't that a pretty small sort of performance, by way of handling the great, big business of the whole people?

On the critical vote on the Page bill—the vote to substitute it for the Smith-Lever measure—those who supported Senator Page were: Senators Bradley, Brandegee, Brown, Catron, Chilton, Clark of Wyoming, Crawford, Cullom, Dillingham, Gardner, Gronna, Guggenheim, Johnson of Maine, Hones, Kenyon, Lodge, McCumber, McLean, Maryine, Nelson, Oliver, Page, Perkins, Poindexter, Sanders, Smoot, Stephenson, Townsend, Wetmore, Works. Total, 31.

What Senator Gronna Said

OPPOSING the substitution were Senators Ashurst, Bankhead, Bourne, Bristow, Bryan, Burnham, Burton, Culberson, Cummins, Fletcher, Heiskell, Hitchcock, Johnston of Alabama, Johnston of Texas, Kern, La Follette, Martin, Myers, Newlands, Paynter, Percy, Pomerene, Simmons, Smith of Arizona, Smith of Georgia, Swanson, Thomas, Thornton, Williams. Total, 30.

Senator Cummins, while voting against the substitution, has really helped straighten out the tangle and save the day for the Page bill. He explained that he earnestly wanted to see it a law; but he had been a party to the conferences between Page and Smith, about which the differences arose, and believed that Page was bound to abide by the agreement that Page insisted had been repudiated.

Before this article appears in print, the end of the fight will be known, for the end of the session is at hand. Senator Page hopes his measure will get accepted in the House; but in the jam of business in the closing days of a short session it is impossible to predict what may happen. If there is no legislation at all, it will be one more sorry monument to the capacity of plain politics to muss up public business.

It would not be quite right to close this story without telling something about the speech that Senator Gronna of North Dakota made in favor of the Page bill. He said in part:

"It is not true that the high cost of living is due to the high prices of agricultural products. If you want to help the farmer, if you want to help the people of the country, do something for them that will aid distribution.

"Millions of bushels of vegetables go to decay in certain sections of our country, while in other sections the public is hungry for them."

This and more to the same purport, helped to convince the Senate that it would be worth while to deal in a big, national way with the question of helping the farmer to help himself, and thereby help to help everybody else.

The ADVENTURES of a BENEFICIARY

by W. J. Nichols

Illustrated by W. C. Nims

Characters of the Story

EMERY WRIGHT, a young city man whose claim to his Uncle Nathan's fortune depends upon his successfully managing a Revolutionary relic in the shape of a man-propelled river ferry in New Hampshire. In his ignorance he is persuaded by "Chicken Smithers" to buy six "mated pairs" of chickens. They are "Alderneys" and "Holsteins." A large Shanghai rooster has a bantam hen as an affinity.

While Wright is sketching he is attacked by an angry "cow" that chases him across a field, and through this episode he learns that cows are sometimes bulls.

PETE, a half-witted youth, who seems to "come with the ferry." Later Emery Wright learns differently and has to deal with Pete's uncle, who demands wages for Pete's services.

MISS LANSING, a young lady whose parents have a summer residence close to the hereditary ferry. She meets Mr. Wright on his first trip across the ferry. He falls at the same time into love and the river. He rescues himself and the ferry and then determines to learn to swim.

MR. DODD, the attorney, who makes known to Mr. Wright the terms of his uncle's will and who is to give the nephew any necessary legal advice.

When Emery Wright arrives at the ferry, his adventures begin. This is a continuation of them.

Chapter XVIII.—The Laying of the Ghost

IT COULD be done," Wright soliloquized. Aided by the hints Miss Lansing had given him, the ferryman was making an inspection of the old house. The front had revealed nothing new, but on the side toward the river he had found traces of the gallery removed by Uncle Nathan. An old tree, wide-branching, grew near the house; it could be climbed with ease; one of the biggest limbs stretched above the level where once the gallery had been, and bent at a sharp angle within a foot of an attic window.

Wright's glance turned from the attic window to the tree, following the sweep of the limb back to the trunk and then descending to the ground. Of a sudden his whistling ceased, and he bent down, peering at a footprint clearly outlined in a patch of soft earth, and made by a rubber-soled tennis-shoe. At a guess he would have said that the ridged sole had pressed the soft earth within twenty-four hours. Also, of all the persons he had encountered in the ferry region but one, Lomond, ever wore tennis-shoes.

Wright put up a hand, and catching a low-growing bough began the ascent of the tree. Without difficulty he made his way along the limb extending toward the house, and found that the attic window was entirely accessible, and opened almost at a touch. Wright whistled as he lowered himself to the ground, and his air was preoccupied while he went about the various duties of the late afternoon.

In his abstraction Wright made a dismal failure of the evening meal, and with a touch of impatience he swept the mess into a pan and started for the chicken-house. There was a flutter when he stepped into the place, followed by the hoarse and protesting note of the big Shanghai. The next instant he felt claws tearing at his shirt and stumpy wings beating his shoulders, and, protecting his face with his arm, he was glad to retreat to the safety of the open air. The old rooster was evidently in one of his ugliest tempers, and ready to fight man, beast or bird.

Wright, as has been said, cherished an odd admiration for the old bully. As he stood watching the demonstration of willingness for more trouble, a weird notion rose in his brain. Suddenly he laughed and sprang forward and grappled with the Shanghai. Squawking and struggling, the rooster was borne to the house and up two flights of stairs to the attic. There Wright left him, cackling with wrath and as full of fight as an egg is full of meat.

"You're a funny watch-dog," the ferryman told him at parting, "but you're just the sort I need—for visitors or visitants by the air route. With you on guard, I don't believe even the Tory Lady will care to give much of a performance."

Pete was restless that evening, and Wright sat beside him for an hour before the sufferer fell into an uneasy doze and he could seek his own couch. There he lay for some time, speculating upon the day's incidents and dropping asleep so gently that it was hard to tell where fancies ended and dreams began. He was, it seemed to him, in the midst of a meeting with the Tory Lady at a grand ball, and he had just requested the pleasure of a waltz, when the Lady responded to the invitation by a deep and thrilling groan. He woke to find himself sitting up in bed, rubbing his eyes and with the groan ringing in his ears. Then the groan was repeated, though now he was wide awake.

Wright sprang to the floor, but before he could reach gun or lantern the groans were succeeded by sounds of a very different sort. Up in the attic things were happening. There was the fierce note of the Shanghai's battle-cry, followed by howls from a panic-stricken human throat, hasty steps and the crash of something falling heavily, then ensued a groan and a squeal of pain, then a gasping cry for help, then a wild scramble and the thumps of a weighty object descending the stairs in a series of tumbles. Wright reached the hall just in time to perceive, dimly, a form shooting through the air and alighting in a trembling heap on the floor.

The ferryman sprang forward and caught the intruder by the collar. With a jerk he helped him to his feet, but still held him tightly. He was a little man, frightened apparently out of his wits, and panting and sobbing hysterically. For a moment he clutched so desperately at his captor that the latter was forced to fight to free himself. Once he succeeded, however, in getting the prisoner at arm's length, he held him there until the sobs lessened to a whimper.

"Who are you? What on earth are you trying to do?" Wright demanded.

"Oh, oh! Save me—save me!" the other begged.

"You're safe enough. Tell me who you are and what you've been up to."

"It—it most got me! It jumped at me—out—out of the dark!"

"Nonsense! Brace up!"

"It had claws a foot long and a beak like an eagle! Holy Moses!, It'll be after me again! Don't let it get me!"

Again the man clutched wildly at the ferryman, and again Wright had to exert all his strength to avoid the embrace.

"Look here!" he said wrathfully. "Be a man, can't you? You can't precipitate yourself into a peaceful family circle at midnight and expect the householder to say, 'This way out, sir,' and ask no questions. You've been gamboling about my attic and turning cartwheels down my stairs, and now you're trying to put me off with airy persiflage about something with claws and a beak that seems to have been annoying you. It won't do, my friend! For a third time I ask you: who are you, and what are you doing here?"

"I—I didn't mean no harm!" It was a miserable whine, but the voice touched a chord of memory for Wright; and Pete, who could overhear the conversation, helped in the identification by crying out in alarm. Wright shook the man as a terrier shakes a rat.

"I reckon I know you," he said sharply. "I'll thank you, too, to give a reasonable excuse for this outrageous performance."

In spite of the far from amiable tone of this remark, it served to instil a degree of courage, or, at least, of self-possession, in the captive. The issue, as now presented, was merely of the earth, earthly.

"Why, 'twas this way," he said almost glibly. "Bein' poor little Pete's uncle, I jest thought I'd drop around and see how he was doin'; and knowin' too, you was prejudiced against me I allowed I'd come sorter quiet, while you was asleep, so's not to disturb you."

"Well, that was considerate," Wright admitted, "but with such excellent intentions you ought to have played Santa Claus and arrived by way of the chimney."

"Well, now, I might have," Pete's sort of uncle agreed readily. "I didn't happen to think of it."

"But you thought of the groans the Tory Lady is supposed to give. How did that happen?"

"Oh, I knowed about—about things. Good many years ago I worked a spell for your Uncle Nathan, and kinder got to know the lay of the house. And everybody knows about the groanin'. Occurred to me I'd make sure of a clear track by lettin' folks think the Lady was walkin'."

"You may have known the road, but somebody else hired you to travel it to-night. Isn't that the fact?"

"Who told you?" Pete's uncle returned quickly.

Wright ignored the question. "Isn't it the fact?"

Pete's uncle hesitated briefly. "What'll you pay to find out?" he inquired naïvely. "Ain't it worth ten dollars?"

"Not to me."

"Well, I couldn't let you know for less than ten," Mr. Putson said with a regret Wright accepted as genuine. "No, I couldn't—not in justice to my family and my conscience."

The arm that held his collar stiffened. Not violently, but forcibly Pete's uncle felt himself guided into the kitchen and across the room to the outer door. It swung on its hinges, and he was in the outer air and being propelled into the road. There the pair halted.

"I'm going to teach you a lesson," Wright said emphatically. "You thought you could groan like the Tory Lady, but you don't know the whole trick. The proper thing is to take four steps—this way—and groan—like that! Then you take four steps back and groan—so fashion! When I put the pressure on your neck, it's the signal for you to let out a good one. We'll try it again. One, two, three, four—now yelp! Well, that is a shade better, but you've got to put more enthusiasm in it. One, two, three, four—now! That's nearer the real article, but you can do better yet. One, two, three, four—whoop it up! Why, what's the matter?"

Pete's uncle was wriggling like a frantic eel. "Lord, Lord, Mr. Wright! don't do that again!" he wailed. "Ouch! ouch! I can't stand it! It's killin' me! Stop it, and I'll tell you everything! I'll tell who came to me and hired me, and—"

A figure, which seemed to rise out of the shadows beside the road, strode up to the pair and laid hands upon the little man.

"Shut up, you infernal sheep!" the newcomer said with authority. Then he addressed Wright.

"Take a man of your own size!" he remarked. "That is, if you're not afraid to!"

The ferryman freed his captive and stepped back.

"Ah, Lomond!" he said briskly. "So you're the silent partner, eh? I tell you, it's fine to work a thing out on paper, so to speak, and then find you're right to a dot."

Lomond grunted, but neither advanced nor retreated. Pete's uncle, retiring behind him, halted there like a shattered regiment reforming in the rear of a strong second line of defense.

"Go for him!" he urged. "Jump on him, Mr. Lomond! I'll help you wipe up the ground with him!"

"Mr. Wright," she said impulsively, "I like you! You play fair"

"I'm ready for him," Lomond said stubbornly rather than truculently.

Wright grinned under cover of the darkness. Lomond, it was evident, would fight if necessary, but not unless it were necessary—a state of mind curiously like the ferryman's own. For there was that engagement for the morrow, and Wright had no wish to make his report with bruised and battered lips and to watch, from blackened eyes, its reception. Lomond must wait for the thrashing he deserved.

"I'm ready, too," the ferryman observed, "but I'll have to warn you I can't await your pleasure indefinitely. These pajamas are a trifle diaphanous, and there's a chill in the breeze. So, unless you are otherwise inclined, I shall be forced to bid you a reluctant au revoir."

He waited a full minute for a reply, but none came.

"Well, then; good-night!" he said lightly and turned and walked toward the house. [CONTINUED ON PAGE 37]

Sunday Reading

God's Covenant with Abram

By Rev. Chas. O. Bemies

Sunday-school lesson for March 2d: Gen. 15, 5-18. Read Chapters 15 to 17.
Golden Text: He is faithful that promised.—Heb. 10, 23.

The Bible, especially in the Old Testament and the four Gospels, is a rural-life book. Let us interpret it accordingly. We believe that the Bible is a true record of facts.

ABRAM'S faith made him a great fighter when aroused. He had to be. He lived at a time when it was man's chief occupation, and every city and tribe was a law unto itself, if strong enough to be independent.

Religionists have always been the fiercest warriors. Love and principle put courage into the heart and iron into the blood. The easily shooed hen ferociously attacks anything that walks, when love and responsibility for her brood possess her. She can kill a man. A scratch, blood-poisoning, death! So when Abram heard that Chedorlaomer and his allies had swooped down and swept up the people and riches of the lower Jordan Valley, including Lot, he blazed up with fierce determination, took his 318 trained men, double-quicked after the retreating raiders for 150 miles, caught them at Dan, and by a quick strategem and furious night attack he whirlwinded them into headlong confusion. They didn't even stop to take their blankets. Their only concern was to escape with their lives. Abram recovered the captives, property and rich equipment of the raiders as well. He completed his job. If you want to succeed, get busy with determined energy and perseverance. The man who says, "there's no money in farming," has no faith, courage or persevering vim. On the triumphal march home the towns turned out to greet Abram, and Melchizedek, the king of Salem,—that is, Peace, afterward Jerusalem,—a priest of the God of Abram, came out and gave him a thank-offering of food with God's blessing. In turn, Abram showed his allegiance to Melchizedek's priesthood by giving him one tenth of the spoils taken from the defeated army. Abram's fighting fame became a household word. He was both respected and feared. He was a man of peace. As the Irishman said, "I'm bound to have peace if I have to fight for it." Abram's faith in God and his fighting fame lasted for seventy-five years, until his death. The people of that country were afraid of him and of his God. He lived in peace. The peaceful man in your town who has the reputation of cleaning things up when aroused has the fewest fights. Even the bully leaves him alone. But there was a certain thing which troubled Abram. The years slipped by, he and his wife were well up above eighty and seventy, and what about God's promise that his descendants would become as the dust of the earth? They were yet childless, and every year decreased the human possibility of a child. So God comforted him by saying, "Fear not, Abram, I'll shield and reward thee." "Yes," said Abram, "but how about a son? My heir now is my Damascan overseer." But God replied, "I'll yet give you a son, and your descendants will be as the stars for multitude; only wait a while." And Abram believed God's promise, and it was counted to him for righteousness. No wonder! Only by a miracle could Sarai have a son. Another difficulty, Abram couldn't see how he was to inherit the land, and wanted some proof of it. The Lord was ready to sign up an agreement with him. "Get me," He said, "several different kinds of animals, cut them in two, separate them so as to make a lane, and to-night I will cause a smoking furnace and a lighted lamp to pass between the divided animals, which is my signature to the contract." God is anxious to bind Himself by a pledge to keep His promises. It helps develop our faith. And yet some men don't believe in pledges! Some church-members won't even sign a temperance pledge. They don't have to! Strong enough without it! The neighbors know why!

The Destruction of Sodom

By Rev. Chas. O. Bemies

Sunday-school lesson for March 9th: Gen. 19, 12-17, 23-29. Read Chapters 18-21.
Golden Text: Come out from among them, and be ye separate, saith the Lord, and touch not the unclean things.—II. Cor. 6, 17.

IT WOULDN'T take an Indian scout to trail Abram through Canaan. Wherever he camped he built a stone altar, a memorial of heathen to the true God. It's different from some men I know, for when they go to the city you could track them by the saloons and other places they visit. If a man's religion don't go with him, he has none to start with. But as Abram grew older, the more confusedly perplexed he became. When was that promised son to be born? He was getting anxious. He and Sarai were old and God would have to hurry up. Sarai's misguided attempt to help God out only complicated matters and became a source of future trouble. Nevertheless, God made the best of it and blessed Ishmael and his mother Hagar. Abram's hope vas below zero on his ninety-ninth birthday. You'd feel blue, too, if you were seventy-five before God promised you a son, and no fulfilment for twenty-five years more! But God waited on purpose. He didn't want anyone then or afterward to say that Abram's future son came in a natural manner. Isaac's birth was to be just as miraculous as the virgin birth of his greater son Jesus! So at ninety-nine, after waiting fourteen long years more, God appeared again to Abram, ratified His promises, changed his name to Abraham, namely, father of a nameless multitude; changed Sarai's name to Sarah, namely, princess of many nations; instituted circumcision for Abraham, his descendants and his household, and promised that within a year's time Isaac would be born! That was more like it! God hadn't forgotten. He rejuvenated them both. They were young again.

Meanwhile Lot seemed to be one of the prosperous citizens of Sodom. Like many young men from the country, Lot had also gone to the city and made good in a material way. But it was hard sledding to keep his religion a-going. He didn't even keep up his family religion. The best he did was to exert a restraining influence on his wife and two of his daughters. He didn't convert a single soul in twenty-five years in Sodom, lost most of his family and all his property! It's a bad record for church officers and members who don't have a single soul to show for their lifetime of church membership in a community. What reputation and influence have some of your prominent church-members? If you happen to have some pious old frauds in your church who are known to take advantage of you in a deal, cheat on weights or quality, lie about the age of a horse or anything they want to sell, pack a fine layer of apples on top of the barrel and fill with cider apples, or are too stingy to enjoy eating a square meal, you know they have a worse influence on the unchristian people than all the open-handed sinners in the community. A hypocrite is the meanest kind of a snake in the grass and hisses people away from the old country church more than the gang of country toughs. Lot didn't have ten righteous souls to his credit. And the Lord knew it when Abraham "Jewed" Him down from fifty to ten. Lot and his family were not saved from the destruction of Sodom because of his own righteousness, but only for Abraham's sake. Don't forget that God preserves a church or a whole community of evil and selfish folks because of the few righteous church-members. Non-Christians are pensioners on the righteousness of the few.

Seeds of Truth

By W. J. Burtscher

There's no Easy Street in Zion.

A little sin is but the other end of a big one.

We are not heard because of our much speaking, but because of much feeling.

Head love impresses a woman, hand love dresses a woman, and heart love blesses a woman.

The rain may fall alike on the just and unjust, but it is the wise farmer that has his fields ready for it.

Gray hairs and wrinkles will come as sure as fate, but a happy heart remaineth young though eighty and eight.

There is a lot of good in the world that some people are too bad to see, and a lot of bad that some people are good enough not to see.

Love hopeth all things that are good—it matters not how impossible they may seem. The man who fears that most of his neighbors will be lost does not love.

There is an old-fashioned religion which satisfies the human soul just as cool water refreshes the human body, and there is a new-fashioned religion which falls as short of satisfying the longings of the soul as the new-fashioned soft drinks fail in really quenching thirst.

What One Women's Club Accomplished

By Ruth Jordan

When I was a beggarly boy
And lived in a cellar damp,
I had not a friend nor a toy,
But I had Aladdin's lamp.—Lowell.

BEFORE me lies a pile of programs that tell a story of twenty years' progress in our community. The first of them was written with a pen, and the sheets are tied together with a wide green ribbon; the last is printed in the most up-to-date style and has a brown binding and green cord. And as I go over the programs and look back along the years I see one way to solve the problems of isolation and monotony in the farm woman's life.

Twenty years ago we were a scattered community, with church and school as the only connecting interests. Many were not religious, and our church was in a very feeble condition, offering few inducements to outsiders. The homes in which there were no children were practically cut off from social life. Married people, no matter what their age, were looked upon as "old folks," and for them nothing remained but Sunday visiting or an occasional Saturday-evening trip to "town." Several college girls came here as brides, full of ideas and plans for the future, but before they had become well enough acquainted to have any influence their home cares multiplied, leaving no leisure for community work. Just at the time when some of us realized that our horizon was fast becoming bounded by our "line-fences," a teacher, whose girlhood had been lived here, came to our school. Her mature years had been spent among young people, and books, and because she was "born and raised" here her word carried weight, and she accomplished what no one else could have attempted. She established our social life. The women of our community were invited to spend an afternoon with her at her home. There, in spite of the fact that I had lived in the neighborhood for over two years, I met, for the first time, some of my nearest neighbors! We spent as pleasant an afternoon as thirty women can who have had nothing in common, and after the social hour our hostess announced she would read us the old fairy tale of Aladdin's lamp, which, if rubbed, brought him any desired treasure. This treasure she compared to the treasures we could find if we "rubbed the magic lamp" of literature, and suggested that we form ourselves into an *"Aladdin Club."* The suggestion was greeted by a stunned silence, but finally twenty of us agreed to attempt the club, and we chose our hostess as president. The election of a secretary, treasurer and literary committee completed our official business, and during the "refreshment hour" that followed we found that we actually could talk to each other without having to ask how many chickens were being raised or how much fruit canned! We decided to begin our club work the coming September with a guest afternoon at our president's home, and that summer's work was easier because our minds too were busy.

We began with short programs; two ten-minute papers, whose themes were inspired by some magazine or newspaper article on the subject, for we then had access to no library. We had responses from the poets at roll-call, current events and discussion as a closing number. Those of us who were college women were asked to do original work, and musical members had the musical part of the programs.

I met, for the first time, some of my nearest neighbors

From such a simple beginning has come the reformation of this community. Meeting every two weeks from September until May, we learned to know and love each other. Our babies, brought to the "club" from their earliest days, were fast friends by the time school claimed them. Those of us who knew good literature awakened again to its inspiration, and many to whom it was a closed book are now familiar with the best in both prose and poetry.

The social value of the organization can never be estimated. After becoming federated, we came in contact with other clubs of the State, and their ideas became our own. In the immediate neighborhood the organization worked wonders. Some, to whom "all days seemed just alike—work, work, work"—learned for the first time since girlhood the delight of a fresh frock when dinner was over, and with an enjoyable incentive to have work done at a definite time one day in the week it became easier to adopt such a system for each day. House-cleaning and fruit-canning days came in the non-club months, when the horses were too busy for our use, anyhow. But these vacation days, even if filled with hard work, did not force us back into the dull monotony of work alone. Such a spirit of "sisterhood" developed that even if shredding, thrashing or other big jobs came on a club day the "afflicted member" had so much help that she could go to the meeting, knowing her house was in order.

The programs have changed and deepened with the years, and club dues increased, but not until we became ready for it. Our magazine list would do credit to a city library, and each member contributes toward it her favorite magazine.

The club has given a series of entertainments, securing noted lecturers and singers from the city, and from these entertainments we have realized enough to secure a very good library of over three hundred volumes. These books are kept in a small room in the schoolhouse, where one of the most reliable students is appointed librarian, and we have had very little trouble in the management. Our magazines also go to this reading-room, in bound volumes, when we are done with them, and the children are as well read a set of little Americans as can be found.

Three times a year we have a "guest evening," inviting the families of all club-members to meet us in the church or schoolhouse. I think these suppers, with the games and good fellowship they bring about, are responsible for the great increase in membership and attendance of our church, for people, as a rule, have to know each other before they care to worship together.

We have a "harvest home" picnic too that includes non-members. Since the interurban came our way, we usually go to some park or lake, thus getting entirely away from "the little cares" of every-day life that "do so easily beset us." We have no age-limit, no fees for absence; we release from membership at request, and take the "resigned" sister back when the baby is old enough to come along! We have had differences of opinion, good character-making disputes, but no broken friendships among us. If hard luck comes to some member, we pay her dues until the cloud passes. Refreshments are not a burden; we serve or not, just as we please, but never more than three things, and often only fruit and nuts.

In looking over the programs, I find that in the past twenty years we have studied, by college outlines, much of the best poetry, history and fiction. We have spent two years in studies of the different countries of the world and their customs; we have exchanged recipes and tested them until this work equals a full course in domestic science; we have had a series of child-study programs, a course in nature studies, with birds, flowers and trees close at hand; and we have studied the poetry of the Bible and tried to make it a part of our lives.

In these long years the telephone, rural mail delivery and street-cars have come to bind us closer to the great outside world. But if I were once more a stranger in a neighborhood where isolation reigned I believe I should know the remedy.

Not what we give, but what we *share*,
For the gift without the giver is bare.
—Lowell.

Particularly is this true of the farm women whose lives are so monotonous, who drift so quickly out of touch with the world, its interests, its pleasures, its advances. "The call of the city" that attacks the young folks, carrying them away from the farms and the home, is the revolt of youth against the stagnation and the dwarfing life of the farm woman. This stagnation is the greatest foe she has to fight and she can successfully fight it only by meeting others and sharpening her wits against theirs, filling her head with new ideas, keeping her informed of the latest inventions and the latest helps in the world of women, the advancements that are gradually lifting women's work to the plane upon which it belongs.

A Sorrowful Mother's "Ad": "Missing—A Boy"

By Clarence R. Naff

Missing—A boy; nine months old; very fair complexion

MISSING—A boy; nine months old; very fair complexion; weight, seventeen pounds; height, immeasurable. He has the brightest blue eyes you ever saw, the cutest little dimple in his chin and a smile which, if you once see, you will never forget. He has a habit of saying "Goo" frequently, and a most remarkable way of sticking his toes into his mouth. He may be identified by the wonderful things he does with his fingers, and the unutterable expressions of his eyes and mouth. He walked from his mother's lap to a chair one day, and he has never returned. She wants her baby boy to come back to her, and she will lay her beauty and her health on the altar of Eve to hold him again in her arms.

MISSING—A boy; three years old; weight, thirty-three pounds; height, two feet three inches. He has the most magnificent blue eyes, and beautiful, curly, golden hair. You will recognize this boy anywhere. He talks plainly—can say anything—and knows all his letters. He will probably be found with a very dirty face, but he can be positively identified by his remarkable beauty. He was last seen slipping gaily from his mother's arms to go with his father to the barber shop. She offers sleepless nights and days of unending toil to hear again his prattle and to see on the walls and draperies the prints of little hands that never were clean.

To go with his father to the barber shop

He is very freckled, and has coarse, sandy hair

MISSING—A boy; twelve years old; weight, one hundred pounds; height, four feet six inches. He is very freckled, and has coarse, sandy hair that does not yield readily to the brush. He has a marked dislike for water about his ears and neck, and has a strange aversion to cleaning his shoes. He is uncouth and untidy, and eats more forcibly than fastidiously. But he is a good boy, his father, his older brother, his sisters, his teacher and the neighbors notwithstanding, and his mother will pay any price on earth for information as to the whereabouts of her missing child.

MISSING—A boy; twenty-one years old; weight, one hundred and fifty pounds; height, six feet. He has a strong, clean-cut face; clear, honest, blue eyes, and the most beautiful hair. He never smokes, drinks or gambles. He is strong, gentle and manly, and attracts attention wherever he goes. He was last seen waving his mother good-by as he went out into the great world to make his fortune. He has exceptional talents, and will undoubtedly be found occupying a high place among men. But tell him, if you see him, that the greatest place he can ever fill upon earth is vacant at home.

His mother is waiting for him there, waiting to hear the things he has done, about the famous men who are his friends.

He went out into the great world to make his fortune

Index to Advertisements

[CONTINUED FROM PAGE 2]

The Golden Maid

By Jessie Field

ONE day not long ago I was invited to supper at a beautiful country home. As we neared this home, the first thing we saw was the big red barn and silo with black beef-cattle all around it. Then we went around a corner past a big cottonwood tree to the gate by the large white house. As I went through the gate and up on the steps of the house, the sitting-room door burst open, and the daughter in the home was smiling a welcome to me. She had on a big checked work-apron, and her cheeks were flushed with standing over the stove. She laughingly said, "Mother went to her club this afternoon, so you see I'm the Golden Maid."

"The Golden Maid," I queried, thinking some good story was back of the twinkle in her eyes.

"Yes," she replied, "Mother calls me her Comfort when I turn in and get the meals and do the work, but Father calls me a Golden Maid because of an old story he once read."

"And what was that story?" I inquired, with a sort of a dim remembrance in my mind of an old, old story I had once read in *St. Nicholas* which had a Golden Maid in it.

"Well, I just must get the rolls in the oven now and see to setting the table, but after supper I'll tell you the story as Father told it to me, if you want me to," Mary Elizabeth said with a smile, as she returned to the kitchen.

The mother came home from her club soon, took off her wraps and came and sat down by me in the sitting-room, saying, "Well, I see my Comfort has turned in to get supper, so I won't need to worry about it, and we can just have a good visit together, for she will be happy to do everything herself, especially since you are our guest."

So we sat and talked, and she told me all about the club the women in that neighborhood had formed. They called it the Fairview Club, for the name of their school district, and every week they came together for an afternoon and studied and sewed and talked of plans for helping make their country school or their church or their homes better. They had regular programs and were affiliated with the state and national women's clubs. Just at this time they were working hard to put a rest-room in the basement of the court-house in the town where they did their trading so that tired mothers and women who must wait for some of their folks before going home on Saturdays would have a pleasant place to rest and wait.

After a while supper was called, and the father, big brothers and hired man came in, and we all enjoyed Mary Elizabeth's supper. The rolls were so light and tasted just right. Then there were baked potatoes and roast mutton and peaches and—well, I just can't tell you all about it, but I certainly felt as though I had had plenty to eat when we finished, and the big, nice father and Bob, the biggest brother, said, "Now, Sis, you've been Golden Maid long enough. You and Mother go on in and visit, and we'll wash up these dishes. I expect it may take us a little longer, but you know that Father and I are a pretty good team, and I promise you they will be well done."

That brought the thought of the story to my mind again, so when we sat down by the fireplace, after Mary Elizabeth had slipped out of her big apron and smoothed back her hair, I piled the cushions up in the big Morris chair and leaned back in solid comfort as I said, "Now, Mary Elizabeth, please tell me the story about the Golden Maid. It all sounds very nice indeed, and after eating that supper you cooked it seems to me no name is too good for you, but I want to understand what it really means."

And so she told me the story of the Golden Maid, and I will tell it to you.

Years ago in a country across the seas, there lived a king and queen in the midst of a rich and prosperous kingdom. Their court was noted for its magnificence, and the courtiers and maids were most loyal and devoted in their service. But after years of such happiness the king and queen grew old and the servants became thoughtless. They let the old king's crown stand awry on his head, and there was never anyone to play chess with him. No one hunted the old queen's glasses for her, and the stitches in her knitting would ravel clear out with no one to catch them for her.

So where there was once happiness and splendor in the court there was now nothing but sorrow and neglect, and no one cared. Finally things came to such a pass that all the wisest men of the kingdom were called in by the old king for consultation.

These wise men put their heads together and finally said that only one thing would bring happiness again to the court. That would be to find the Golden Maid and bring her to live at the court.

"And how shall we know the Golden Maid?" queried the king.

"Send out criers throughout the kingdom," replied the wise men. "And when you find a mother sitting at ease while her daughter does the work of the home this will be the Golden Maid."

The criers rode forth in haste. For months and months they rode over hills and mountains hunting the Golden Maid. Many girls they found, but none to answer the description of the wise men. Once, in a valley, they came to a house where there were some beautiful girls living, and they hoped at last to find the Golden Maid, but when they knocked and a pretty brown-eyed girl in a silk dress opened the door and showed them into the parlor where sat three other girls, some playing the piano, some embroidering and some reading, and the criers asked, "Where is your mother?" the brown-eyed, silk-dressed girl threw up her pretty head and replied, "Our mother! Why, she is in the kitchen ironing our dresses for us to wear to the party to-night; where would you expect her to be?"

Two years rolled by and things grew worse and worse at court, and still the Golden Maid could not be found, and still the criers were scouring the villages and the country for the wonderful girl.

One day, far away by a little brook, they came to a modest white house in the midst of green pine-trees with roses climbing up over the roof. Out on the porch they saw as they drew near a sweet, gray-haired lady, dressed in white, rocking and reading.

"What if we should find here at last the Golden Maid," the criers breathlessly whispered to each other. "Can it be that our quest is ended?"

Riding up, they lifted their velvet caps and said, "Madam, have you a daughter?"

"Yes, indeed," she answered in a sweet, gentle voice. "And she's just the best girl you can think of. Just now she has insisted that I should rest while she is out in the kitchen preparing the things her father likes best for supper."

"At last the Golden Maid is found!" shouted the men from the king's court. So they took her and her father and mother back to the court.

And would you believe it, after that the king's crown was always polished and straight, the queen's glasses were always at her hand, and even the rude courtiers and maids became once more thoughtful and kind, and all was well once more in the court.

Just as Mary Elizabeth finished with her story her father came in from the kitchen, and we talked of other things. But when the lights were out that night and I was thinking of the country girls I love so well, scattered in farm homes all over our land, I wished you might *all* be "Golden Maids"—girls who will see the burdens that Mother bears and make them lighter, and understand the bravery and courage that is under Father's cheery laugh, and know how much a kiss or a happy word of attention from you means to him. Shall we not all try to be Golden Maids, rendering cheerful service for others in every-day things, making the rough places smooth and the tangled threads of life straight again in our homes or, perhaps, in the king's court? For the whole world is our king's court, and no one knows how great an influence a wholesome, happy girl may have.

Next time I want to tell you about gardens, and I hope you will like that, for I think it is very interesting.

Afterthoughts

By Ramsey Benson

News is like soil: the better it is, the more easily it is broken.

It avails little to explode old superstitions unless the charge be heavy enough to shake the faith these live by.

The fewer they are who can really afford a thing, the more numerous are they who never will be happy till they get it.

The lightness of air is proverbial, yet an air of good cheer is more than many of us have the strength to carry all the time.

The eight-hour day is no novelty with farmers—eight hours for work, eight hours for chores and eight hours to plan for the next day.

A Crocheted Shawl and Jacket

With Directions by Evaline Holbrook

THE shoulder-shawl illustrated is practical and pretty for use on the cool evenings of spring and summer. It takes about six skeins of Shetland floss and is worked with a No. 3 bone hook.

Start the work with forty-nine chain stitches, crocheting very loosely, to give a length of fifteen inches, for the neck of the shawl. Turn, one double crochet in the fifth chain from needle, *chain one, wool over needle, and pick up a loop in the same stitch with the double crochet, draw the thread through two loops, leaving two on the needle. Skip one stitch of chain, wool over needle, and pick up a loop in the next. Draw the wool through two loops, then through the remainder. Repeat from * to the center chain stitch. In it work five double crochet with one chain after each, then work the second half of the row like the first.

Second Row—Turn, chain five, two double crochet in each space and in the end one double crochet, two chain, one double crochet in the final stitch.

Third Row—Repeat the first row until the center is reached. In the space before the two double crochet at the center work two double crochet, again work them between the two center double crochet, and again in the space after the center. Work clusters to the end of the row, there making two chain and one double crochet in the final stitch. Repeat the second and third rows until there are eighteen rows.

Shoulder-shawl for cool evenings

To make the row through which the ribbon is run, turn, chain five, make two treble crochet in every other stitch of preceding row, and five treble crochet at either side of the center.

Border—Turn, chain five, one double crochet in first space, five double crochet in first treble crochet, *skip two stitches of preceding row, one double crochet in the next, skip one stitch, five double crochet in the next. Repeat from * to the center, spacing the work so that a shell comes in the space before the center. Make one double crochet in the center, and a shell in the stitch after the center. Continue along the row as before, and at the end, after the final shell, make one double crochet, chain two, one double crochet in final stitch. Fasten off. All the border rows are begun at same end.

Second Row—Make one double crochet in the third stitch of starting chain of preceding row, chain two, one double crochet in first double crochet. Make a shell of five double crochet around the center double crochet of the shell of preceding row, making it overlap the preceding row. Make double crochet on double crochet and shells on shells across the row in this manner, and at the end, after the final double crochet, chain two, and make one double crochet in final stitch of preceding row. Again fasten off. Repeat the second row until seven rows in all are made.

Eighth Row—Work as before, but increase over the first shell by working a shell around the second double crochet of the shell of preceding row, one double crochet on the center double crochet and a shell over the next double crochet. Work in the same way the shell before the center, the shell after the center and the shell at the end. Make two rows without increasing. At the end of the second row do not fasten off, but turn and work up the front of the shawl, making a shell in the end of the first row, one double crochet in the end of the next, and so continue to the end of the starting chain of the work. Around the neck work in the spaces, putting in a shell and one double crochet alternately, and work the second front like the first. Make another round of shells on all the edges of the shawl, making one single crochet, instead of one double crochet, between the shells.

Final Round—One single crochet in first single crochet, chain three, one single crochet in second stitch of shell, chain three, single crochet in center of shell, chain three, again single crochet in center, chain three, single crochet in fourth double crochet, chain three, single crochet in next single crochet. Work in this way all around, and fasten off.

The little jacket shown in the second picture on this page is of Shetland floss, taking four skeins of white and three skeins of some contrasting color for the border. Use a No. 5 bone crochet-hook.

Begin with fifty-four chain stitches, turn, one single crochet in the ninth chain from needle. *Chain four, skip the next four stitches of the chain, one single crochet in the next. Repeat from * to the end, when there will be ten holes in row.

Second Row—Turn, chain five, and make four treble crochet in each hole of preceding row. A treble crochet is made by winding the wool over the needle twice, picking up a loop in the hole, then working off two loops at a time.

Third Row—Turn, *chain four, one single crochet in the first space between clusters, and repeat from * across the row, making the final single crochet in the final treble crochet of preceding row.

Repeat the second and third rows alternately until the treble row has been worked six times, with a final chain row.

Seventh Treble Row—Make an extra cluster of four treble crochet in the hole at either end of the row—twelve clusters in the row. Continue to work as before, and again increase at either end of the thirteenth treble row. Work as usual until the finished piece has fifteen treble crochet rows with a final chain row. This completes the back of the jacket.

Dainty jacket of two colors

For the first row of the front make five clusters along the row as usual, turn, and on this short row work back and forth until there are sixteen treble crochet rows, increasing one cluster at either end of the fifth and eighth rows. Make a final chain row, and fasten off. The second front is worked just like the first, and is begun at the end of the final row of the back.

With the colored floss now work a round of clusters on all the edges of the jacket, putting a cluster in each hole and in the end of each row. Increase at the corners to make them lie flat.

Second Round—Chain and single crochet.

Third Round—Put two clusters in each hole of preceding round, excepting in the twenty center holes of each side edge. In them make but one cluster each; these are for the armholes. Fold the fronts of the garment down over the back, and lace together the eight clusters of the front and the back, next to the armholes, to form the under-arm seams. The lacing is done with two cords of chain stitch.

For the sleeves begin at the under-arm seam, and use the white floss. Begin with a chain and single crochet round, and work as usual until seven treble rounds are made. Work the final rounds tighter than the first, to give a little shape to the sleeves. After the seventh treble round make a chain round, fasten off the white floss, and work the three border rounds with the colored floss.

Our Young Folks

Conducted by Cousin Sally

"Snolly" and "Wapsy"

A New Kind of Fairy Story

ONCE upon a time when I lived in Arizona, where I was born, I watched two weeks to see if Snollygoster would climb the mountain to fight Wapsidoodle, or if Wapsidoodle could come down the mountain to fight Snollygoster.

My daddie told me all about these two fellows, and we got so we called them Snolly and Wapsy. That was because we thought they were old friends, since they lived right near our house.

Snolly and Wapsy are very big animals! Snolly has eleven legs and five tails and seven eyes, and he is about five times as big as a horse. Wapsy is not built the same as Snolly. That is, he is not so tall, but he is more than thirty feet long and weighs three or four tons. Wapsy has seven legs and three tails and sixteen eyes, and his eyes are in the funniest places you ever heard of, some on his head and some on his back and one on one of his legs and the rest on his tails.

I could see Wapsidoodle's tail and Snollygoster's eyes

One of his tails is fully nine feet long, and the eye on it is right at the end, so Wapsy sticks that tail up in the air and waves it around to look for his big enemy to see what he is doing.

And Daddie says that is what makes Snolly so angry at Wapsy: because Wapsy can always use his tail eye to see where Snolly is.

But the principal reason they are jealous of each other is because they are so different.

Daddie says they growl at each other all the time. Wapsidoodle dares Snollygoster to come up to the top of the mountain, and Snollygoster dares Wapsidoodle to come down to the foot of the mountain there on the desert.

Once upon a time, when my Daddie and Mommie were asleep, I slipped away from the house, and after a long walk in the sand when the sun was just fearfully hot I was near the old mountain on which nothing grows. And I was glad, for I was going to talk with Snolly and Wapsy. I was going to tell them how foolish it was for them to hate each other because they were not alike when they were the last of their kind on earth—that is what my Daddie says. But all of a sudden I heard a tremendous noise on top of the mountain, and a minute later there was a big dust raised at the bottom of the mountain not far from me, and I was so frightened I could hear my heart beat and see my jacket rise and fall over my heart.

But I stood still, and pretty soon I saw Wapsidoodle's long tail sticking up on top of the mountain, and a big eye on it which is green was shining. And then Snollygoster came out of the dust and roared and roared. All of his legs were braced, and he was waving his five tails like a cat waves her one tail, and the desert just shook with the noise they made.

I could see by Wapsidoodle's tail that he was coming down the mountain an inch at a time, and I could see Snollygoster trying to figure out the best way to go up, for all of his eyes were shining and moving this way and that.

And I was very much afraid and so sorry! for perhaps on just the day that I had gone to tell them not to fight they were going to fight, and kill each other.

So I did not know what to do, but just yelled:

"Now if you fight I shall tell my Daddie!" and Snollygoster turned around, and I guess he was very much surprised, for in a minute I could not see him at all. Maybe he went into the big canyon near him. And Wapsidoodle's tail eye sank out of sight.

So I came home—but that wasn't the last time I saw Wapsidoodle and Snollygoster.

Active Partners on the Farm

DEAR COUSINS—An active partner is a very important figure. He or she counts; for they are not like a dressed-up dummy standing in a store-window. Part of the duty of active partnership is to grow a number of ideas where but one grew before, and another part is to get out and hustle and make dollars come where but one found its way before.

Now that is what YOU ought to do, what you CAN do and, I hope, will do.

The farm boy and girl don't have to go to the city to find "a chance," the kind which means so much that it is spelled O-P-P-O-R-T-U-N-I-T-Y.

There is Luther Burbank for instance, whose story you read and were thrilled by, in the February 15th issue of FARM AND FIRESIDE. He, too, was a farmer boy with a love for the soil and the willingness to work, which two, combined with grit, won him wealth and fame.

Ask Father for a patch of ground, and when he has given it to you pitch right in and do intensive farming; it is the kind of farming which uses up every inch of space in the best way, so that nothing goes to waste.

And if I were you, a lucky farm girl, I should study up on what pays best, eggs or dressed poultry, and then I'd start in to take such good care of the three hens Mother gave me that they'd be proud to do their level best to lay eggs.

I'd also take a pride in being business-like and building up the flock and, like Brother, selling my produce to envious, hungry town neighbors, for I'd know that I too was a paying, worth-while-having-around member of the very nicest farm family in our neighborhood.

Ask Father and Mother to let you enter the Active Partner Class. I'm sure they will, and that you, with Hustle, Forethought and Care for chums, will be Partners in fact as well as in name.

Faithfully yours, COUSIN SALLY.

Letters from Our Cousins

DEAR COUSIN SALLY—I hope you will let me call you that, for I want to be a member of your club. I am a girl of fourteen years, and am in the eighth grade at school. I'll finish in June of this year. We are pretty busy at our school now, for examinations start next Wednesday. I live in the borough of Swissvale, near the end of the borough.

We have a quarter of an acre of ground. Some people call this a "farm," but it is not the kind of a farm I like, for I would like more ground and more chickens and other animals. So you see my ambition is to be a *real* farm girl, and I hope some day to live on a *big* farm.

I'll admit I am curious to know what our motto is, for I am sure it is a good one, and I'll try to live up to it.

I hope I'll get lots of letters from the cousins. Your brand new cousin,

MARGARET DEMETER, Swissvale, Pa.

DEAR COUSIN SALLY—I have been reading your pages in the FARM AND FIRESIDE, and like them very much.

I live on a farm eighteen miles from Portland. I go to school every day. I used to have to walk two miles, but now I only have to go half a mile, for we have a nice new schoolhouse.

I live by a creek, and in summer my little brother and I have great fun playing in the water.

I am nine years old, am in the fourth grade and hope to be in the fifth next year.

Your loving cousin,

MARY SHEA, Hillsboro, Oregon.

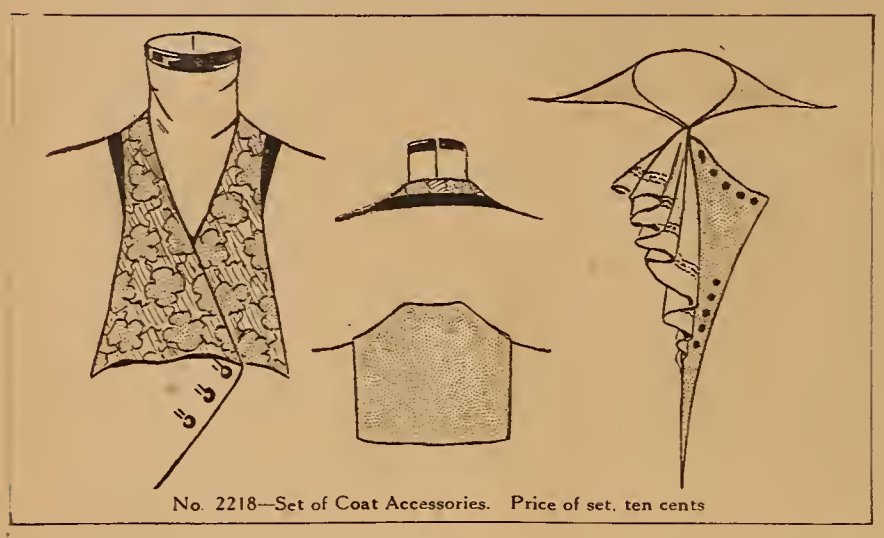
Choose Your Spring Wardrobe

Costumes for the Street and Ho

Designs by Grace Margaret Gould

The satin tam-o'-shanter with straw brim is fashionable

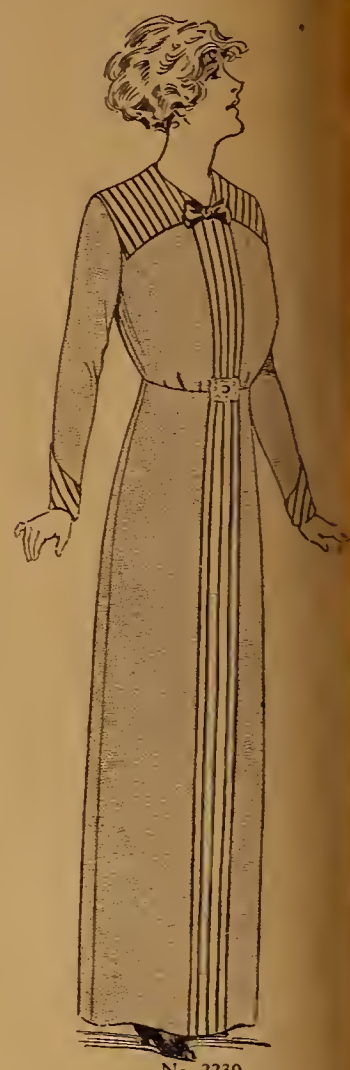
Soft folds of silk trim this hat



No. 2218—Set of Coat Accessories. Price of set, ten cents

THE fashionable colors this spring are unusually lovely. Browns are the vogue. There is marron, a very dark brown, and chestnut and Havana, which are lighter shades. There are many tones of golden brown and amber, and then there are the light shades of tan, such as champagne, biscuit, café au lait and deep cream. Dark blue is still a stylish color, and the deeper it is the better this season. A dull grayish blue is a good tone, also Copenhagen and corbeau blue. The rose tones are decidedly modish—the Nell rose, which is a deep cerise and named in honor of President Wilson's daughter, will be much used for sashes. Flame color is in favor, and so is scarlet and many very soft shades of pink.

No. 2120
No. 2100



No. 2230
No. 2004

No. 2230—Long-Sleeved Waist with Vest

32 to 42 bust. This attractive waist model is particularly suitable for plain chambray or gingham, which can be effectively trimmed with striped chambray, the stripe being in a matching or contrasting tone. The price of this pattern is ten cents

No. 2004—Seven-Gored Skirt Buttoned in Front

22 to 32 waist. Length of skirt, 40 inches. Material for 26-inch waist, four and three-fourths yards of thirty-six-inch, two and one-half yards of contrasting material three and one-half inches wide for hand. The price of this pattern is ten cents

No. 2120—Tucked Waist with Robespierre Collar

32 to 42 bust. The four groups of fine tucks in this waist give just the necessary fulness in the front, while the double frill adds a soft note that is very attractive. Pattern, ten cents

No. 2100—Skirt with Side-Plaited Panels

22 to 32 waist. Length of skirt, 40 inches. Quantity of material required for 26-inch waist, five yards of thirty-six-inch material, or four yards of forty-four-inch material. Pattern, ten cents

THE spring fabrics conspicuously show certain dominant features. First there are brocades not only in silk, but wool and cotton. Then there are crêpe weaves in fabrics that have never shown a suggestion of a crinkle before, and corded effects in a great profusion—diagonals, Bedford cords, poplins, bengalines, file cloths—and even the coverts show corded weaves. There are "fifty-seven varieties" of ratiné—among them are silk eponge in the most exquisite of colors, two-toned ratinés, and cotton ratiné with narrow lace stripes. A few of the most modish materials, besides these ratinés, are the crêpe weaves, soft silks like radium, and filmy materials like crêpe voile, Chinese crêpe and crêpe de chine for draping.

No. 2140
No. 2141

No. 2240
No. 2241

No. 2240—Surplice Waist: Long Sleeves

32 to 42 bust. Material for 36-inch bust, two and one-eighth yards of thirty-six-inch, five eighths of a yard of plain net, three eighths of a yard tucked net, one-fourth yard of satin for girdle. Price of this pattern is ten cents

No. 2241—Train Skirt with Crossed Tunic

22 to 32 waist. Material for 26-inch waist, eight and one-half yards of twenty-two-inch material, or five and one-fourth yards of thirty-six-inch, two and three-fourths yards of thirty-six-inch material for tunic. Pattern, ten cents

No. 2140—Surplice Waist with Revers

32 to 38 bust. Quantity of material for 36-inch bust, two and one-eighth yards of thirty-six-inch, one yard of contrasting material, three eighths of a yard of all-over lace. The price of this pattern is ten cents

No. 2141—Panel Skirt with Flounce

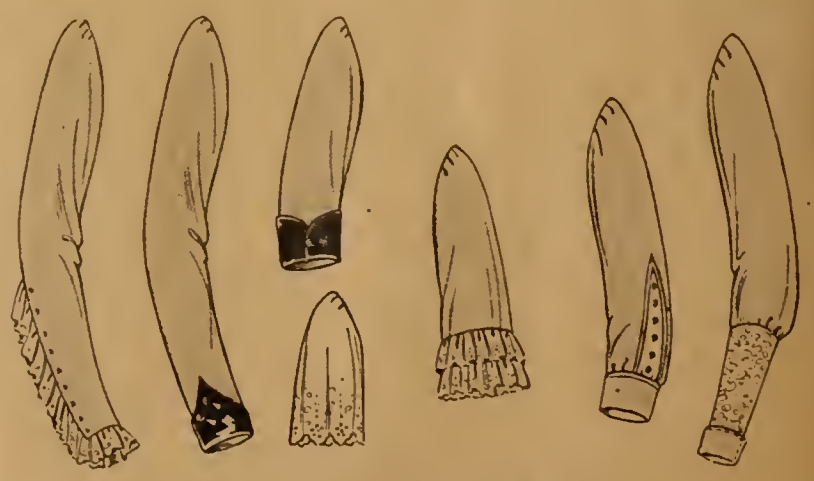
22 to 28 waist. Length of skirt, 40 inches. Material required for 26-inch waist, six yards of twenty-two-inch material, or three and seven-eighths yards of thirty-six-inch material The price of this skirt pattern is ten cents

No. 2240
No. 2241

No. 2140
No. 2141

No. 2120
No. 2100

No. 2230
No. 2004

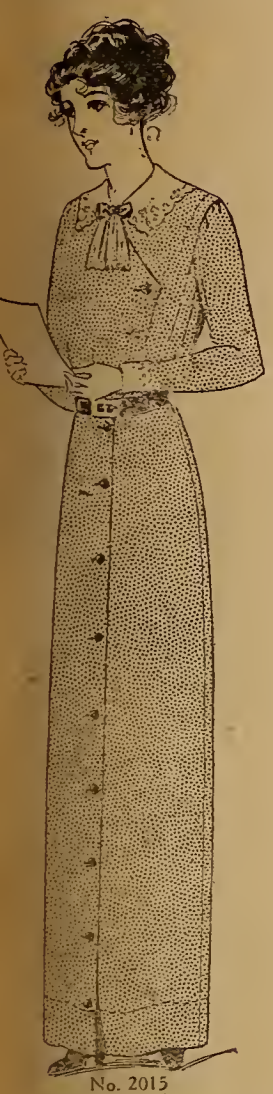


No. 2223—Set of Dress Sleeves
for 32, 36 and 40 bust. Price of set, ten cents

om These Attractive Fashions

n Correct Hats and Accessories

Drawings by Marguerite D. Savage



No. 2015
No. 2016

THE sleeve is always an interesting subject, and the woman who cannot find a becoming style this year is surely an impossible woman, for seldom have sleeves been more varied in style.

There are the longest sort of sleeves, with frills making them even longer; there are the shortest sort of sleeves, which are really no sleeves at all. There is a strong tendency to the old-time leg-o'-mutton sleeve, a revival of the 1830 period; there is a sleeve which looks as if it started out to be a balloon and then changed its mind; there are seven-eighths sleeves, three-quarters sleeves, elbow sleeves, and sleeves with a bell outline toward the wrist, and sleeves which look as if they were falling off the shoulder; there is still the kimono sleeve, and yet the preference is given to the sleeve with the set-in armhole which is often large.

No. 2097
No. 2098

No. 2015—Double-Breasted Waist

2 to 44 bust. Material for 36-inch bust, two and three-ourths yards of twenty-two-inch material, or one and five-ighths yards of thirty-six-inch, five eighths of a yard of lace. he price of this double-breasted waist pattern is ten cents

No. 2016—Five-Gored Skirt: Side Closing

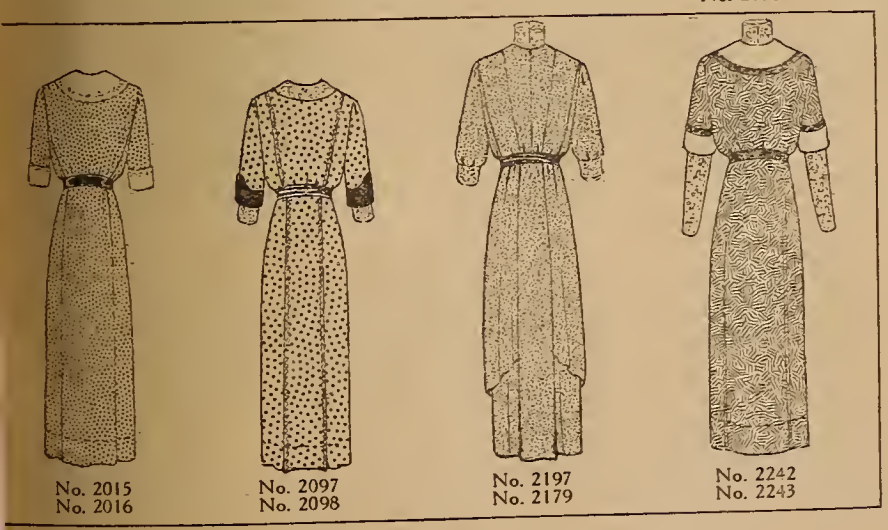
2 to 34 waist. Material required for medium size, or 25-inch aist, six and three-fourths yards of twenty-two-inch material, r four and one-eighth yards of thirty-six-inch material. The rice of this five-gored skirt pattern is ten cents

No. 2097—Waist with Collarless Guimpe

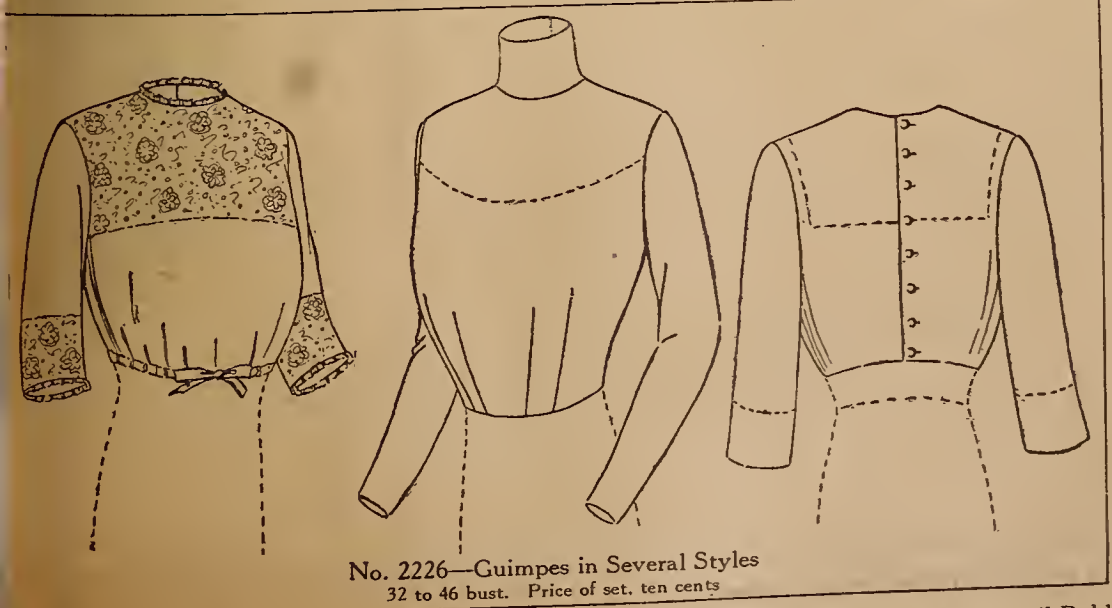
2 to 44 bust. Material for 36-inch bust, one and five-eighths ards of thirty-six-inch material, half a yard of contrasting ma-erial, one and three-fourths yards of thirty-six-inch material or guimpe. The price of this waist pattern is ten cents

No. 2098—Six-Gored Skirt: Side Opening

2 to 34 waist. Length of skirt, 40 inches. Material for 26-nch waist, four and one-fourth yards of thirty-six-inch material. This good-looking skirt is suitable for both cloth and wasb abrics. The price of this six-gored skirt pattern is ten cents



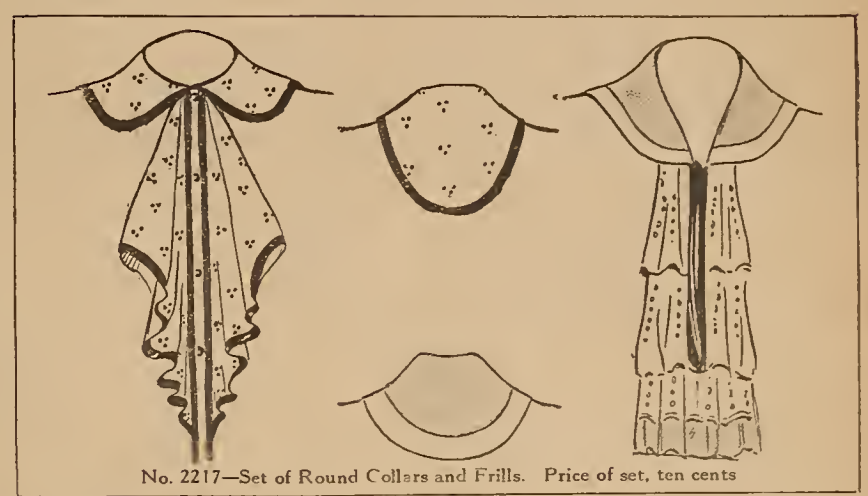
No. 2015
No. 2016
No. 2097
No. 2098
No. 2197
No. 2179
No. 2242
No. 2243



No. 2226—Guimpes in Several Styles
32 to 46 bust. Price of set, ten cents

Tailored straw hat with strap-and-buckle trimming

Picture bat trimmed with soft satin ribbon



No. 2217—Set of Round Collars and Frills. Price of set, ten cents

No. 2197
No. 2179

No. 2197—Box-Plaited Waist with Vest

32 to 42 bust. Material for 36-inch bust, one and three-fourths yards of thirty-six-inch material, seven eighths of a yard of lace, five eighths of a yard of white satin, one fourth of a yard of satin for girdle. Pattern, ten cents

No. 2179—Five-Gored Skirt: Pointed Tunic

22 to 34 inch waist. Length of skirt, 41 inches. Material for 26-inch waist, three and three-fourths yards of thirty-six-inch material, with two and one-half yards of thirty-six-inch material for tunic. The price of this pattern, ten cents

No. 2242—Waist Closed at Side: Guimpe Included

32 to 46 bust. Material for 36-inch bust, one and one-half yards of thirty-six-inch material, one-half yard for collar and cuffs, five eighths of a yard for trimming, two and one-half yards of twenty-four-inch net for guimpe. The price of this waist pattern is ten cents

No. 2243—Three-Piece Skirt: Closed at Side

22 to 36 waist. Length of skirt, 41 inches. Material for 26-inch waist, five and one-half yards of twenty-two-inch material, or three and one-fourth yards of thirty-six-inch, one-half yard of contrasting material. Pattern, ten cents

BE SURE to send in your order early for the new spring catalogue of WOMAN'S HOME COMPANION patterns, which will be ready for distribution March 25th. Its price is four cents, and it may be ordered from any of our pattern depots. WOMAN'S HOME COMPANION patterns may also be ordered from these depots, addresses of which are as follows: Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City; Pattern Department, FARM AND FIRESIDE, Springfield Ohio; Pattern Department, FARM AND FIRESIDE, 203 McClintock Building, Denver, Colorado.

No. 2242
No. 2243

Farm Company Dinners

By Beulah Tatum

THE following menus have been used often and successfully on the farm, particularly at this time of year, when everyone begins to tire of winter fare, and it is too early for the first greens of spring.

Here is one suitable for the regulation two-course family dinner. Or, with the addition of a soup and wafers for the first course, and by serving the salad with cheese straws or some other fancy crackers for a third course, the same dishes could be used for a more formal four-course meal.

Dinner in Two Courses—Nearly all of the materials used for this menu are "home-grown" and generally available:

(1)
Roast Chicken Dressing and Gravy
Sweet Potatoes Scalloped Corn
Pickles Preserved Cherries
Cabbage-and-Nut Salad
Hot Rolls Butter

(2)
Ice-Cream Cake
Coffee
Candy

In preparing the above menu, the chicken should be dressed, the cake baked, and candy and ice-cream made the day before. This allows time for deliberate preparation of the other things in the morning before serving-time. Every country woman can roast a chicken, so all the directions necessary here are to roast it a long time, until it is tender and brown. If it gets done too soon, set it aside until

Cheese straws for the salad course

it is wanted. The potatoes should be boiled with the skins on. Then peel them, and fifteen minutes before serving brown them in a skillet with plenty of good lard; sprinkle a little salt and one-half cupful of sugar over them, and shake the skillet so that the potatoes are glazed all over.

For the corn, canned corn and cracker-crumbs are placed in alternate layers in a baking-dish. Sprinkle with salt and pepper, dot with butter, and pour rich milk over the combination until the latter is well soaked. Bake in a hot oven twenty-five minutes.

The salad (in small dishes), the pickles and the cherries are on the table when the guests are seated, if the dinner is to be a two-course meal. The rest of the first course is brought in and is served by the head of the house. For a four-course dinner the salad should be brought in on a platter and served at the table. The cream, made twenty-four hours before, may be cut in slices and served on the same plate with the cake, or it may be dipped with an ice-cream dipper.

The following recipe is reliable, and in cold weather, when ice is "free," is not too expensive: If one and one-half gallons are made, it may be used for dessert for several meals, and it may be served in different ways.

Country Ice-Cream—This recipe will make one and one-half gallons. Two quarts of cream, two quarts of milk, two well-beaten eggs, three cupfuls of sugar, one envelope of gelatin, one tablespoonful of corn-starch, one tablespoonful of flour and one teaspoonful of salt. Dissolve gelatin in one cupful of the milk. *Heat* the remaining milk and cream, but do not boil. Mix the flour and corn-starch with the sugar. Beat the eggs, and mix smooth with the dry mixture. Then stir all these ingredients together. When cold, add one tablespoonful of vanilla, or lemon, and freeze. This is as smooth and fine-grained as any "fancy" cream you can buy. It may be served with a hot chocolate dip made of one cupful of sugar, one-half cupful of water and one bar of melted chocolate. Boil this till it is as thick as molasses. Put it in a fancy pitcher, and pass with the ice-cream. Nuts may be sprinkled over the cream, or a spoonful of any rich preserve gives a new flavor. Any rich cake is good with the cream. My cold-weather favorite is

French Cake—Two cupfuls of sugar and one cupful of butter creamed together, one-half cupful of sweet milk, four eggs (beat whites and yolks separately), three cupfuls of flour sifted with the sugar and powder, two teaspoonfuls of baking-powder and one teaspoonful of flavoring. Beat till it is smooth. Bake in three layers, and ice.

The candy is home-made. Any favorite recipe may be used. The coffee must be

Lemon pie makes a good dessert

hot and clear, and a tablespoonful of whipped cream to each cup is very "fetching."

Four-Course Company Dinner—The following is a menu for a four-course company dinner that is very satisfactory and comparatively inexpensive:

(1)
Clear Tomato Soup Wafers
Pickles

(2)
Pot Roast of Beef Gravy
Mashed Potatoes Canned Green Beans
Sweet Pickled Peaches Tart Jelly

(3)
Apple, Celery and Hickory-Nut Salad
Cheese Straws

(4)
Lemon Pie

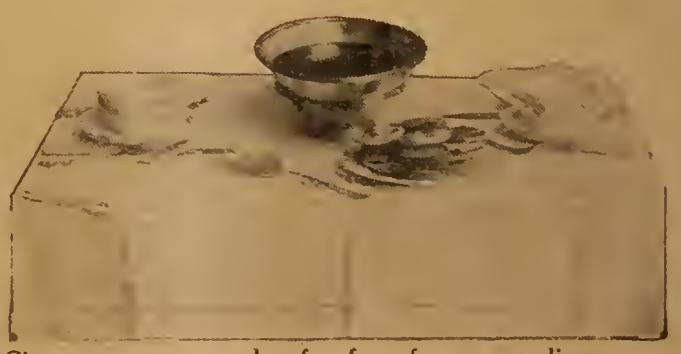
For the soup drain the juice from tomatoes until there is one-half cupful for each person. Then add hot water, salt and pepper and enough extract of beef to give a good flavor (about one teaspoonful to each quart of liquid). Serve in cups.

The pot roast should be boiled till very tender; then drain off the extra liquor, and save for gravy. Put a lump of butter in the pot, add seasoning, and brown the beef all over. Remove it, and make the gravy.

The mashed potatoes will be fluffy if the milk is hot when it is beaten into them; the butter, pepper and salt may be put in the milk if desired.

The green beans are drained and heated, with seasoning added. The salad is very nice if served in apple cups, but that is not necessary.

For the cheese straws, make a rich pie-



Clear tomato soup and wafers for a four-course dinner

dough, roll thin, sprinkle with grated cheese, and bake in a hot oven.

Lemon Pie—Of this menu lemon pie is the only article not "farm-grown." The recipe for it is as follows: Mix one cupful of sugar and one heaping tablespoonful of flour; add slowly, beating constantly, one cupful of boiling water, and cook ten minutes. Add one tablespoonful of butter and the juice of one lemon, and boil one minute more. Then move it to the back of the stove, and stir in one well-beaten egg. Pour in an already baked crust, ice the top with well-beaten white of egg and one tablespoonful of sugar. Brown in a hot oven. The above makes one pie. A good custard pie is just as acceptable as the lemon.

Wall and Window Draperies

By Edith Charlton Salisbury

IT IS a mistake to think that artistic results in house-furnishing can be obtained only from expensive materials, for in some of the most satisfactory rooms the entire cost of furnishing has been confined to comparatively few dollars. It must be understood that satisfaction in furnishing implies restfulness, pleasure and the real home feeling that is confined neither to cottage nor palace. The quality which we find in these desirable rooms in the way of color and fittings has been brought into them through a full knowledge of and attention to values and balance. There must be color in every room, else it will lack atmosphere and character, but it must be the color best suited to the room itself, its style, size, light and general surroundings. Then there must be just the right amount of color, toned down or brightened, as required to give balance.

The first consideration in furnishing a room is the wall-decoration, for this really gives the key-note to the color-scheme. But the material to be used and its arrangement must not be decided without some reference to the furniture, floor-coverings and draperies. Each part must be considered in connection with the other parts as well as by itself, or the result may be disastrous.

Selecting the Wall-Decoration

Suppose we select the wall-decoration for a bedroom in an old-fashioned house, the chief recommendation of the room being its generous size and a north and eastern exposure. This means it will have sunlight during the greater part of the day, so our wall-decoration must not be too warm in color, and it should not be pronounced in any way. Light, delicate, dainty colors are best for sleeping-rooms, and the range of suitable ones is wide enough to permit one to choose her favorite.

If the ceiling is high, the room may be given a cozier aspect by using a deep frieze or border, dropping the ceiling paper on to the wall two feet or more, or by using a dado. It is not wise to use the latter, however, unless the room is a large one. Where wall and ceiling paper join, whether it be at the angle or some distance below, there should always be a line to break the sharp contrast between the two papers. A cornice is a splendid finish in a high-ceiled room, a simple picture-molding is better in the small low room, and where the dado is used there may be a narrow shelf for ornaments and photographs. There is just one objection to this shelf—and it is a big one—it is a dust-catcher and tends to encourage a confusion of bric-à-brac which is always contrary to art and adds unnecessarily to the burdens of the housewife.

There is a wide choice of materials for wall-decoration, ranging from paint or kalsomine to paper and cloths of various kinds. The painted or tinted wall is best for sanitary reasons, and when the paint has been "stippled" to remove the gloss, and when soft, delicate colors have been chosen for tinting, the effect is very pleasing. Still, after all is said in favor of other materials, there is nothing more satisfactory for wall-decoration in the ordinary room than good unfadable ingrain paper in which, nowadays, there is little danger of poisonous dyes having been used.

Wistaria-Blue Bedroom

For the particular bedroom described above wistaria-blue may be selected for the color-scheme, because it is cool, restful and ordinarily a favorite. If the ceiling is nine feet or more, it should have a frieze or "cutout" formed of the graceful wistaria-blossoms dropping from the ceiling over on the wall, and if this border is used there should be little design in the rest of the wall-covering; in fact, the less obtrusive is the design and color of the bedroom wall, the more grateful to tired nerves and the more conducive to rest will it prove.

A rather pleasing fashion in vogue just now for bedroom-decoration is to have a wall-paper that is almost devoid of color or pattern, and to outline doors and windows with a "cutout" border similar to that used below the ceiling; and occasionally these border strips are arranged as panels at regular intervals on the walls.

Since the aim in all bedroom-furnishing should be to have everything as sanitary as possible, the floor should not be covered with a carpet that extends from wall to wall and is securely tacked down, there to remain unmolested until the annual or biennial house-cleaning, making an excellent breeding-place and camping-ground for germs and insects. The best floor is the hard wood, oiled or waxed, and covered with a simple rug or two. Next to that comes the painted floor, and even an old rough floor can be planed, have the cracks and knots filled and be made very sightly with a couple of coats of good floor-paint. One clever woman made an old floor, that seemed almost past redemption, present a very trig appearance by stretching lightly over it a covering of strong unbleached cotton, tacking it down securely and finishing at the edge with a narrow leather strip. The cotton was then treated to two coats of paint and one of floor-varnish. A couple of rugs completed a very practical and satisfactory bedroom floor.

Good Rugs an Investment Worth While

In rugs there is almost no end to the variety from which to make a selection, but when one is practising economy in other directions and traveling along the road of simplicity it is well to keep to first intentions in the matter of rugs, though this is one place where an investment of dollars generally pays in the end. If one can afford genuine Orientals, it is really wisdom to buy them, because when they are genuine—and of that one must make sure—they will wear a lifetime. Age only softens and makes richer their beautiful colors, besides which they have the quality of harmonizing with any furnishings.

But with Orientals out of the question there are still many beautiful and serviceable rugs from which to select. For bedrooms there are many things to be said in favor of the hand-woven colonial rugs which are no longer the "hit-and-miss" affairs of pioneer days, but are made in two shades, white and the prevailing color of the room. The best ones are cotton, and wash as satisfactorily as a sheet. Scotch wool ingrain rugs are not to be despised either, if small patterns and quiet colors are chosen.

For living and sitting rooms there are the good five-frame Brussels, then Wiltons, which are like Brussels, with the pile cut, and after the Wiltons the Axminsters made with the cut pile on both sides—more expensive but not as durable as the Wiltons.

For large, handsome rooms one may have the Donegal rugs without design, in rich, soft colors, the border just a shade lighter or darker than the center.

Whatever the style of rug, its color should be two or three shades darker than the wall, and if there is much pattern in the wall-covering then the floor should have little or no design; small patterns are always preferable.

Draperies, such as side-curtains, portières and couch-covers for bedrooms, should be a tone midway between the wall and floor. There is a bewildering range of material from which to make a selection, some cheap washable fabrics lending themselves to artistic effects quite as well as the expensive textiles. Nothing is prettier or more satisfactory in a sleeping-room than printed dimities and cretonnes. These are not new, but so much thought has been given lately to their manufacture that they are really beautiful. It is possible nowadays to match the colors and patterns of the wall-paper almost exactly in these practical cotton draperies.

Next come the printed linens and a comparatively new fabric called shadow cloth that is truly lovely. The pattern is printed on the warp threads, then the uncolored filling threads are woven in, softening the colors and making them partially invisible. The price of this material is from $2.50 to $3 a yard; rather expensive when much of it is required, but it is worth it.

When there is considerable pattern in the wall-covering, very effective draperies can be made of plain material—linen, plain muslin, monk's cloth or denim—decorated with a strip of flowered material.

This may be cut out, following the outline of the pattern and appliquéd to the curtain; or straight strips of the flowered material may be stitched on, three or four inches from the edge of the material, making what is called a galloon.

Side-curtains to match the portières add to the good appearance of the window, and the good effect is further increased by a valance as well as the side-curtains.

Good Things in Curtains

One can spend dollars and dollars on the window-curtains and still have nothing remarkable to show for the money. Fortunately the up-stairs windows need not be curtained like those down-stairs, nor need the windows in any two rooms be exactly alike, unless the house stands very near the street and it seems necessary to give an impression of uniformity from the outside. Fortunately there are inexpensive fabrics suitable for window-curtains, and it is well always to buy the best of even the inexpensive materials. Curtains that will wear only one season, that even atmospheric moisture is sufficient to make limp and lop-sided, are expensive at any price. The single-thread lace and net and the coarse-mesh muslins may be relied upon always to do this.

Pretty bedroom-curtains may be nothing more expensive than white dimity, barred or dotted muslins; crisp freshness and cleanliness being their chief charm. If twenty to twenty-five cents a yard have been paid for them, they should launder perfectly and look fresher and daintier after each washing. More expensive bedroom-curtains are of book muslin trimmed with lace and insertion or plain frills; others are of net, and even a double-thread Nottingham lace with a plain center and a simple design in the border has much to recommend it. The common single-thread Nottingham curtains with their ugly, ungraceful designs are quite another matter and are no longer considered in good taste. Pretty curtains for a modest room are of plain scrim stenciled in conventional design or decorated with flowered strips cut from cretonne or dimity and appliquéd to the scrim.

PROCLAMATION!

Welcoming the Talented Children of the Soil

BECAUSE of their closeness to the earth, the men on the farms increase in stature and strength.

And for this very reason a certain proportion of their children are being born with a finer strength. They are being born with all this power concentrated in their nerves. They have the magnificent thoughts that might stir the stars in their courses, were they given voice.

Yea, in almost every ranch-house is born one flower-like girl or boy, a stranger among the brothers and sisters. Welcome, and a thousand welcomes, to these fairy changelings! They will make our land lovely. Let all of us who love God give our hearts to these His servants. They are born with eyes that weep themselves blind, unless there is beauty to look upon. They are endowed with souls that are self-devouring, unless they be permitted to make rare music; with a desire for truth that will make them mad as the old prophets, unless they be permitted to preach and pray and praise God in their own fashion, each establishing his own dream visibly in the world.

The land is being jeweled with talented children, from Maine to California: souls dewy as the grass, eyes wondering and passionate, lips that tremble. Though they be born in hovels, they have slender hands, seemingly lost amid the heavy hands. They have hands that give way too soon amid the bitter days of labor, but are everlastingly patient with the violin, or chisel, or brush, or pen.

All these children as a sacred charge are appearing, coming down upon the earth like manna. Many will be despised as the too-abundant mulberry, that is left upon the trees. Many will perish like the wild strawberries of Kansas, cut down by the roadside with the weeds. Many will be looked upon like an over-abundant crop of apples, too cheap to be hauled to market, often used as fodder for the beasts. There will be a great slaughter of the innocents, more bloody than that of Herod of old. But there will be a desperate hardy remnant, adepts in all the conquering necromancy of agricultural Song and democratic Craftsmanship. They will bring us our new time in its completeness.

This by faith, and a study of the signs, we proclaim!

As We See It

By J. E. T.

"HOW much depends on our viewpoint!" remarked a thoughtful old lady as she laid down the letter she had been reading. "Here's my grandniece writes that she has persuaded her husband to move to another town because the people in Maple Center have all 'got so mean' that they are unendurable.

"Now, I met a dear little woman on the train the other day who had another way of seeing things—for I got her story in the four hours that I shared her seat. She was leaving Ironside, a rough mining town, for the new home in a western manufacturing center where her husband had obtained a promising position.

"'You don't know how I regretted leaving the Ironside people,' she confided. 'Of course, they were nearly all foreigners—only three American families in the place. But there was my Finn washerwoman, such a faithful, grateful soul, and dear old Grandma Gavic, the personification of cheerfulness, no matter how much tugging it took to make both ends meet. There was funny little Jacques Harvieux who never came down the gulch without bringing me at least one wild flower, and—why, everybody, tired mothers, dirty children, rough miners—they all had a smile or pleasant greeting wherever I met them. I expect to find good people in my new home, also, but these others have touched my life in a way to do me much good, and I shall miss them."

Cords and Buttons

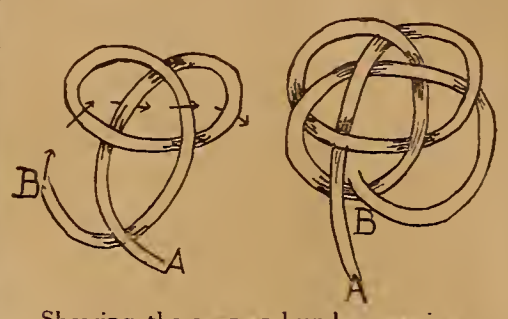
By V. B. Jacobs

SO MANY stylish suits and skirts are trimmed with covered buttons that these suggestions will prove helpful.

Have you ever tried covering the forms with two thicknesses of silk, satin or other thin material? It is quite as easy to put the double covering on the buttons, and it adds greatly to their durability.

When the wooden molds are not convenient, or you want an odd-sized button, try using the common china buttons reversed. They make excellent foundations and the depression where the holes are pierced holds the rough edges of the covering material snugly, making the button lie quite flat against the garment.

Some time you may have wanted buttons with two-color effects. By covering small forms and sewing them in the center of larger plain uncovered buttons, you can have them with hard smooth rims. These slip through the buttonholes easily and give a pleasing variety.



Showing the over-and-under weaving

The time will come when the buttons you covered so carefully are worn. You can re-cover them quickly without removing them from the garment, and so save yourself considerable time. Cut the material just as you would when covering the detached button, but *turn in the edge* all around when putting in the gathering-thread. When the new cover is drawn tight, a larger space will be left in the middle, which accommodates the gathered edges from the previous covering.

Ten inches of fine gold cord makes a handsome button like the one illustrated. Cut off a length of the cord, and shape it in a loop with the short end (A) underneath to the left. Lay another loop over this (Fig. 1). It now looks like a pretzel. Pass the long end (B) *under* the short end (A), then weave it alternately over and under all the strands until it again hangs down at the right (Fig. 2).

The buttons completed

Before going too far tighten the cord by pulling the loops smaller, so there will be no hole left open in the middle.

Now pass B over beside A, and push it under and over exactly following the course of A. This makes the double weave that is so attractive.

Fig. 1 Starting it

Fig. 2 Nearly finished

It it seems convenient, thread the end of cord into a bodkin, or use a crochet-hook to pull it through the gaps.

Larger buttons are made in the same way of heavy cotton or silk cord, using twelve to eighteen inch lengths. By passing B again over and under, beside A, you can make triple weaving. This makes a handsome button for a gown trimmed in military style.

Do you know how to make the cords that trim so many of the simple French frocks? They are so smoothly and tightly covered that you may have wondered how it is done. Join bias strips for the desired length, then sew the strip into a tube to fit the cord (heavy string will do for this, or a single strand of soft cotton rope). Sew one end shut; machine-stitching is firmer than hand-work for this. Now, sew one end of the cord fast to the closed end of the casing, and with a pencil push the cord an inch or two into the casing, to start it. Then, by pulling the cord along, gradually reverse the casing, turning the seam inside, and a well-covered cord will reward your efforts.

Cords covered with bias strips

With this cord you can make the imitation buttonholes, and sewed on in simple patterns it forms an effective trimming.

Perhaps you will like to be reminded of the easiest way to make bias strips of great length. Take a large piece of bias material, and with the yard-stick and chalk draw lines across it as far apart as the width you want for your strips.

Next, lay the straight edges together. Sew a straight seam, making a tube. Begin to cut, following the drawn line, and you will have a continuous band that will be fine for trimming.

City or Country—Which?

By Alice M. Ashton

THE trained farmer is very likely to make a financial success of his work and to give his family as good a home as his natural inclinations will allow; an untrained man lacks opportunities in any field, and the woman who marries him may expect financial limitations in her life. I have been in the homes of many well-to-do farmers; they contained many comforts and some luxuries. In the home of the poor ones we find hard work and privation; but take that same family into town, and what do we find? The father as inadequate as ever, the mother going out daily to the most menial labor, beside which the hard work in her own farm kitchen seems joyous, the children in the work-shop; we have seen this tragedy enacted again and again!

"But my children! *How* can I bring them up well in such environment—inexpressible hired men and undesirable or unprogressive neighborhoods?" Well, if a country child can hear any more than can a child in town to corrupt its language and manners and morality, it must certainly keep him very busy! We cannot make our children good by shielding them from the rough side of life, we must make them strong enough to withstand it. It is a drawback, certainly, to be obliged to take some hired men into the family; but even this is not so hopeless. If Father comes to the table neat and trim, it makes a great difference; if Mother pities those men for their dreadful manners, do you think the children will copy them? Mothers are busy people, in one way or another, but many of them do succeed in training their children well. The country mother who gives up weakly over her difficulties, would give up just as weakly if confronting the difficulties of a town mother. I have seen attractive, well-dressed young people from country homes with manners that shamed some of their town cousins.

What the average country woman needs most is a realizing sense of her own importance. It is not a small thing to own property acquired by personal effort, to have an independent and sustaining occupation, to ride in one's own carriage and to send one's children to college; yet this is what many a farmer's wife is helping to do.

There is room for great improvement in the life of the country woman, and I am glad to see things being done for her; but I do not like to have it appear that she is the only wife who makes sacrifices, who fails to reach her ideal, who does not have refined associates, and who does not understand the economies of home-making.

The country woman is not given to the following of every fad, she cannot keep up with every change of fashion, but she is by no means duller than the women of her mental caliber in the town; she knows more about the current topics of the day, generally does more sound reading, and understands her husband's business better than her city sister.

Sunshine and Health

By Hilda Richmond

ONCE upon a time there was a nervous, irritable, thin housekeeper who had to leave her dark, immaculate dwelling in the country and accompany an invalid child to a hospital for treatment. Day after day she was forced to sit on a sun-porch with the child trying to amuse him and keep him contented, and day after day she lost her irritability and gained common sense. She could hardly wait to get home to put in operation some of the things learned in that cheery, sun-bathed place, and her husband thought she was crazy as she threw open blinds and tore down heavy draperies. She was sane and sensible and sweet-tempered, things foreign to her since she began housekeeping, and a new era dawned for the whole family.

Did you ever see a damp, muggy, sour piece of earth thickly filled with trees common to swales, and then see that same piece with the sunshine thrown in upon it? The effect is marvelous. The sour land is healed, the creeping things disappear, the fog no longer rises at evening. That is what would happen to many homes if only the overhanging trees were trimmed up, the windows opened to the sunshine and plenty of light admitted to every part of the house. The sunniest rooms should be the living and sleeping rooms, and the house should be planned to give stairways, closets and the dining-room the dark exposures, because they are least used.

If you don't believe what sunshine will do, try having an invalid sleep in a full blaze of sunshine for a few weeks. A handkerchief of dark silk may be bound loosely about the eyes to keep out the light, but the sunshine should fall upon the sleeper without any kind of a screen. Where this has been tried, irritable and nervous elderly people have formed the habit of sleeping soundly much longer than usual, and delicate children recover strength rapidly. The old idea that every blind must be shut down tight to put people to sleep has been exploded long ago. By merely shutting out the light from the eyes, the same effect is secured with no injurious effects.

A hurried, busy woman who felt she had no time to take sun-baths and who yet had an open mind toward the new treatment resolutely took her work every afternoon and sat with her head in the shade while her body was bathed in the sunshine. As the weather grew very hot, she had to give it up, but as soon as fall came she tried it all over. She accomplished more sewing and was in better health than ever before in her life. In an old hammock she rested occasionally in the sunshine when, by her own statement, she felt that it would scorch her, and her aches disappeared as she lay there. With her head protected she enjoyed the brief outings, and it was no hotter than in her kitchen in dog-days.

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Pete's uncle said something in a snarling whisper, but Lomond shook his head. Under the conditions the red-faced young man was content to have the incident closed as it was closing.

Chapter XIX.—The Hand of Friendship

EARLY afternoon on the following day found Wright decked with a care which aroused the admiration of even the invalid Pete. The ferryman had ransacked his wardrobe and was arrayed in a suit of white duck, spotless from collar to ankle, while his best hat was upon his head, and the low shoes on his feet were polished till they shone, reflecting like mirrors the sunshine of a cloudless day. Wright was in high spirits. He whistled gaily as he walked down to the landing, in response to a summons from the other bank, and rowed briskly across the stream to the group of patrons he saw on the shore.

There were four in the party, a man, an elderly woman and two girls. Wright recognized none of them and was not much impressed by any of the quartet, unless it might be by one of the girls who wore a gown of a violent green hue. The trip was uneventful, and presently the blunt nose of the punt touched the bank. When the girl in the green dress rose to her feet she swayed, lost her balance, and fell backward.

Wright ran aft and caught the girl, who was floundering in a couple of feet of water. There was no danger, but her fright was sufficient to make her cling to the ferryman in a blind fear of further mishap.

The man of the party looked at the dripping figure, growled, shrugged his shoulders and turned to ask the cost of the trip. He counted out the passage-money and handed it, grudgingly, to the ferryman. Then, without further parley, he led the way up the slope, the green maiden bringing up the rear, the soaked dress clinging to her figure like a sheath of seaweed. The sop, sop of her dripping garments had hardly been needed to warn Wright that the freshness of his duck suit was likely to have suffered; for certain little chills had hinted that part of the surplus moisture had been transferred to him. When he looked down at his coat and trousers, however, he saw that for which he was totally unprepared.

From the level of his breast pocket to his knees great patches of green marred the white. And it was a vivid green, a bright and shining green, of a tint that made him shudder; a green that could be seen afar off and that was uglier and more insistent the nearer the view.

The unhappy youth uttered a groan, then fled for his house, running up the steep roadway from the river and reaching the top of the rise precisely as Nettie Lansing pulled up Noddy before his door.

Wright slackened his pace and went forward, hat in hand and desperate calm in his manner.

"Pardon me, please, if my colors jar!" he said. "If the red of my blushes swears at the spots on my manly bosom, remember it isn't given to everybody to imitate a rainbow with success."

"But—but what have you been doing?" She kept the laughter out of everything but her eyes; they were dancing.

"Oh, waltzing with a mermaid, and the dye ran; that's all."

"I suspect I just met your partner. She looked more distressed than you do."

"Well, she's wetter," Wright explained. "I didn't get into the river."

"But she did? And you saved her?" There was no longer mirth even in the eyes that looked at him in a kindly fashion that made his pulse quicken.

"Not 'saved'; she wasn't in any peril. The boat had reached the landing, and she—well, it was merely a case of a misstep."

"That carried her overboard?"

"Why, yes—but into very shallow water."

"And you went after her?"

"I reached over the stern of the boat and helped her step aboard."

Miss Lansing shook her head in pretty reproof. "Mr. Wright, I'm going to accept no such bald and unconvincing narrative. If you won't tell me the picturesque details, I'll supply them for myself. There's evidence, striking evidence, against you. And I'm sure there was danger, and you were cool and collected, and did just the right thing at the right second."

"But it didn't amount to—"

She raised a finger in mock displeasure. "It's too late now," she said. "You were to have a report, you know—and it's wicked to keep you standing in those dreadfully wet clothes."

"I'm not wet—that is, not very," Wright insisted.

"But the report!"

"Well, I've more of one to make than I expected to have. You gave me a splendid hint; and, following it, I found that it was child's play for anybody to enter the attic by climbing a tree beside the house. That started me to thinking, and I set a trap—that is, a sort of a trap."

"And you caught something?" she cried eagerly.

"I caught somebody. A man climbed that tree and entered the attic about midnight. He was groaning away like a good fellow, when I woke up. Naturally I thought first of the Tory Lady, but before I could think twice, the—the trap was sprung. It caught the man, or, rather, it frightened him, and he bolted down-stairs, and there I met him."

"Oh!" Miss Lansing said, with wide-open eyes. "You knew him?"

"Yes; he is a distant relative of Pete."

She said "Oh!" again with an intonation Wright did not quite understand. He fancied, however, that it expressed relief.

"We talked a while, and I let him go," the young man continued. "I think that spook can be counted laid at last."

"But there was your other experience—the night of the storm, you know."

"I am ready to believe the noises were due to the wind and the creaking of the old timbers."

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Miss Lansing's face was grave, as if she found the topic not one to be dismissed lightly.

"You spoke of a trap," she said. "Would you mind telling me what it was?"

"Merely a savage old rooster I own, that dislikes being disturbed. He flew at the intruder as if he'd eat him alive, and the man had no clear idea what kind of monster had attacked him."

The girl's eyes were fixed on the ferryman's face.

"Mr. Wright," she said slowly, "I suspect that you've told me no more about this affair than you told me about the rescue. I'm going to be frank with you, though. There's a coincidence—there's a timeliness about this visitation, and—well, there were only a few people who knew certain things that you and I know. And this relative of Pete's was not among the few. I'm not pleased at all this, Mr. Wright; but I am not going to ask you any more questions. Anything you care to tell me voluntarily I shall be glad to hear, but—but I think it best to trust your judgment."

Wright bowed with a gravity which matched her own. "I appreciate your trust. No—no, there's nothing more worth telling."

Miss Lansing gathered up the reins in one hand, but extended the other to the ferryman.

"Mr. Wright," she said impulsively, "I like you! You play fair—yes, more than fair. And we're going to be friends, I'm sure—good friend always."

Chapter XX —A Woman Intervenes

WRIGHT endured with philosophy the absence of Lomond. Some day, inevitably, there would be a reckoning and a squaring of accounts, but for the present the less he saw of the red-faced youth the better was he pleased. Nettie Lansing, rather oddly, seemed disposed on the occasion of their single meeting in the course of the week to devote attention to Lomond, of whose manners and methods she spoke in a fashion indicating a desire to explain, if not to excuse. She made no direct references to his share in the doings of Pete's uncle, but Wright was not left in doubt that she had arrived at a fairly accurate understanding of the affair.

Their meeting was highly informal, taking place upon the main road, along which the girl was driving in her pony-cart. Wright, although exceedingly busy that morning, found time to chat for half an hour, in which, as has been said, the character of Lomond received due attention, but not to the utter exclusion of topics of more immediate concern. One of these was Wright's plans for the future, a subject reached by way of his remarkable flock of poultry. In the exchange of confidences befitting the state of friendship, he gave the girl the full story of his dealings with Chicken Smithers.

"It was a great bunko game, and I was beautifully victimized: but I'm not going to wail. I'm going to keep the crowd—keep it just as it is. The fact that the neighborhood doesn't like it appeals, I suspect, to my contrariness. Oh, yes; so long as those roosters care to live with me, they shall be welcome to remain."

"Then you—you really expect to stay at the ferry?" she asked quickly.

"Surely!" Wright said. "Hasn't my whole conduct breathed an idea of permanence?"

"Possibly. Still, there's an—an incongruity."

The young man bowed low. "I thank you," said he. "It is good to know that I have not shown fatal facility in slipping into my ancestral occupation."

"But you can't stay indefinitely—for years, it may be. It is one thing to come to the ferry for a summer's vacation—"

"Vacation! Behold the blisters and the calloused spots!" He spread out his hands with their telltale marks of toil. "Acquit me, I beg you, of the charge of sybaritic sloth and amateur dilletantism!"

"But your work—your rightful place in the world?"

"My work seems to be cut out for me. And my rightful place, I'm afraid, is the one where I can, at least, try to keep a contract."

"A contract?"

"Precisely. To be sure, I didn't realize all the facts when I entered upon it, but my good angel didn't intervene in my behalf. So I blithely hastened to put myself under obligations which can be discharged in only one way—by running the ferry."

"You are in earnest?"

"Absolutely."

"And you are in honor bound?"

"I think so."

The gravity in her look was in no wise lessened. "I hope you'll not deem me inquisitive," she said. "It's only fair, though, to tell you everybody has wondered that you should come here, and nobody supposed you really regarded the ferry as a—a—a permanent vocation. But I'm glad you've told me just how the case stands."

"Do you approve my attitude?"

"My opinion would carry little weight."

"It means a great deal to me."

His eyes were upon her face, but she met his gaze unwaveringly.

"Mr. Wright," she said very earnestly, "I believe in you."

"Does that mean that you would have me keep this bargain, bad as it is?"

"Under the conditions—yes," she said slowly. "It may be a heavy burden, but you will not shirk it, I'm sure."

Again Wright bowed, but this time there was no hint of levity in his manner.

"If it is a burden, you've lightened it amazingly," he told her.

The week had seemed to have only this single really cheering feature of a talk with Miss Lansing, unless under this head could be included the arrival of a dog. The very capable Mr. Dodd had exceeded his promise, and had secured an animal of unwarranted value as a guard. It was a tawny brute, heavy-jawed, of some uncertain cross of mastiff, bull and perhaps other strains, almost as big as Noddy and much more active; while its bay was a deep-throated note calculated to spread terror among evil-doers or innocent folk, for that matter, who might stray within range of this vigilant watcher. He named the dog "The Dentist" in tribute to a rare display of teeth and to an ability to pull hard on a rope, tethered the creature near the house by day and evening, suffered it to roam at large late at night, and tried to amuse himself by speculating what might happen next.

Lomond supplied the incident, at the same time raising a question of the practical relations of a hereditary ferryman and an automobile. A blast from the other bank gave warning of the coming of a traveler, and a shout of "Scow!" notified Wright that a vehicle awaited passage. Not until his barge was almost across the river did the young man turn from his sculling to discover that it was the red motor-car.

Wright made his landing and, stepping ashore, surveyed the machine with saturnine interest. Then he nodded to the owner and looked back at the boat.

"Say, going to take me over, ain't you?" Lomond asked sharply.

Wright shrugged his shoulders. "I don't know whether I am or not," he said. "This is a new proposition. I want to think it over."

"Thinking be hanged!" Lomond retorted. "You've got to ferry us over. What are you here for? I've a legal claim to a passage. I've looked up the law. You're a common carrier, by gad! a common carrier!"

"Hunted up the law, have you?" Wright countered. "Then perhaps you can tell me what is the rate for automobiles. Every charge is definitely set down, please remember."

Lomond looked blank. "You do the charging," he said. "It's your business to know your own rules."

"Oh, I know 'em well enough. Only, you see, they're rather dumb on the matter of autos. They were made back in seventeen-something and amended about 1830, so I've been informed."

"They think enough of 'em now to make me pay a license fee for the use of public highways. A license is a permit, to my way of thinking, and you're just part of the road!"

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"Why didn't you call it a dirt road?" Wright suggested. "That's all right, though; you'd have been glad to think of it—if only you had. I guess there's a classification that'll meet the charge problem, if you insist on being taken across. We can make a start, anyway, even if we don't go more than part way."

Lomond grinned in superior fashion. "That's up to you," he said. "Common carrier's got to insure safety of transit. There's more law for you and good law at that!"

Wright shook his head. "Nay, nay, fair sir," said he. "The marine insurance office is closed indefinitely for repairs. You can load a twenty-five-hundred-dollar car on a twenty-five-dollar scow, if you please, but it'll be at your risk."

"But you'll foot the bills if anything happens."

"It'd take ingenuity to make me do so," quoth Wright. It was his turn to grin.

"We'll see about that!" Lomond cried with sudden wrath. "Drop that shelf, will you? I'm going to run her on board."

For an instant Wright hesitated. Then he walked to the boat, and lowered the swinging platform, up which the car felt its way. It rolled aboard with hardly a perceptible jar, for Lomond was a chauffeur of skilled hand and accurate eye. The scow, calculated to bear the weight of loaded wagons, floated its present freight without difficulty.

Wright pushed off and took up his big scull with no very marked satisfaction, but Lomond, for some reason of his own, did not improve the opportunity to gloat over the ferryman. Instead, he kept his seat in the car and did not speak until the shore was reached and the landing-stage had been dropped.

"What's the charge?" he asked, pulling a handful of change from his pocket.

"Quarter," Wright said laconically.

"Found a rate, did you?" Lomond chuckled. "Thought those old fellows that made the rules never heard of automobiles!"

"They hit this case near enough—twenty-five cents for a vehicle and one mule or ass. Thank you; that's correct; go ahead!"

Lomond was occupied in cautiously putting the car in motion, but he heard, and his face reddened.

"That's all right!" he said, as he glided by the ferryman. "Cheaper than taking the car twenty miles around by the bridge any day. I'll come this way again; sure I will—often!"

Wright climbed the bank, burdened with a sense of faring badly in this encounter; and the feeling lingered long after the red car had vanished, and after the day had worn itself through and the evening was half gone. He smoked a pipe or two, communing with the stars with no consoling results. It was almost with satisfaction that he made out a figure plodding toward the river and heard a call of "Ferryman!" The Dentist, straining at his rope, growled rumblingly, but Wright bade the dog be still and followed the other man down the bank. When he came to the shore, he recognized the customer and lost a little of his liking for his task, for the fellow was one of those neighbors of whose intentions he had more than mere doubts. However, he could not refuse him passage, and after a curt word or two the pair boarded the skiff and set out.

The passenger was oddly silent, suspiciously silent, it occurred to Wright when, having set the man ashore, he paddled slowly on the return trip. Generally these yokels were prone to linger while they watched the boatman start back, but this one had hurried up the bank, as if he desired to be out of sight. Wright began to put two and two together and get five at the least. There had been too much calm of late not to portend a storm; there was a newly discovered menace in the heavy, sultry air. Nearing the shore, he scanned the dark clump of trees and the dense masses of low growth, and his straining ear detected something stirring very near the landing-place.

Wright steered his boat straight for the spot whence the rustling emanated. The bow touched the bottom gently, then rose an inch and glided on till it met the bank. And then, as Wright swung his oar from the water, a figure rose from the shadows, a figure that seemed to threaten him just as the oar, poised in mid-air, would serve as a most effective weapon.

Wright had seen that long gash in Pete's head; he had watched the blood oozing from the wound while the boy lay in the bottom of the boat, and he was in no mind to be found there, helpless and gore-stained, in his turn. His arm took on a strength it had never known before; the oar descended like a great club upon the threatening figure, that crumpled up and fell backward with a wild and piercing shriek such as could come from no man's throat.

A great bound carried Wright ashore. Swiftly he raised the form, now limply inanimate. Dark as the night was, he could recognize the victim of his too-accurate aim; for, with that cry of anguish still ringing in his ears, he hardly needed sight to tell him that it was Mrs. Hutley who lay unconscious in his arms.

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Lonesome House

By G. Henry

IT WAS a beautiful place, too. It stood far back from the road, but a good driveway led to it. A trifle too large to be snug, it was in excellent repair; every building had been painted recently. It had many large windows, the house, which meant much sunlight inside, and this is always good. There were flowers in the front yard, and some time or other an industrious housewife had had a garden in the rear, for the beds were still to be seen here and there. And even in the garden there had been flowers; cheerful old-fashioned morning-glories crept up some latticework.

Yet this was Lonesome House.

Everything about the barns was orderly. A machinery-shed was newly shingled. A silo had but recently been erected. A boy worked the pump-handle not more than thrice before clear, cold water filled the cup he held: a good pump in a good well.

The boy was scowling—for this was Lonesome House.

A cat marched past a dog. The cat and the dog did not so much as quarrel. Perhaps they were too low-spirited. Presently the collie crawled under a veranda to hide himself from the world. The cat also disappeared from view.

Birds were in the trees, but for some reason they did not sing.

A rooster led his flock of wives and children toward a field. A neighbor's rooster crowed defiantly, but the rooster which lived at Lonesome House did not take up the challenge.

A woman appeared on the rear porch of this fine farmhouse and pulled on a rope which rang a bell. And soon four men came in from the fields to eat. They filed into the scrupulously clean and orderly dining-room and ate of a good meal, but no word of pleasantry did one of them utter. The woman of the house presided in silence; Mary, the girl, waited on them in silence. 'Twas a good meal, but a silent one; and this is bad for the digestive apparatus. Love, kindness, friendship and gentle consideration had been crowded out of Lonesome House by work.

Everything that creates smiles and gladness was gone.

There remained INDUSTRY and PROSPERITY, which by themselves will not bring true happiness.

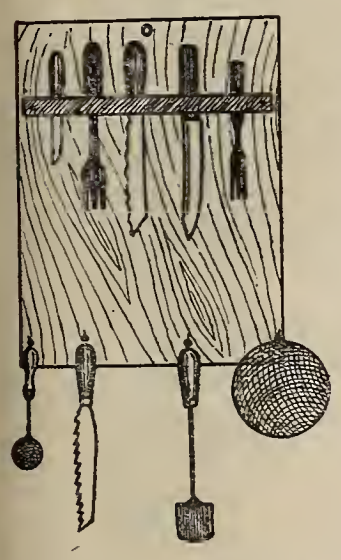
Affectionate

SCADS—"Blinks is a lucky old dog; his wife fairly worships him!"

STACKS—"Yes; but she carries it too far sometimes. I was out there to dinner unexpectedly the other day, and she served up a burnt offering."—*Judge.*

To find if a man has knowledge, talk with him; to find if he has manners, dine with him; to find if he has a sense of humor, joke with him; but to find if he has religion, live with him.

THE HOUSEHOLD



The Handy Rack—Always having trouble to find my paring-knives and potato-forks, my husband made me a rack from a piece of board with a cleat nailed across. The cleat has little blocks in under each end so that the knives may be easily slipped through. On the bottom he put some small hooks, on which I can hang my strainers, pancake-turner and wires for bottom of kettles. It hangs back of my range on the wall, and I find it, while cooking, also saves a good many steps. The board is nine by twelve and half an inch thick. MRS. F. W. B., Massachusetts.

Marshmallow Pudding—Put one heaping tablespoonful of powdered gelatin in a saucepan, pour over it one cupful of boiling water, add one cupful of sugar, the grated rind and juice of three large lemons, and stir over a gentle heat until dissolved, strain, and when cool mix with three well-beaten eggs; pour part of the mixture into a wet small ring mold, enough to fill it, and the remainder into any small dish that will hold it. Set both in a cold place to harden. Turn out of the mold when set, chop the other part of the jelly in small bits, mix with some marshmallows cut in small pieces, and fill center of form. E. I. L., Wisconsin.

Apple Snow—Apple snow forms a showy sweet dish, and may be made as follows: Ten or twelve tender apples prepared and cooked, flavoring with a little lemon juice; when reduced to pulp, let them stand to cool for a little while. Meanwhile, beat up the whites of ten or twelve eggs to a stiff froth, and stir into apples, and also some sifted sugar, say a teaspoonful. Stir until the mixture begins to stiffen, then heap into a glass dish, or serve in custard cups ornamented with spots of red-currant jelly. Thick cream should be ladled out to the snow.

R. B., Tennessee.

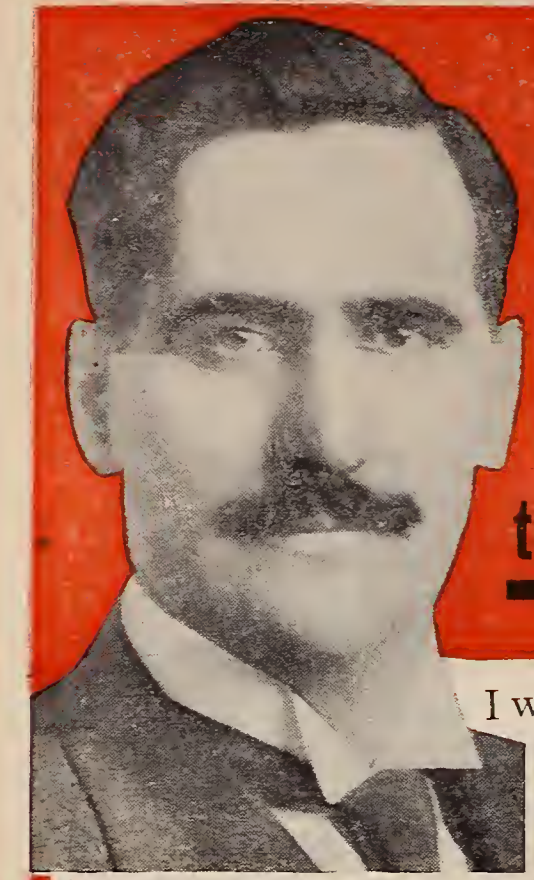
Fruit-Cake—One cupful of butter, one cupful of sugar, three-fourths cupful of molasses, three-fourths cupful of sweet milk, three and one-half cupfuls of sifted flour, four eggs, one and one-half teaspoonfuls of cream of tartar, one level teaspoonful of soda, one pound of seeded raisins, one pound of currants, one teaspoonful, each, of grated nutmeg, cinnamon and cloves. Cream the butter and sugar, add spice and cream of tartar to the flour, dissolve the soda in the milk, then add the milk and flour to the creamed butter and sugar, after which break in the eggs one at a time, beating the batter thoroughly after each egg; lastly, add the fruit which has been dredged with flour, and bake in a moderate oven. M. A. M., Oklahoma.

Baked Spareribs with Oyster Dressing—Take one whole spareribs, hack in pieces of size desired, but don't cut up. Make dressing of one small can of oysters, two eggs, use cracker or bread crumbs as preferred, one good-sized onion, salt and pepper to taste, and a little sage may be added if desired. Often I make the dressing without oysters, then I always use sage. E. L.

Home-Made Hominy—Use common baking-soda, and take five or six large ears of white corn, and shell in the usual way. Put it in a good-sized granite kettle with one gallon of water and two and one-half tablespoonfuls of baking-soda, and boil till the skin or hull will come off easily. Wash with the hands, rubbing well to remove all hulls. Wash through five or six waters, then put in a granite vessel, and cook till tender. If the water looks rather yellow, drain off, and add a second water. E. L.

Amber Pie—Take the yolks of four eggs, one and one-half cupfuls of sugar, one cupful of buttermilk, two tablespoonfuls of vinegar, one cupful of raisins, one tablespoonful, each, of flour and butter, one teaspoonful of cinnamon and cloves. Use whites of eggs for frosting. This recipe if mixed according to above proportions will be sufficient to make two pies. MRS. J. S. C., Indiana.

Preserved Quinces—Peel, core, and wash. Allow half a pound of granulated sugar and half a pint of water to one pound of quinces. Boil together slowly until the quinces are tender. Have the jars thoroughly heated, fill nearly to the top with the quinces, and overflow with the juice. Seal tightly.



I Want Every Reader of Farm and Fireside

to Write Me for My Catalogs

W. Galloway

I want **you**—the man who is holding this paper in his hands right now—to write to me **right away.** I'm making a special appeal to FARM AND FIRESIDE folks. I've got **something special** to offer every one of you. I know what kind of farmers read this great magazine. They're **my** kind—the up-to-date, wide-awake kind—the kind I like to do business with.

You know what I've done in the **past—saved more money** for the farmers of this country and given them a **squarer deal than any other manufacturer.** That's why I've been able to build up a mammoth business here in so short a time. Now, **this** year I'm going to break all my own records. And I'm going to do it by putting some **special propositions** right up to the best farmers in the country. I'm going to make you some offers that are so amazing that you **simply can't get away from them.** Over one hundred and twenty-five thousand farmers know by actual experience that

THE ONLY WAY IS THE GALLOWAY

And I want **you** to be the **next** one. I want to show **you** just what a man can do for you when he will sell you **direct from his own factories to your farm.** I want you to see **for yourself** what an amazing difference it makes in prices **when you don't have to pay one single middleman's profit.** Write me—you won't be under the **slightest** obligation. Just get this wonderful story. I'll show you how you can save hundreds of dollars in the next year alone. I'll give you the evidence—then let **you decide.** Send me the coupon or a postal or letter **right now.**

I'm Going to Tell You

Some Inside Facts About My Business

I haven't any secrets about my business. The more my farmer friends know about my affairs the better I am satisfied. I've made good—but I know that every bit of my success is due to the fact that every single man who does business with me has found that **he can trust me absolutely.**

I'm a farmer myself—always have been and always will be. I was born and raised on a farm and I know what you're up against when it comes to buying right, **because I've been through the mill myself.**

That's why I got into this business. I used to sell farm implements for other people. I didn't keep at it very long because I saw with my own eyes every day, the actual evidence that convinced me that the farmer simply couldn't get a square deal and his money's worth so long as he had to pay a lot of middleman's profits which were always loaded onto the real value of the goods. Why, I could tell you of any number of cases where the profits were so much greater than the real value of the article that it seems almost unbelievable.

I made up my mind to see if the cheaper and better way wasn't to manufacture my own goods—making them just the best that they could be made—*and selling them direct to the farmers at actual factory cost with only one very small factory profit added.* I started out in a small way because I didn't have much money. But it didn't take long to prove that my faith in the intelligence and buying judgment of the men on the farms was founded on solid rock. My business has been tremendous right from the start. My profits have been small—smaller than almost any other manufacturer in the country. And I'm going to keep 'em that way. I'd rather make a small profit and sell a lot of goods than a big profit on a few goods.

Of course, I've made enemies among the other manufacturers who tell me I am "spoiling business." I'm sorry because I don't like enemies—but I am working to help you get your goods at a fair price. Naturally the dealers don't like me very well either, for I stand in the way of their big profits. That's why a lot of them have gone out of their way to misrepresent my business. They can't do that very well any longer, now, for I've made a $5,000.00 Challenge Offer to any man or company in the world who can prove that every word of Galloway's story is not true right down to the last detail, or can disprove that my factories are not exactly as shown, that every statement and claim I make is true. I'll send you a copy of this challenge offer when you write me. Besides that, I protect every single man who does business with me with a $25,000.00 Cash Guarantee Bond that makes it just as safe for you to do business with Galloway as with the United States Government.

Now, I want you to find out just what all this means to you in *cold, hard cash.* I've enlarged my line tremendously for 1913. I am offering *more* bargains and *longer* bargains than I have ever been able to before. I want you to get the proof for yourself.

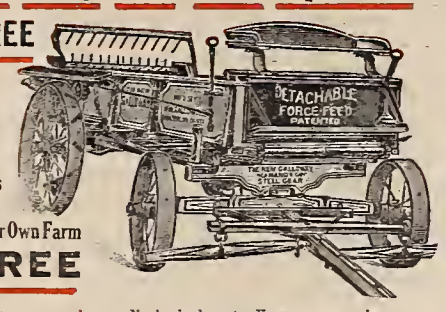
Now Send for My New Book of Bargains FREE

I'll save you money on practically **everything** you need for the home, farm or family. When you see the amazing bargains—hundreds of them—that I am offering in this big 144 page book you'll say: "Well, I didn't think such things were possible." Farm machinery, tools, buggies, harness, clothing, furniture, house furnishings—everything at the same amazing, **rock-bottom prices,** and on the same **wonderfully liberal plan.** You can't afford to be without this book one single day longer. It's free. Send for it right away.

Don't Send Me One Cent

I'll Ship You This Spreader FREE

Use It For 30 Days On Your Own Farm **FREE**



Not one cent down. No bank deposit. Keep your money in your own pocket. I just want you to *try* my new Spreader, *that's all.* Try it right on your own farm for a whole month *free. Test it out as you wouldn't think of testing any other spreader in the world.* Pile on the manure a foot and a half above the box. Put on all she'll hold. Take the fine powdered stuff or the toughest, heaviest, trampled-down, slough-hay kind from the calf yard. If it's frozen, so much the better. *Take it into your field, whip your team to a gallop and SLAM IT IN GEAR!* Say, I know that's an awful test. So do you! A test no other manufacturer dares even suggest to you. But do you think for a minute I'd ship you a spreader and let you abuse it that way if I didn't *know* it would make good? I know what I'm doing. I've made the same offer for seven years, and the Galloway to-day is better than ever. 40,000 farmers have proved it. Besides giving you the best Spreader made at any price.

I'LL SAVE YOU $25 TO $45

Try the Galloway and see for yourself what it will do. The best proof of all is the machine itself—eleven patented features—all exclusive with the Galloway—double drive chains furnishing power from both wheels alike direct to the beater and moving the load. The only endless apron force feed, roller bearing feed spreader built. Makes the Galloway worth $25 more than any other spreader sold to-day. Low down—easy to load—light draft—two horses will handle it easily. Pull between wheels entirely on the reach—and many other special features. I can't tell them all—just get my catalog before you buy any other make or style of spreader. Nine different styles and sizes to select from. You are certain to find just the machine you need most for your purpose. Write me. Get my *free* spreader book and valuable *free* book of information, "A Streak of Gold." Write now. *Do it to-day.*

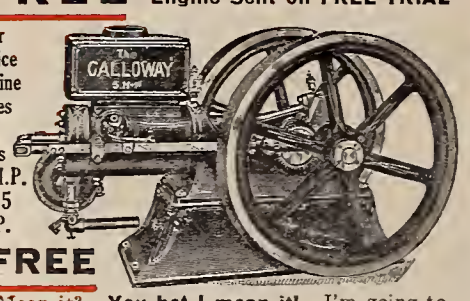
Catalog AND REGULAR $1.00 Book "A Streak of Gold" FREE

The only book of its kind in the world. It tells you, in clear, plain English, just the practical facts that every man ought to know about fertilizing. Tells how to handle manure, how to treat it, keep it and use it to the very best possible advantage. Worth a hundred dollars to any business farmer. Regular price, one dollar. Free to you when you write me. Be sure to send for this famous book to-day.

Three Months' Power FREE

My Superb 1913 Galloway Engine Sent on FREE TRIAL

Your Choice of nine Types and Sizes 1¾ H.P. to 15 H. P. **FREE**



Mean it? **You bet I mean it!** I'm going to make you an offer right now **that you absolutely can't afford to refuse.** Listen to this: I'll let you use a genuine 1913 Galloway Gasoline Engine right on your farm for a whole month absolutely free. If **that** isn't long enough, just say so and I'll let you keep it for a month **or even two months longer.** I'll let you pick out any one of my nine different models you want, I'll let you put it to any test you want. I want you to compare it point by point with any engine on the market, **and I don't care what the other engine costs.** I'll put the Galloway up against **any** other engine, **absolutely regardless of the price.** But, remember, when you buy from me, **I'LL SAVE YOU $50 TO $300.**

Can you beat that? Never! I'll put the whole thing right square up to you. You handle the engine *yourself*—make it do your work day after day for one month, two or three. I won't send any salesman or dealer around to help you make up your mind. *I know I can bank on my engine and your judgment.* Your word *goes.* After you have had the free trial if you think that there is one other engine on the market at any price that is anywhere near the Galloway in quality, workmanship or actual performance, just send the engine right back and *I'll pay the freight both ways, so you won't be out a single cent.* Or, if you find that the Galloway is so far ahead of your expectations that you simply can't afford to get along without it, you *may keep* it and on the squarest, straightest and most liberal offer that you or anybody else ever heard of.

Now you can't beat that offer *anywhere.* No man living can go further than I have to show my perfect confidence in my goods and insure the *absolute satisfaction of every man I deal with.* My engines have got to be so perfect in every way that they *simply sell themselves,* that's all. My big, beautiful engine catalog is yours for the asking, *free.* Write for it to-day.

FREE SERVICE BUREAU!

I've got a bunch of engine experts that you can't beat anywhere in the country and their services are at your command *absolutely without charge.* They'll help you solve every one of your engine problems, tell you just which engine is best suited for your particular purposes, how to fit up your power house, how to handle your engine and use it to best advantage. This service is free to you always whether you buy an engine from us or not.

Get My Engine Book and 90-Day Offer FREE

Now don't miss this splendid offer. Don't lay down this paper—don't even turn the page until you have sent for this splendid Engine Book and full explanation of my new 1913 plan. Just fill out the coupon and mail it to-day—or drop us a postal. Find out the *real facts* about gasoline engines. Don't take anybody's word—*post yourself!* Send the coupon or a postal or letter for this *valuable book and my special Engine Offer NOW.*

Let Me Send This New Galloway Sanitary Separator On 90 Days' Trial FREE

Take This New 1913 Model Separator—Use it on Your Own Farm for 3 months at My Risk

I'm not even going to try to tell you about the sensational new Galloway Sanitary Separator. I **couldn't.** It's so far ahead of anything in the separator line that has ever been placed on the market that there is **simply no comparison.** It's the latest and greatest product of my factories and I am prouder of it than anything that I ever turned out.

But I am not going to ask you to take **my** word or anybody **else's** word on the separator question. I am going to give you a chance to find out the real facts **for yourself.**

Listen: Right at the start **I'LL SAVE YOU $25 to $50** Then, I'll let you try my New Improved Galloway Sanitary any way you want to.

I'll send you one of these wonderful new separators, any size you want, right to your farm for 30, 60, or 90 days' trial absolutely free. I want you to test it out in every way that you can think of. Compare it with any other machine that you know of *no matter what the price.* If anybody else is trying to sell you a separator, make them let you take their machine and set it right up by the side of mine. Take the skim milk from one machine and run it through the other—*that will tell the story.* Then examine its wonderful patented features. See how *simple* it is—how *easy to operate* and *how very, very easy to clean.* See how perfectly it is made in every single part. And notice the new improved features that make it the most sanitary separator built.

Take a month if you want to or keep it two or even three months if you prefer. *Then decide.* I won't hurry or bother you in any way. If you think that there is any other separator in the world at any price that you would rather have than the Galloway, *just ship it right back to me at my expense.* I'll agree right now to pay all the freight *both ways* so that you won't be out a penny or under the slightest obligation if you decide not to keep the separator after having had the free trial.

If you decide to keep it, I'll guarantee to save you from $30 to $50 besides giving you a separator that absolutely has no equal in the world at any price.

Write for My Big 1913 SEPARATOR BOOK FREE

Get my new 1913 Separator Book *right away.* Pick out the machine you want—tell me and *let me send it to you for three months' use and trial free.* You can't possibly take any chances on the kind of an offer I am making you. And you can see for yourself that I *must* have a wonderful machine to be able to make you *that kind of a proposition.* Find out. Use the coupon or a postal or letter. Send NOW.

Fill Out the Coupon-Get My Four Great Books all FREE

Send This Coupon or a Postal or Letter NOW.

MAIL FREE COUPON NOW

Wm. Galloway, Pres., WM. GALLOWAY CO., 747 Galloway Station, Waterloo, Ia.

I want to know all about your Special 1913 offer. Tell me all about it and send me the books I have checked below, by return mail, FREE.

- ☐ BOOK OF BARGAINS—A big 144 page book in two colors with a thousand or more bargains in implements, buggies, harness, furniture, rugs, carpets, etc. Everything for the home and family.
- ☐ MANURE SPREADER CATALOG—and valuable book of information "Streak of Gold."
- ☐ ENGINE BOOK—and my book "Proof of the Pudding."
- ☐ SEPARATOR BOOK—and my new, big, illustrated Dairy Cow Book, FREE.

Name .....

Town .....

R. F. D. ..... State .....

I'm ready to put money right in your pocket. I'll **prove** that I can do it. You are going to buy **something** that I have to offer you within the next few weeks. Get my prices—learn my plans **before you spend another dollar for anything for the farm or household.** I won't take a cent of your money until I have proven to you that every word that I have said to you is absolutely and positively true. You can use a postal or letter if you want to, but the coupon is handiest. I'll send you any or all of my great books free.

GET MY SPECIAL 1913 PROPOSITION SURE!

I've been working on this plan for four years. **It's the biggest, finest thing I've ever offered.** I can tell you how you may actually get a Galloway Engine, Spreader or Separator **either partly or entirely without a cent of cost to you.** No canvassing or soliciting. No work at all. Just the cleanest and most liberal co-operative offer that you or anybody else ever heard of. I'll tell you all about it in a **personal letter** when you write for my free books. **Get this sure.** It won't take you a minute. It may mean hundreds of dollars to you this year alone. Write for the free books and my Special 1913 Proposition **before you do another thing.**

WM. GALLOWAY, Pres., WM. GALLOWAY CO.
747 GALLOWAY STATION, WATERLOO, IOWA.

WESTERN EDITION

FARM AND FIRESIDE

EVERY OTHER WEEK — THE NATIONAL FARM PAPER

ESTABLISHED 1877 — SATURDAY, MARCH 15, 1913

'Twas Easter Sunday. The blossoming trees filled all the air with fragrance and with joy

Longfellow

THE EDITOR'S BILLBOARD OF COMING ATTRACTIONS

Announcement

The next number will be a surprise number. This announcement is made so that all readers may reserve Saturday evening, March 29th, for reading Farm and Fireside. To the following extent, however, I will take you into confidence concerning its contents, and what will appear in the near future.

Special Articles

"Growing Asters for Pleasure and Profit" is an example of specialized farming, typical of what we may expect to see more of in the future. Every year will see more general farmers turning into specialists, just as in the trades, and those who specialize first will reap the rewards of the pioneers.

The Headwork Shop

The Headwork Shop is one of the popular pages, but it isn't good enough yet to suit the editors, though the next issue has some exceptional "hunches." Remember that every contribution published on that page earns a dollar for its author, with double that amount for the best.

Farm Notes

"King Solomon and King Silo" is the title of an ingenious discussion which tells how to make concrete waterproof. Mr. Berton Braley has a poem entitled "The Road." "The Handy Section Ladder," by E. H. Fox, is illustrated by sketches showing how you can climb all over your house without the dangers generally attending painting and repair work.

Garden and Orchard

"Concrete Benches for Greenhouses," by Marc N. Goodnow, tells how an ingenious gardener may make his greenhouse plant-bed out of concrete lumber. Another article tells of the habits of the tent caterpillar, one of the most destructive spring orchard pests.

Poultry

"The Other Side of Duck-Raising" is a story of experiences and misadventures with ducks. It reads like a hard-luck story, but some of the obstacles that others have encountered are well worth knowing.

Crops and Soils

"Overcoming Slough Holes" is a sensible discussion on converting marshy patches of the farm into tillable land. There will be a fertilizer article on how best to use nitrate of soda.

Live Stock and Dairy

John Pickering Ross, one of Farm and Fireside's live-stock specialists, has prepared some useful illustrated horse articles, telling of the best breeds of horses for farm use. And there will be some practical veterinary talks by Doctor Alexander.

Marketing

The parcel post is helping many farmers to dodge the middleman. The coming issues will tell how some farmers have been successful in using it.

The Adventures of a Beneficiary

It was inevitable that the ferryman and his rival should come to the point where they had to "fight it out,"—and they do, and the best man wins. Lots of other exciting things happen, too.

Children's Page

All of the boys and girls, and perhaps some of the fathers and mothers as well, who have been interested in the kindling-wood and buttonhole contests, will want to see the names of the prize-winners. These will be published with letters from the children.

Needlework and Fashions

Tatting, that most fascinating of all trimmings, will be given prominence in one of the early issues. There will be illustrations and directions for making the different designs.

Cookery

A page of delicious cakes and cookies, pies and biscuits are in store for you. The illustrations will make you want to try the recipes next bake-day.

Jessie Field's Page

Jessie Field will tell us something of her visit to New York, the lessons it is teaching her, and she will pass them on to the country girls.

WITH THE EDITOR

Cortez and the Aztecs

I am all balled up about the situation in Mexico. It isn't strictly agricultural in interest—and yet it is. For the whole situation down there relates to the land.

It was like this, as I understand it. Cortez was a professional murderer who went into Mexico with authority to convert the heathen hordes to the true religion. Incidentally these same heathen had a good deal of gold and silver—which they had no right to in view of the scarcity of money among the true believers. Cortez had guns, horses, powder, bullets, and knights in armor, and the heathen had spears, bows, arrows, clubs and bare bodies.

So the fight rather went against the heathen, and for the true believers—and finally, partly by slaughter, partly by the terrors of unknown arms and partly by getting the Mexicans to fight each other, Cortez won, and established himself as ruler over the Aztecs.

This was hundreds of years ago—but the Cortez conquest is the cause of the present revolutions within revolutions in Mexico. Nothing ever ends when it seems to terminate. The world will be different if you turn to the right instead of the left as you leave the house when you go out to look over the stock after supper—different forever. Not very much different, but a little.

Every Day Makes History

See how history works in the present situation in Mexico. We are thinking now of sending our soldier boys down there to take charge—intervention, they call it. Your son, or mine, or the son of one of our neighbors—somebody's sons, anyhow, may be shot down in Mexico by the time this reaches you, because Cortez did as he did to the Aztecs hundreds of years ago.

When we build history we build forever. The pyramids will crumble down some day, but the administration of Woodrow Wilson will live in influence for good or evil as long as the world shall last. The historians may not be able to see its influence, but it will be in operation all the same.

After Cortez had conquered Mexico, the great, rich, barbarous, heathen population lay prostrate at his feet. The lands were in the hands of the Indians. The Indians were pagans. It was an awful thing for lands to be owned by unbelievers—and for Christians to own them would be fine—for the Christians. So Cortez's king, the King of Spain, gave all their lands to Cortez, to his soldiers and to the church, reserving plenty for the crown.

The murderers and swashbucklers who followed the conqueror suddenly became great hidalgos, owning thousands of leagues of land, rich mines and beautiful valleys. They were men of princely domains. It paid to be a Christian in those days.

Land and Labor

What became of the Aztecs? Well, the man who owns land owns the labor of the man who has to have land and doesn't own it. The Aztecs became the servants, the slaves and the peons of the Spaniards. They still are. The poor fellows who are now following Diaz and Madero are the descendants of the Aztecs and other natives of Mexico. The Maderos, Terazzases, Diazes, Limantours, Creels and the rest are the descendants—though some of them are of almost pure Aztec blood—of the followers of Cortez.

That is, they have taken by one sort of descent or another the privileges of the conquistadors. They own the land. They have enslaved the common people by means of the ownership of the land. The slaves are called peons, and they are theoretically free, but they are slaves through a system of debts.

And how can our army and navy, how can we as a people, set these things right by "intervention"? If we go into Mexico with our soldiers, we shall go for the purpose of protecting American property. There will be some talk of safeguarding American lives, but it is perfectly plain that the way to make Americans in Mexico safe is to bring them away from there.

We can never make Americans safe among a people who hate us, who have good reason to hate us and who would have better reason still for hating us as soon as we invade the country. They would flee to the mountains and fight us for generations. And they would be patriots in doing so. We should do the same in their case and be proud of it.

As for safeguarding American property, we should waste ten dollars where we saved one—to say nothing about wasting lives which are more precious than property.

The Monroe Doctrine

Some say that we must keep order in Mexico because we won't allow foreign nations to do so on account of the Monroe Doctrine. Well, I don't believe there's a foreign nation which would be willing to undertake the job if there were no Monroe Doctrine.

Do you? And I think we had better give other nations notice that we won't allow ourselves to be shoved into jobs that none of them would undertake, on account of the Monroe Doctrine.

The fact is, the Mexicans must be allowed to settle their troubles among themselves. We can't help them if we try. It's like a neighbor interfering in a family quarrel. It's too bad that families quarrel—but interfering won't help.

Herbert Quick

ADVERTISEMENTS ALL ADVERTISERS GUARANTEED

[CONCLUDED ON PAGE 31]

ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjnst petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published every other Saturday. Copy for advertisements must be received three weeks in advance of publication date. $2.50 per agate line for both editions; $1.25 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 24 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 381 Fourth Avenue, New York City; Tribune Building, Chicago, Illinois

Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter

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Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper so as not to wear a hole through the envelope.

Vol. XXXVI. No. 12 Springfield, Ohio, March 15, 1913 PUBLISHED BI-WEEKLY

Coming into Their Own

A FEW short years ago the sentiment of a majority of our lawmakers was unmistakably against the taxing of incomes, and this means of adjusting the burden of governmental expenses more fairly seemed a long way off. Now the possessor of a large income will not much longer be able to so manipulate his property as to escape the tax-gatherer. The ratification of the sixteenth amendment to the United States Constitution by thirty-eight of the States, which makes possible the taxing of incomes, shows that the people's work for reform is making headway against those politicians who have long been the henchmen of wealth.

Another goal the people have striven after for a generation—election of Senators by direct choice of the people—is now to be realized. When a virtually unanimous vote in both branches of a legislature under the shadow of Chicago, like that which recently took place in Illinois, is possible, why should not the people take courage and buckle on their voting armor for greater victories and conquests in other States?

These are only two instances out of several that might be cited showing that the voters only have to agree on the reforms most needed and press their demands to gain the ends sought. In the past too many of the individual voters have allowed the professional politicians to furnish them their political ideas in tabloid form. Last year's Presidential campaign cleared the political atmosphere of much fog. Party will never again sway the voters as in the past, and the people will learn that improvement and advance in governmental matters must come through personal work and study of the political problems that constantly arise.

The Best Incubator

WITH all of our state and government farm experts working on problems calculated to help the farmer and to make his row easy to hoe, there are, nevertheless, many subjects on which requests for information meet with either a cold shoulder or an unsatisfactory excuse.

I have reference to inquiries concerning the best makes of farm machinery, the most reliable supply-houses and the truthfulness of the claim of manufacturers of articles used by the farmer. To try to get information of this kind out of the government or out of the state departments is generally useless.

To a government expert it seems the better policy to offend a single farmer than to have the lawyers of a big commercial concern yelping at his heels because that particular concern was not given favorable mention.

But down in Buenos Ayres they look at the situation in a different light. The Minister of Public Works of the province of Buenos Ayres has issued a decree inviting a competition among the different makes of egg incubators, with the purpose in view of informing the poultry-breeders which is the most suitable machine for general use.

This contest opens May 5th and prizes will be awarded to the successful contestants.

The working of the incubator will be in the hands of the exhibitors, who will also supply the fuel and the eggs. The trial will consist of at least two incubations, and the judges may make whatever tests they deem expedient to prove the superiority of the machines which have given the best results in the first test.

The points of the incubator to be investigated in testing are the economy in working, percentage of chickens hatched, durability of the material of which the machine is made and the perfection of the heat-regulator. The judges will test the temperature and moisture three times per day. The judges may reject any machine or number of machines which do not come up to standard, and there will be no appeal.

It seems just as logical for our Government to make tests of this kind and to make the results public, as to make tests of the best kinds of seed beds and make those results public. But thus far the Government seems to prefer to incur the displeasure of farmers than of manufacturers.

We think that this policy should be changed.

The Sterile Banana

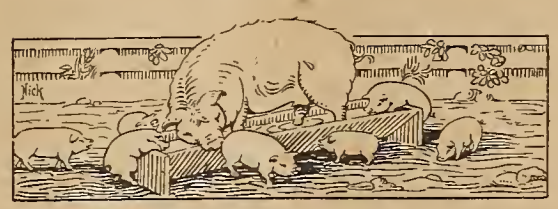
THE journal of the American Medical Association emphasizes that the banana, though popular in many American households, is still underestimated as a wholesome food. Experiments on the fruit in different stages of growth show that the inner portion of sound bananas is practically sterile. The peel seems to be resistant to invasion by bacteria.

Even when bananas are submerged in fluids containing disease germs, the germs do not penetrate into the interior. The only possible method by which bacteria could be taken into the body in eating bananas is from the outside of the peel to the fingers and from the fingers to the mouth. Thus does Nature protect us.

Swine and Society

By Berton Braley

THE manners of the hog are bad, and he is far
from beautiful;
His voice is scarcely pleasant to the ear,
He is a very selfish son, an offspring most undutiful,
Who does not hold his parents very dear;
And when he reaches fatherhood his ways are truly
odious;
He doesn't love his children—not a bit,
He crowds them from the feeding-trough, no matter
how commodious,
He wants to occupy the whole of it.



The Lady Hog resembles him—the ways of good
society
Are not the ways *she* follows in her life;
She gulps and gobbles all her food and never finds
satiety;
With rudeness every act of hers is rife;
She bites her babies frequently and has been known
to swallow them,
Which, anyone will tell you, isn't kind.
Though there are rules of etiquette, she never seems
to follow them,
But wallows in her comfort unrefined.

And though in social circles they'd be welcomed
very clammily
If they should try to enter in the swim,
Yet Mr. Hog and Mrs. Hog and all the porker
family
In certain forms are taken in with vim!
They may not beautify the scene—they're homely,
of a verity—
But people do not keep the hog for art,
And when it comes to footing up the farmer's net
prosperity
You'll find the hog has surely done his part!

According to German engineers who have made a study of the farm power question, the internal combustion engines commonly known as gas-engines are the cheapest form of power for the average farm, with steam and electricity alternating for second place in cheapness.

Where only a small amount of work is required, electricity is considered the cheapest of all.

International Reciprocity

THE printed word has an almost inconceivable power for good or evil according to its interpretation. It sows ideas which grow or die according to the nature of the place in which they fall.

We like to think of FARM AND FIRESIDE readers as belonging to one family, and an incident of recent date seems to indicate that this idea is really true. Mr. H. Nagaya of Sapporo, Japan, read Mr. Charles A. Scott's article on the catalpa-tree in FARM AND FIRESIDE of December 7th, and thinks that, as it resembles the Japanese poplar in its habit of growth, it would be a very useful tree for Japan to import. Mr. Nagaya is now in touch with Mr. Scott and has secured some catalpa seedlings and seeds for planting, and in conclusion says: "If we have anything in our country which you would like to try, do not hesitate to call upon me to supply it."

This simple incident is interesting for two reasons. First, it was a service to two persons, and to the agriculture of two countries; and, secondly, it shows a most friendly and fraternal spirit among two members of FARM AND FIRESIDE families.

The Economy of Silage

THE results of co-operative cow-testing in Minnesota during 1912 have been announced. One of the most remarkable comparisons was that between silage-fed herds and herds which received no silage.

The silage-fed herds which were tested for milk and butterfat production were twelve in number, and included 216 cows. The average net profit in the silage-fed herds was $33.04 per cow.

There were sixteen herds, with a total of 239 cows, which did not receive silage, and the net profit of these animals was $22.98 per cow.

In round numbers, the cows receiving silage made a profit of slightly over ten dollars each more than the cows which did not receive silage.

Systematic Highway Control

A BILL has been introduced into the Ohio Legislature which deals with systematic road-making and maintenance.

One chapter of the bill provides that a surveyor in each county is made the county highway superintendent and is given authority over the construction and maintenance of the roads under his jurisdiction. He can appoint township highway superintendents whose bills he is to approve, as well as the plans and specifications for the improvement, maintenance and repair of township roads.

The county superintendent is also to prepare a good road map of the county, so designed that he can keep an account of all the work done and the money expended on every road in the county.

The salary of the county superintendent will be based on the population of the county.

He is also given authority in the essential features of road drainage and must see that the ditches which carry off the water are always open.

Township superintendents under the direction of the county superintendent are to divide their territory into dragging districts and will be furnished with up-to-date machinery to do the work. Frequent dragging is the least expensive way of keeping a dirt road in good condition.

Provisions are also made by which public-spirited persons in the community can contribute to road-work on any section of road they desire to improve.

There are approximately eighty thousand miles of wagon-road in Ohio. These roads carry millions of people and millions of tons of produce every year.

The bill seems to be carefully thought out and is well worth studying by the legislators of other States.

The Title to Higher Yields

Manure is the Current Coin Redeemable by Nature with Which to Purchase That Title

By Wm. Johnson

I believe that a farm is no better than it is tilled, that rotation deserves capital letters, gold type and should be read twice, and that clover and alfalfa have a way with the soil which makes it home, sweet home for an after crop.

But the best yield is obtained only when the hand that guides the plow saves and spreads a liberal amount of manure where it is most needed.

"MANURE is worth taking care of; every lump of it's worth a cent."

I can see the farmer yet who made that remark as he walked around the spreader with a fork, throwing back onto the load the lumps that rolled off. He believed in his estimate, for every fragment was picked up; and he drove off to the fields with the air of a man who has his bird in hand and intends to get the two in the bush. And he succeeded pretty well when the potato crop that manure inspired was harvested. I don't know exactly what the acre yield was, but the crop was one of a series that gave the farmer a local reputation of "always having great luck with potatoes." But—shades of all the mighty farmers!—it wasn't luck at all; just a simple cause and effect.

The land yielded those generous bushels of big clean beauties because it had been equipped to do it. The manure was a large part of the equipment; every lump

I can see the farmer yet who made that remark

was not worth a cent perhaps, but enough of them crowded the fertility problem far enough into the background to make room for a profitable yield. Because rightly used, manure may be depended on to do just that thing, our respect for the stuff is rapidly growing.

In dollars and cents what is the real value of manure? We get out our pencil and paper and fertility charts and compute that a ton of it will average up somewhere around a two-dollar value—as nearly as we can average a thing so variable. And then, because two dollars doesn't look quite as big as a horse-

Much of the secret of every farmer's success is to save that immense waste

blanket, we may handle the ton in a way to make it worth even less. We should not forget that manure has a value other than its available fertility. It assists in preparing the native fertility of the soil for plant use, and the humus it adds helps to bring about the dark mellow furrow that growing green things love. We know the signs of such soil. It warms and dries earlier in the spring, takes rainfall better and resists either drought or excess of moisture.

Just how much these various advantages are worth depends largely upon soil management, but they are a part of the good effect of manure, and there is madness in the method that cannot work them over into a good deal of crop success.

It is possible that the last word on manure value may lie beyond an arrangement of figures. So let us see how our reckoning lines up with broad results.

There is the old farm where you have toiled, contrived and planned through the change of many seasons. It has not been all "sweetness and light," for every picture must have its shades. But you think enough of farming to dream sometimes. What is that farm worth to you? Think it over carefully. The farm gives you a living and a lot of incidentals in the way of health, sunshine, fresh air and beauty that have a worth beside real jewels, and some of us farm partly because of the opportunity to climb into Mother Nature's lap and play with them. Estimates of the old farm's worth will vary of course; one man who owns a thriving edition of the "little farm well tilled" told me that, not considering what his holding would sell for, it was worth ten thousand dollars to him. He would require the interest on at least that sum to live as well off the farm as he does on it. He certainly would, and even then it would be necessary to choose a location pretty carefully, and the change would be a mere "swapping" of the problems he has now for a new set he is not so well acquainted with. But whatever we reckon the farm to be worth, what gives it that value? Why, the crops we grow of course; everything we are on the farm for is connected with the furrow's golden freight. Then here we are at last, close on the heels of a wider conclusion.

There is never more fertility in it than when first made

The value of the farm is the crop it will grow, and the manure stands dignified because it swells that value with high and more certain yield. We treasure the deed of the farm for the excellent reason that it gives us a title to wide acres, independence and prosperity—if we can coax nature to adorn those acres with her precious handiwork. We should value the manure to some such degree because it is the title to the profitable crop, a claim on yield which nature on a fair average always recognizes.

We can say a lot of interesting things about manure, but they sound like primer sentences compared with the excellence of the crop success manure brings. Talk of the sermons in brooks and stones, they are middling good ones no doubt, but that crop is a sermon plus profits.

And in these days of the high cost of failure we have especial need for that sort of preaching. But do we get as much of its lesson as we might? Or, like many other sermons, do we look and listen and believe, and then go back to our flesh-pots with the same old spoon!

The farmer admits that manure is good; "makes the cabbage grow," he says; can't farm to much extent without it. But in the face of that we are told that one third of the value of farm manure is wasted, on a conservative estimate. Professor Roberts places the value of the manure for seven winter months, from four horses, twenty cows, fifty sheep and ten hogs, at $250. A one-third loss would be $83.33. We can afford some strenuous efforts to head off that much waste; it represents the fertility value of somewhere around ten tons of wheat, or sixteen tons of hay.

This loss does not exist on all farms, but it exists on enough of them to total up into the millions. A good deal of the secret of every farmer's success is to save his share of that immense waste. Every one of the little brown streams trickling from the side of a barn-yard manure-pile, and all of the ammonia escaping from it, is a clear title to tall and thrifty corn, heavy heads of grain and the clover that fires a weary soil up to the get-busy point again—if it is saved. The sermon of the fertilized crop is, that if manure has so much value it merits the best care we can give, and a well-thought plan of disposal, that the value may be greater. The liquid saved, heating prevented and leaching stopped, mean that we get increased yield, costing only a little more care, but making expenses look less like a lot of levers to pry a man's claim off the soil. We have need of a larger faith in manure, the kind that looks on the manure-spreader as a sort of guardian angel of the binder.

Quite a number of farmers have that faith already, in the important degree that joins hands with effort to make two advantages flourish where one languished before. And the crops prove how near kin to prosperity that sort of farming is.

I saw a field of spring wheat this last summer, grown on soil which had yielded a long line of harvests. But judging by the crop you might have thought it was virgin soil. The straw was tall and stiff, the heads long and filled to the tip with plump grains. From end to end of the field it was level as a floor. Dipping and waving in the sunshine, it was a picture to gladden the heart of man. When thrashed, the picture yielded nearly forty bushels of grain to the acre. When the wheat was cut, clover sown with it that spring stood over a foot high. It did not seem that a square foot of the seeding had failed. When a farmer begins putting his landscape to that kind of use, he will know what prosperity is. The harvest will be more than a calendar date and a disappointment: it will wear the glow of full mows and a congested granary. The need of doing the right thing in the best way is never less, but farm work is removed some long steps from a mere grind, yielding just about enough revenue to keep the grind going.

Behind the crop which gives hard times the fade-away signal there are a number of things, but they cluster pretty closely around the load of good manure going to a well-tilled field.

The instance of that wheat crop was the climax of such a preparation. There had been other crops on that same soil which were strictly average crops, and under excellent tillage and rotation in seasons which would have granted the higher yield where that yield was due.

But two years before this harvest the land had been sown to rye, a liberal application of manure given the rye, and when it was looking so fine that some folks thought it was a shame to plow such a crop under, that identical thing was done.

Some people thought it was a shame to plow such a crop under

The land was planted to corn, thoroughly tilled and a good crop taken off. Then the wheat followed with clover-seeding. It was a good yield because the farmer had a title to that kind, in the manure, rye and thorough tillage.

Sometimes I think we get our values mixed. We will work like Trojans to save a half-crop from the weather, and while all the good reasons favor our doing so, it does seem strange that we will ever allow the manure which would bring a full crop to waste away in all sorts of rain and stormy weather.

Other things than angels go in disguise sometimes, and that animal waste is a shining instance. It disguises the yield we aim at every spring, and sometimes fail of achieving because we had let the fertility problem grow a size or two too large for our methods.

The farm manure will, if properly cared for, keep that wolf problem a long way from the granary-door.

The main idea is to make plenty of it on the farm and then eliminate waste. Manure is your last hold on fertility.

The essentials are plenty of absorbents to save the liquid—that represents nearly two thirds of the value—and then such disposition as will best prevent heating and leaching. Any animal manure may in four months lose half of its constituents. Where storage is necessary, it should be piled compactly, kept moist and protected from the weather. But the call of the crops says that manure should be drawn to the fields and spread as fast as

It was a picture of gladness to a man's eye

made, providing it is not spread on land too much exposed to washing.

The changes manure must undergo before becoming ready for plant use might better take place on the soil and in it. There is never more fertility in it than when first made, and there is sure to be decidedly less if allowed to ferment in a loose, open pile, or go on little excursions with the raindrops to some puddle or ravine. That fertility, like the spoken

There is the old farm where you have toiled, contrived and planned

word, "comes not back to thee." If there is any best place for manure, it is on sod; leaching is more readily taken up; you know when you spread a load there that a million roots are going to turn whatever of it the rain carries down into humus, and afterward you can turn that humus into any crop you happen to need in your business.

That field where clover was a little too particular to settle down for a season or so of work is a good location for manure. It will make the clover possible. A cultivated crop one season and thorough tillage will make a mechanical condition that clover likes; and the manure will supply some of the humus it can hardly keep house without.

Where and how to spread the manure are questions the farmer must wisely bend as his conditions are inclined. He may cause his farm to work miracles of yield with it, or the farm may cause him to yield miracles of hard work without it.

Asparagus Farms of the Sacramento Valley

One of California's Specialized Industries That Flourishes on Land Formerly Considered Worthless

By H. A. Crafts

UP THE Sacramento Valley, on the reclaimed peat, or "tule," lands, which, by the way, are among the richest in the world, the raising of asparagus is conducted on a very large scale.

Take the country around Grand Island, California, for instance; there you will see the big asparagus farms; and this crop is raised not only to be put on the market in its fresh condition, but large canneries have been established in which immense quantities of the commodity are put up for shipment the world over.

The Sacramento Valley asparagus is noted for its large size and richness of quality, and it finds a ready demand wherever it is offered for sale.

Testing the Soil by Taste

The peat-lands contain much salt, which is one of the prerequisites for the raising of asparagus to its most perfect maturity.

Italian asparagus-raisers in quest of land for the propagation of the plant will often be seen to taste of the soil, a method by which they determine its qualification for the industry.

These "tule" lands are largely composed of vegetable matter and are so deep that hardpan is seldom encountered.

Another feature of these lands is their extreme lowness; water may be struck at a depth of two feet. Thus, crops planted upon them obtain ample moisture by a process of sub-irrigation.

How the "Tule" Lands are Cleared

In their uncleared and raw condition these lands are covered with rushes or "tules," as they are called in California, growing from ten to twelve feet high. As soon as the lands have been diked and the water pumped out, the "tules" are set on fire and burned off.

Newly reclaimed land is not suitable for asparagus culture, so it is sown to grain for the first two or three years; then for a similar period it is planted to potatoes or beans.

By this time the peat has become rotten and mellow and is ready to be planted to asparagus. The land is first plowed and harrowed, then marked off in rows by a plow, the rows being about seven feet apart.

In the rows the asparagus-plants are placed about two feet apart and then are covered with a hoe to the depth of about a foot.

The second year of planting, three or four rows of asparagus are planted for the purpose of raising cuttings for sale, or for planting additional fields.

In this way small cuttings may be obtained in sufficient quantities to pay running expenses, such as for keeping the weeds down and the soil worked up mellow. Sometimes potatoes and beans are raised between the rows instead of asparagus-cuttings, as is customary.

Cutting asparagus on a Sacramento Valley farm

The interior of one of the large asparagus canneries

Canned asparagus ready for shipment

The setting out of asparagus-plants is done in the spring. In June beans are planted between the rows, and thus enough by-crops are raised during the first three years, or while the plants are getting rooted, to pay running expenses.

Important Points in Its Cultivation

When the asparagus comes on for a crop, it is cut up to about the twentieth of May, and then it is permitted to grow fallow, and attains a height of four feet.

Then the stalks are cut with a mower or scythe and the ground between the rows plowed and cultivated, making the soil as fine as possible.

After the ground between the rows has been nicely pulverized and smoothed down, a disk harrow is run between the rows and the soil thrown up in ridges, covering the asparagus plants.

Next a crotch harrow is run over the whole surface until it is smoothed down like a lawn.

This work is done in the months of January and February. Then, as soon as the young and tender plants begin to break through the ground, men are employed to do the cutting, which is done with knives twenty inches long.

As it is cut the asparagus is laid in bunches on top of the rows. Next the bunches are gathered up and piled upon sleds and hauled to the packing-house, where the asparagus is spread out on the floor, washed and sorted. Finally it is trimmed down to lengths varying from seven and one-half inches to eight and one-half inches.

Preparing the Asparagus for Market

It is then packed in boxes 15x32x6 inches, each box holding about fifty pounds. It is then ready for shipment.

For the eastern market it is cut while still retaining its green color, but for the San Francisco and Oakland markets it is allowed to whiten before cutting.

The first cutting is shipped about the first of April. The asparagus canneries start up about April 20th and run night and day until the crop is disposed of.

Canneries pay from three and one-half to four and one-half cents per pound for it, and asparagus canning has developed into a very large business.

Some of the asparagus farms of the Sacramento Valley contain as much as one hundred acres, but the average farm contains about forty-five acres.

The average crop is about three boxes per day per acre while the season lasts. The average price for the earliest cutting is one dollar per pound retail, while late asparagus sells at twenty-one cents per pound. Some choice early lots have been known to be sold in New York as high as $2.25 per pound.

Farming by Schedule

The Story of a Railroad Man Who Put a Mismanaged Farm on a Business Basis

By G. Henry

ONE of the country's truly great railroad men owns a big farm in the West. I talked with him the other day, and while he asked me not to use his name, he said I could write what he said. I learned much.

Please take into account that he is a very successful railroad man, a big business man and a successful farmer, and listen.

"I applied good railroad principles to farming," he said. "I tried to appreciate that a good road-bed had been laid down for me by Nature.

"My road was there. All I had to do was to make the best of the opportunity. The man ahead of me had let the road run down at the heels, so the first thing for me to do was to undo some of his misdoings.

He Systematized the Fuel Problem

"My property had had trouble with its hired men, and so I had to establish a new reputation for square dealing with my hands.

"The water-tanks had been allowed to get leaky, and I repaired cisterns and wells, cleaned 'em and patched 'em.

"There was plenty of fuel on the property, but it was going to waste. Therefore, I borrowed money and spent it cleaning up underbrush and systematizing the fuel and lumber supply problems.

The Rolling Stock Repaired

"The rolling stock had been allowed to go without repairs. I had to spend more money repairing wagons and buggies and harrows and harvesting-machines and planting-machines. I put my rolling stock into such condition as would insure full returns later on. I had this work done in the winter, so that when summer came we had full steam up.

"Fences were down on both sides of the line, and that took more money and much work—more work than money. For the material was still there; it was chiefly a case of straightening it up, of putting it into proper condition.

"I found that the previous superintendent had neglected his traffic agreements shamefully; that he had none left to speak of. And so I got busy making arrangements with regular customers. No use hauling freight to the end of the line to dump it into the ditch. No use raising crops without a place to sell them.

"There was an orchard, but I don't believe the trees ever had been trimmed. My wife and daughter and I lopped off dead branches for two weeks! And you should see the apples I get now.

"My predecessor had named his different lots. He had a 'potato-lot'—in which he had planted potatoes for ten years! He had a 'wheat-field,' and he seemed to think that this should be the wheat-field forever and ever more. He did everything that way. He had no more imagination than a dead tree, or if he did have any imagination he didn't use it.

The Farm Pays Now

"He stuck to the same mixed breeds of cows and sheep and hogs for years and years, notwithstanding the bald fact that all of his live stock was poor. And he fed the same feed to his live stock until their stomachs turned, just as a man's stomach must turn if he gets the same identical thing for breakfast every morning for twelve years!

"The principal job I had to do to make that farm pay—and it does pay now—was to introduce that thing which is said to be the spice of all life: VARIETY. And yet I had a definite schedule and system for doing the work planned just as in the railroad business.

"Now I have good crops. My live stock is the pride of my eye. The moment that it began to look as if we were going to have a parcel post, I put advertisements in the papers of the three small cities nearest my farm, and I am doing a good business with those cities through Uncle Sam. I bought hens and coaxed 'em to lay. I read up on butter-making—for, you know, there are still many people in the cities who like to think that they are eating butter made on the farm.

He Uses Parcel Post

"I wouldn't care if the railroad company let me go to-morrow. It's mighty hard work on the farm, but, by jingo, it's satisfying work. My wife and I are never so happy as when we are digging in the soil from which we came and to which we must return in the end."

It appears to me that there is much that is worth thinking about in what this railroad farmer says. He may not be telling us anything that we do not already know. But he does prove that system is the thing—system tempered with imagination, which induces variation.

A man doesn't necessarily have to be born and raised on a farm to make a success of it any more than one has to be raised within the walls of a business house to become a successful business man.

Business ability and farming ability are similar. Both require good judgment and systematic management.

Land-Value Taxation

The Results in Western Canada of Raising the Revenue by One Tax on Land Values

By F. J. Dixon

Land-value taxation encourages men to use land—

LAND-VALUE taxation has been a most splendid success in western Canada. By act of the legislature of Manitoba in 1908 all agricultural improvements, farm stock (live or dead), grain, cereals, flour, the produce of farm or field in store or warehouse, cord-wood and all farming implements and machinery used by farmers in the ordinary occupation of farming, and when kept upon the lands of bona-fide agriculturists or farmers, were exempt from taxation.

For twenty years prior to 1908 agricultural improvements to the value of $1,500 had been exempt from taxation, but the practice of exempting all improvements under this clause had become so general that the legislation of 1908 merely confirmed an existing custom.

In the rural districts of Manitoba all municipal revenues are raised by the taxation of land values. The results of this policy have been so satisfactory that the movement is now spreading to the towns and cities. Winnipeg, the capital city, with a population of 200,000, is leading the way. There are no taxes on personal property or merchants' stocks in this city. The revenue is raised by a general property tax and a business tax based on rental values. Under the general property tax, land is assessed at its full value, and buildings at two thirds of their value. Buildings were assessed at their full value until 1909, when the reduction was made. There is a strong and ever-growing demand for the abolition of all taxes on buildings and business in this city.

No Taxes on Agricultural Improvements

At the last municipal election twenty-four out of twenty-eight candidates for municipal honors declared in favor of land-value taxation. The Union of Municipalities in Manitoba, an organization composed of leading municipal officials, asked the legislature at its last session for a change in the assessment act, which would allow of decreased taxation of building and business, and increased taxation of land values, in the towns and cities. This change has not yet been made, but public opinion is so strongly in favor of it that it cannot be long delayed. In Saskatchewan, Alberta and British Columbia there are no taxes on agricultural improvements, and taxes upon buildings and business in the towns and cities are being rapidly abolished.

Local option in taxation now prevails in Saskatchewan. Under the old assessment act prior to 1911 buildings were assessed at sixty per cent. of their value, but any town or city may now reach the system of land-value taxation pure and simple in four years by reducing the assessment on buildings fifteen per cent. each year. Acting under this legislation, the capital city, Regina, and a number of other towns and cities reduced the assessment on buildings to forty-five per cent. of their value last year. By 1914 most of the cities and towns in Saskatchewan will raise their revenues by land-value taxation.

At the last session of the Alberta legislature a law was passed making land-value taxation compulsory throughout the province. This bill stipulates that within seven years land-value taxation shall be observed by all established municipalities, and that it shall be in force in all municipalities that are hereafter established.

Edmonton, the capital city of Alberta, has exempted buildings from taxation for many years, and this year has abolished the business tax. Edmonton now raises all its municipal revenues by land-value taxation. One of the results of the taxation of land values in Edmonton has been the breaking up of a large tract of land, previously held vacant by the Hudson Bay Company. This has been subdivided and much of it sold to persons who intend to use it for business and residential purposes.

British Columbia is the banner province in the matter of land-value taxation. In addition to the exemption of agricultural improvements from taxation there is a special tax of four cents an acre on all wild land. The cities and towns have home rule in taxation, and many of them have adopted the taxation of land values only as a means of raising revenue. Vancouver has been using this system for nearly three years, and the result has been so strikingly beneficial that the neighboring cities of Victoria and New Westminster have since adopted it by popular vote.

Electric Lights on Rural Roads

Seattle, Tacoma and other coast cities have seen the enormous growth of Vancouver and are now considering land-value taxation to counteract the magnetic influence the Vancouver system is having upon their population. Prince Rupert, Nanaimo, Oak Bay and many other places have ceased to tax buildings and business. Some of the Okanagan municipalities have attempted and have succeeded in a very interesting experiment. This special reference is to Kelowna, Summerland and Penticton. In these municipalities, which are from 7,000 to 11,000 acres in area, the principle of land-value taxation prevails. The municipalities either own or are preparing to operate their own light and water supply. In Summerland the municipality owns the irrigation system. In Kelowna the rural roads are lighted by electricity. In neither of them is the tax rate in excess of two per cent.; in Summerland it is only one per cent. The levy is made upon land without regard to improvements. The rate imposed in these municipalities covers schools as well as other public-service institutions.

> The first and greatest problem for each country is to enable the people to make the best use of its natural resources. It is wrong to tax labor or the products of labor. Whatever checks the development of land lessens the opportunities of labor and capital and narrows the possibilities of life.
>
> The system of taxing buildings is simply a system of fining a man for improving his property.

On January 23, 1912, the Royal Commission on Taxation of the Province of British Columbia, Canada, submitted its report to the provincial parliament. It makes the following three recommendations: (1) abolition of poll taxes, (2) abolition of personal-property taxes, (3) abolition of taxes on real-estate improvements. These recommendations were adopted by the Royal Commission after a thorough investigation of the character and workings of the whole system of taxation in their province. If these recommendations are adopted by the provincial parliament, as there seems to be no reason to doubt, all the taxation of the entire province—like that of Vancouver, New Westminster and Victoria—will be upon land values only.

The following newspaper report of the proceedings at the recent convention of the Union of Canadian Municipalities will give a fair idea of the way in which those who know it best appreciate this equitable method of raising revenue. "At the twelfth annual convention of the Union of Canadian Municipalities held in Windsor last week papers on municipal taxation were read by Alderman Jos. Clark of Edmonton, Alberta, and Alderman W. Hepburn of Vancouver. In both cities the system of exemption of improvements from taxation has been adopted.

Popular with All Classes

"The papers and discussion which followed indicated that the system of assessing land values is favored by representatives of western cities. 'The triumph of our land tax in Edmonton is shown by the fact that in 1906 we had building permits to the value of $1,563,000, while in 1912—the first year all taxes other than land taxes were taken off—they were $15,000,000,' said Alderman Clark. 'If the previous ratio had been continued, it would have required 80,000 population to justify this expenditure, while our population is approximately 53,000.' 'The land tax in Vancouver is the principal cause of the growth of the city in recent years,' said Alderman Hepburn. 'The difficulty of making owners of buildings keep them in sanitary condition has been greatly lessened, and the tax on land has also had the effect of causing owners of vacant property to improve it.' 'No one will attempt to dispute that the land tax in Victoria has been most beneficial,' said Mayor J. L. Beckwith of the western city. 'The system of taxing buildings is simply a system for fining a man for improving his property.'

"'Cities of Saskatchewan are moving toward the land tax,' said Deputy Minister J. N. Bayne. Under the new law the limit of assessment is fixed at sixty per cent., and cities have the right to reduce this fifteen per cent. a year. Within two or three years it is believed that the cities will entirely remove the tax on improvements."

What strikes one most forcibly in connection with the land-value taxation movement in Western Canada is the unanimity of opinion in its favor among all classes. The farmers of the West would never tolerate a return to the old system of taxing improvements; on the contrary, they are constantly working, through their organizations, for an extension of the principle to provincial and federal affairs. The Trades and Labor Congress has "Decreased taxation of industry and increased taxation of land values" as a plank in its platform. Preachers and doctors, business men and mechanics are all rapidly becoming imbued with the idea that it is wrong to tax labor or the products of labor.

The extraordinary progress of land-value taxation in western Canada has not been the result of well-organized groups of enthusiasts, but it has been brought about by a general apprehension of the iniquity of penalizing industry by an unjust system of taxation.

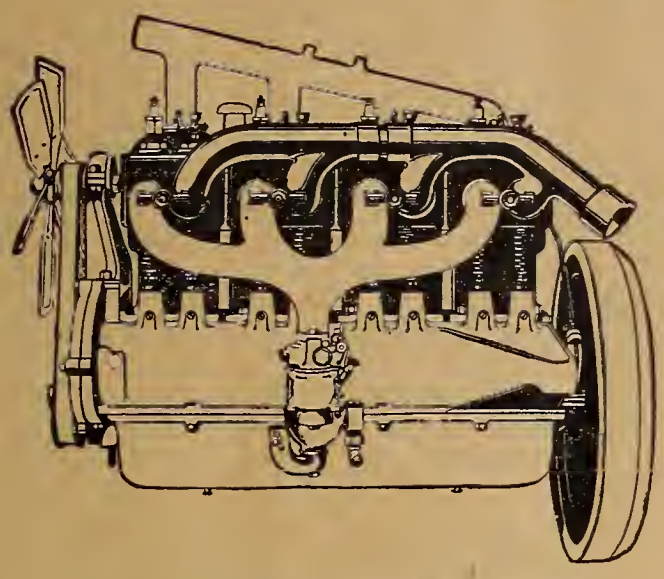
The Best Use of Natural Resources

The first and greatest problem for each country is to enable the people to make the best use of its natural resources. Land-value taxation encourages men to use land rather than to hold it vacant and makes for the permanent and general prosperity of all the people.

We have tried it in western Canada. We like it, and we want more of it.

—rather than to hold it vacant

Overland



How Overland motors are made

All Overland motors are designed by Overland men—made by Overland men—and made in Overland factories. We will build 40,000 motors this year. No other automobile manufacturer will build as many of this type. That is why we can build them better, and for less cost. We employ the most skilled motor builders in America.

Following are a few of the most important facts about the Overland motor.

Cylinders have large water-jackets and are cast singly, increasing cooling efficiency with the advantage of being able to replace a single cylinder at low cost should an accident occur. The crank shaft and connecting rods and all other forgings are of high carbon manganese steel.

All bearings, cylinders, pistons and rings are ground to accurate and tested smoothness, insuring long life, freedom from wear and positive compression.

All the wearing surfaces of the valves are ground to a one-thousandth part of an inch. Owing to their peculiar design and large size they enable the motor to develop at least fifteen per cent more horsepower than any other motor of the same bore and stroke.

The cam shafts are drop-forged (in our own drop-forge plant, which is the largest in the industry) oil-treated and case-hardened. They are ground and machined automatically, insuring positive accuracy in the relative position of one cam to another.

This is the only car of its class provided with a five-bearing crank shaft. This crank shaft is drop-forged from one piece of carbon manganese steel and rotates in five bearings of unusually liberal size insuring quietness and extreme long life.

The crank cases are cast in two sections, of the finest grade of aluminum alloy attainable—and cast in our own foundry.

No other motor in the world is given a more severe test and thorough inspection. The engine is belted up for two hours, and driven by other than its own power to limber it up so that it will start easily. Then it is put onto the block and run from 8 to 16 hours under its own power.

The Importance of a Powerful Motor

AS the motor is the most important part of a car, it is safe to assume that you can judge a car by the performance of its motor. Therefore, be guided and informed by the following information.

Every practical farmer knows the value of a good motor in an automobile. He knows, too, from experience, what constitutes a good motor and what is expected of it. He wants power, economy and silence.

The motor is the most expensive single unit of the Overland car. It has a 4″ bore and a 4½″ stroke. It is the most efficient 30 horsepower motor made. We say efficient for it has, by demonstration in tens of thousands of cars, proven to be the best for your specific purposes.

It is exceptionally economical to operate—using less fuel per mile than any other motor of equal size.

It is remarkably powerful, developing forty to fifty miles an hour with ease; and over your kind of roads, without eating up an unnecessary and costly quantity of gasoline.

It is the only motor of its size made with a five bearing crankshaft which makes for real smoothness, silence and ease when in operation. This feature is only found on very high priced cars.

It is remarkably simple. It is practically frictionless. Requires no coaxing or continual adjusting. In fact, you seldom have to lift the hood. Is always obedient.

And the self-starting feature adds the final touch of perfection. Just throw a little lever and you're off. Your daughter can start, operate and drive an Overland as well and as easily as you can. It will always start in bitter cold and freezing weather as quickly as in the summer—by just switching the little lever on the dash.

So we ask you to judge the exceptional value of this car by the exceptional efficiency of its motor.

This big, powerful, comfortable touring car costs you 30% less than any other similar car made.

We have some very interesting books we would like to send you. They are free. Write us for a set today.

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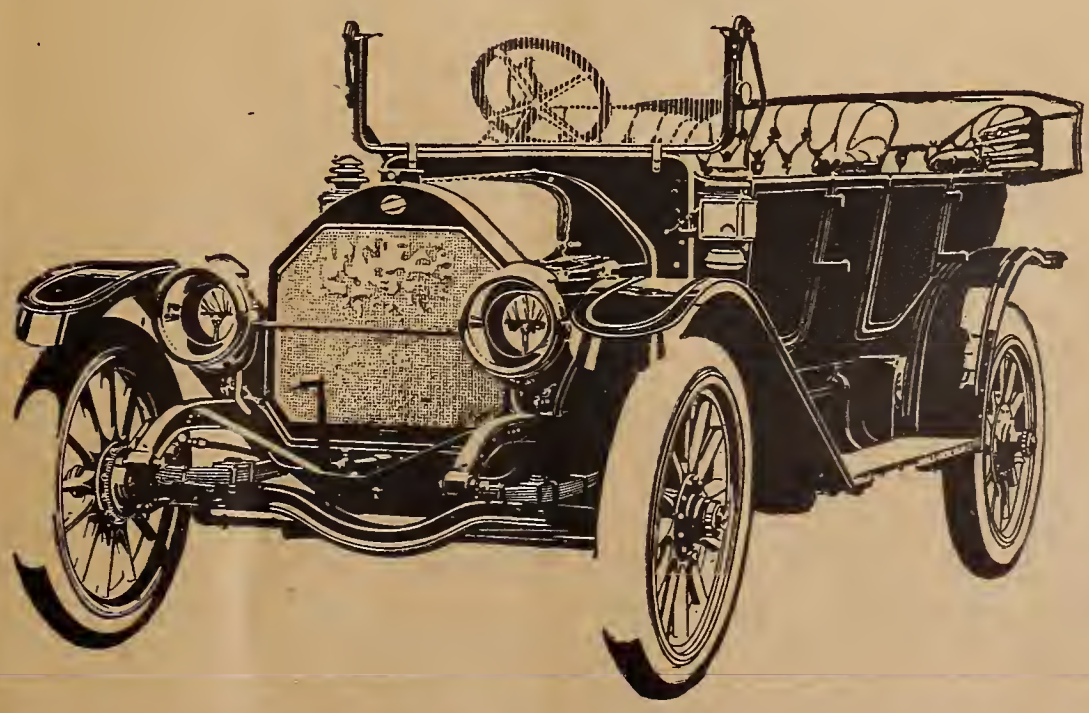
Timken Bearings
Center Control



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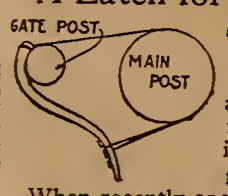
The Headwork Shop

A Page of Ideas That Lighten Labor

A Latch for the Wire Gate



THE wire gate is probably as old as is fence-wire, but there are very few successful methods of tightening and stretching the gate when it is closed.

When recently opening a gate, I was struck with the simple, novel and very satisfactory method which the owner used for this purpose. The sketch will give a fairly good idea of the scheme. The owner has simply used an old-fashioned wooden harness hame as a lever for tightening the gate when it is being closed.

He used the ordinary wire loop at the bottom of the main post in which the lower end of the gate-post was set when closing the gate. The harness hame was fastened to the end of a short piece of wire which was placed back of the top of the gate-post and used as a curved lever for drawing it close to the main post so as to tighten the wires in the gate.

A wire loop, the end of which was fastened to the main fence-post, was slipped over the end of the hame and held in place by the notches in the upper end of the hame, by which the hame was originally adjusted for different sized collars.

With such an arrangement a wire gate can be quickly and easily closed, and stretched quite tight when it is closed. There is no hard work about it, and there is little chance for the man closing the gate to get his clothes torn or his hands scratched by the barbs. JAMES A. KING.

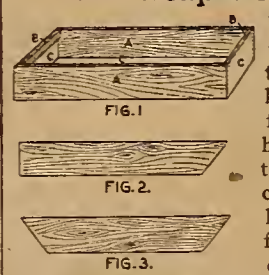
Fan Run by Separator

DURING the hot summer months turning the cream-separator is about the hottest job in the dairy business. To keep cool I made a fan to attach to our separator as follows: The separator stands about nine inches from the wall, and there is a window directly across from where the operator stands. I took an old bicycle-wheel and fastened it to the crankshaft. I then procured the bottom of an old lard-can and cut it out to make five wings like those of a small electric fan.

I then cut a hole in the center of this fan, put it on the big part of the hub of another bicycle-wheel and fastened it with small wire. This was mounted in front of the window. Then over the wheel and the fan hub I put a common-sized fish-line as a belt.

This fan runs fast enough to make quite a strong breeze and keeps the operator cool. HENRY A. KRAMER.

A Cheap Feed-Cooker



FINDING no profit in hauling potatoes twelve miles to market to receive but forty-five cents per hundredweight for them, and paying nine cents for sacks, which left thirty-six cents for the potatoes, I decided to feed them to the hogs. Now raw potatoes will not do for feeding purposes, and not being able to buy a commercial cooker I made one myself.

I got at the hardware-store a piece of galvanized sheet iron, medium weight, eight feet long and thirty-six inches wide, at a nominal sum. Then of the lumber-dealer I got a two-by-twelve-inch plank twelve feet long. This cut into two six-foot pieces (AA). I took two three-foot pieces (BB) and nailed them all together as illustrated. Then with a couple of pounds of short nails with large heads I nailed the sheet iron (CC) onto the planks, bringing up a foot on each end and nailing to the ends. This makes a tank, or pan, thirty-six inches wide and six feet long.

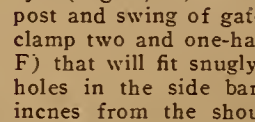
Then I made a fireplace of rocks. I placed pieces of straightened wagon-tire across it, and on these set the pan. The fireplace should be narrow enough to allow the pan to set well out over the sides so that the wood will not come in contact with the fire, and also that the bottom will have support all along.

Cooked spuds and barley make a hog-feed hard to beat. We raise bald barley, and it is a fine hog-feed. Some feed it dry, but it is rather hard for any stock to eat dry, and it does not do them as much good as if soaked or cooked until soft. A farmer of my acquaintance had several thousand bushels of potatoes one year when they were but twenty-five cents a bushel. He bought up a lot of hogs, fed them cooked barley and potatoes and realized the equivalent of seventy-five cents a bushel for his potatoes.

Some of my neighbors use heaters, or cookers, made with the front end slanting, as in Fig. 2. This is said to expedite getting a shovel in to remove the contents. Another has one with both ends slanting, as in Fig. 3, which has the double advantage of easily removing contents from either end.

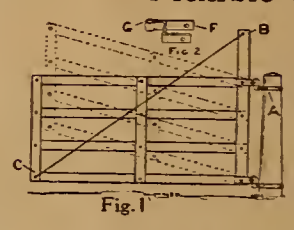
These heaters are good for cooking any kind of stock-feed, for heating water or for scalding hogs. Hogs do not care much for potatoes alone, but just a little barley cooked in with them makes them very greedy for the mixture. W. F. WILCOX.

An Aid to Up-Hill Work



TO MAKE a handy wagon-brake for use when hauling heavy loads up steep hills, take a piece of oak two-by-four about four feet long, drive two sharpened spikes in one end, and hinge the other end to the head of the reach; now fasten a hook to the reach about three feet from the connection to hang the piece in when not in use, and you have the handiest brake that was ever known for a heavy wagon, for the driver can retain his seat while going up the hill. JOHN M. NEWTON.

Flexible Gate



THIS gate is adapted to either concrete or wood posts and is easily made. For a gate four feet high and fourteen feet wide take five one-by-six boards fourteen feet long, four one-by-four boards four feet long and two one-by-six boards six feet long. Use the one-by-fours at the free end and the middle of the gate as upright supports on either side. Use the short one-by-sixes as uprights at the hinge end of the gate to extend above the top gate-board about eighteen inches (see Fig. 1).

Bolt the boards together with ordinary gate-bolts, keeping them in line. Make eye portion of hinges (Fig. 2) from a piece of wagon-tire, about eighteen inches long and one and one-half to two inches wide. Form eye (Fig. 2, G) at any point to suit your post and swing of gate. Form clevis-shaped clamp two and one-half inches wide (Fig. 2, F) that will fit snugly over the gate. Make holes in the side bars of the hinge, three inches from the shoulder, for five-eighths-inch bolts.

The gate-boards where hinges are attached must either be set in about one inch or rounded on upper part of end to prevent end of gate-board from striking shoulder of hinge when raised at free end.

If a concrete post is to be used, make hinge strong, and let it extend far into post with bent ends, to prevent pulling out. Use No. 9 wire as braces on both sides of gate. Attach at C and B (Fig. 1), and fasten with bolt.

When swinging, if the gate strikes any object, you can easily lift it over. This often occurs in winter in the form of frozen mud, snow and ice. Again, if you wish to pass hogs or sheep and retain cattle or horses, the gate can be adjusted without trouble.

S. D. BADER.

Cheap Coops for Setting Hens

WHERE lumber is scarce, the common three-hundred-pound sugar-barrels make satisfactory small coops in which to set hens. Drive small nails two inches apart in the hoops to hold the staves firmly; then saw the barrels in two lengthwise. Place sawed sides on ground, fasten one end firmly, put slats in the others, and you have two good coops at a small cost.

As these coops are small and free from sharp corners, they are very easily disinfected. With good care they will last several years, but because of their cheapness, most users will prefer to have new coops every year.

In selecting a place for the coops be careful they are placed so that a hard rain will not flood the chickens. MRS. D. B. PHILLIPS.

Headwork Winner—March First

The first-prize contribution in the Headwork Shop in the March 1st issue was "Door-Hasp for Gate-Latch" by Smith Pershing.

The oil-can makes farm work easier—if you use it

Farm Notes

Human Nature in Farm Hands

By E. A. Wendt

WHEN speaking of the difficulty of keeping reliable help on the farm, many believe that the wage question is the only thing that carries much weight.

Truly, it is most important, for the need of money is what forces men to labor. But if you were working for a wage would you not prefer to do with a few dollars less and work for a man who can laugh at mistakes, who knows just what he wants and who doesn't expect you to be a mind-reader and understand his desires without being told? You also wish consideration for your health and comfort. Would you subject yourself very long to a man who is always looking for flaws and ready to growl or swear every time he finds them, and who never condescends to explain his wishes, but treats you as a lower animal and one who requires constant watching?

Comfort and Consideration

Would you stand the abuse of the latter for a few extra dollars?

Not if you have any of nature's freedom in your blood; and farmers and farm help have more of it than other working people.

To be reliable, a farm hand must be intelligent, and intelligent human nature demands comfort and consideration.

I have had opportunities to study this, and my experience is not confined to one locality, nor to one State.

I have acted as foreman for some of the most irritable, fault-finding and profane farmers and have proved to them that more work and better work will be done by "hands" when they are shown the consideration due to intelligent human beings.

Another cause of trouble is that, unlike other lines, the farm gives such a variety of employments, and some are much less pleasant than others. Now, as all men are only big boys, they are quick to resent anything like favoritism.

Some Duties are Unpleasant

If any man believes that he is given more than his share of the unpleasant jobs, he is more than human if he doesn't slight his work or quit. It's human nature.

The only remedy would be to invent a way to divide the work so that a man who makes good could be promoted to more pleasant and better paying work. That would solve the farm-help conundrum as nothing else would.

Temporary Fences

By George H. Dacy

MILLIONS of acres of valuable agricultural land are idle in America to-day in consequence of two customs which we religiously follow. We waste lots of good land because we utilize permanent fences over all portions of our farms. These fences also favor continued loafing on the part of much fertile land, in that they support highways that are forty to sixty feet in width. It would be difficult to estimate the amount of land in this country that is wasted in fence-rows where innumerable weeds and briers accumulate. The total acreage of this idle land would aggregate well into the millions.

What One Farmer Learned

Of course permanent fences are essential on the boundary lines, and they should be of durable material and well constructed. With the inside fences the case is quite different, and inexpensive temporary fences could just as advantageously be used in place of the permanent ones that now prevail.

An Indiana farmer has carefully tested out the temporary fence as an inside boundary for hogs, cattle and horses, as well as to separate one field from another. He has found the temporary fence to be the superior of the permanent structure, in that it allows the entire field to be cropped, where formerly fence-rows had to be left in order to work with horses and machinery around the borders of the field. This farmer reports that under his system he does not have to fence the fields that are supporting a crop, as he changes his temporary fence about as he shifts his live stock from place to place.

Give the Temporary Fence a Trial

The great value of the temporary fence rests in the fact that it can be moved from one spot to another in a minimum of time and at the expense of little labor. A fence of this character is relatively inexpensive, as it can be constructed of farm odds and ends for posts with a good quality of wire to string between them. If desired, a woven-wire fence can be used in this manner, but in such a case considerable trouble is met with in maintaining the fence rigid and the wires tightly stretched. Strong concrete posts set at the corners of the principal fields would solve this problem nicely.

The temporary-fence idea should be studied and investigated by the general farmer, and if it appears feasible nothing could be more desirable than that he install the system on his home farm. Especially in sections where the land is worth upward of $200 and where it is necessary to pinch the land pretty closely to make it yield an income commensurate with its value the temporary fence should be accorded an impartial trial. By its efficient use the acreage of the farm available for tilled crops can be materially increased.

In a similar manner, by limiting the width of country roads to twenty-five or thirty feet, we could greatly increase the amount of available agricultural land. Under present conditions at least one half of the average country highway is rampant with weeds, or in some sections it is used by the neighboring farmers as a dumping-place for refuse.

A Lesson from Immigrants

How much better it would be to have narrower roads and to use the additional space for cultivated crops or grasses. In parts of California many Portuguese farmers

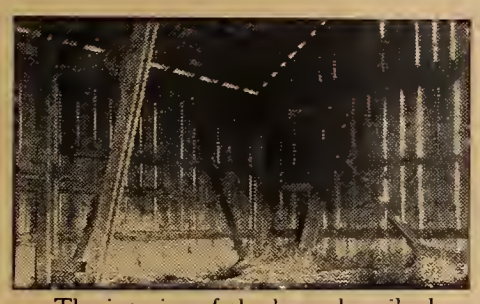
A temporary fence in use on an Indiana farm

have planted truck crops, as well as small grains and grasses, along the roadsides on this waste space. Is it not possible that the American farmer can learn a lesson from these immigrants?

A Timberless Barn

By B. F. W. Thorpe

A LITTLE journey through a portion of Clark County, Ohio, recently afforded a chance to examine a barn of rather uncommon construction. The owner, Mr. Samuel Battin, engaged in grain and stock production, has found this type of barn entirely satisfactory and economical in cost of con-



The interior of the barn described

struction. Mr. Battin is convinced that a barn equally desirable, erected according to usual building plans, will cost at least a third more than his.

It will be noted from the illustration that the framework has no solid posts or timbers. The frame material is entirely eight-by-two's and six-by-two's. The frame was made by three men in three days, and five men and one team of horses and tackle raised the framework and secured it in place.

The exterior, attractive and substantial

The mow floors extend over the driveway about eighteen inches, thus giving more storage space in the mows and without obstructing the driveway.

This particular barn is thirty-two by fifty-two feet, the foundation is concrete, the roof is slate and the frame lumber is oak.

The Navy Department and the Department of Agriculture are interested in an experiment in which gunpowder is being used as fertilizer. This experiment may prove to be going one better than beating swords into pruning-hooks.

The Gulf States may be suited to the culture of the nanmu-tree of China, whose wood is very valuable. Such is the hope of several who are familiar with the climate of both places.

The sum of $250,000 has been given by John D. Rockefeller to establish the S. A. Knapp School of Country Life, in connection with the Peabody College for Teachers, Nashville, Tennessee. The money is given to develop the "new school which shall meet the needs of an agricultural population."

Garden and Orchard

Fighting San Jose Scale

By Geo. W. Brown

FOR several years we have been fighting the San José scale in our fifteen-year-old farm orchard and have it pretty well whipped out by repeated spraying with lime-sulphur solution.

New growth covered by young scale

When picking our apples the past season, we found, however, many sections of our trees still badly infested with this pest and some fruit specimens badly damaged. Closer examination revealed to us that this infestation came from branches quite out of reach of our machinery, either on high-headed trees or those not pruned out sufficient to allow us to reach the enemy properly.

All of these sections were ferreted out and marked with strips of red flannel (flags of danger), and when we prune our trees these sections will be headed back or thinned out so we can easily reach the camp of our enemy with proper efficiency when springtime spraying opens up.

Section of old growth covered by scale in advanced stage

The "red flags" will be left to mark the locations where more extensive and efficient spraying must be done. Our lime-sulphur solution is prepared in a large feed-cooker from the formula — fifteen pounds of lime and fifteen pounds of sulphur. No salt. Boil together one hour, and dilute to fifty gallons. It kills all scale enemies and fungous ills of the orchard tree. We must fight this enemy to the last ditch, or it will get our share of fruit. As soon as you learn to detect the scale at a glance you can quickly determine the progress of your campaign.

Home boiling lime-sulphur solution

Treating Beans for Weevil

By T. Greiner

IT IS easy to fight the bean-weevil. First, be sure not to plant beans that contain any live weevils. You can easily tell by examining the beans closely. If no live weevils are planted with them in any given locality, there will be no weevils in the beans raised in that locality. If you are not sure, buy a small can of carbon bisulphid in the nearest drug-store. Place the beans in a tight receptacle, such as a crock, keg, box, barrel or bin, and place a saucer or bowl on the beans, into which pour one or more tablespoonfuls of the bisulphid. Then close the receptacle tightly, and leave thus for twenty-four to forty-eight hours. No live weevil will be left by that time. But pray be careful with the bisulphid. It is very inflammable. No open light or burning pipe or cigar is wanted near it. It smells bad, too. Peas are treated for the pea-weevil in the same manner.

Economy in Spraying

By A. J. Rogers

THE operation of spraying is now accepted among fruit-growers as essential in the process of developing an orchard and a perfect crop of fruit. On the other hand, there are many points and facts concerning this practice, which in a large measure must be determined by the grower for his own peculiar conditions and welfare.

I have been spending my leisure time this winter in "squaring up" my 1912 orchard account and drawing conclusions from certain trials and economies in my last year's spraying schedule. The orchards are divided into blocks of five to ten acres, according to kind, variety and age.

A diary is kept showing the amount of labor spent in the orchard operations, and the various costs of these operations are recorded in a ledger.

I have often asked orchardists about costs of spraying. Their answers are usually vague and unsatisfactory. For this reason the table below, which shows some concrete cases taken from my orchard ledger, is interesting.

Relative Cost of Material and Labor

The cherries were not sprayed during the dormant season. Apples and peaches were sprayed during March with commercial lime-sulphur solution diluted one to nine. The Bordeaux, dilute lime-sulphur solution and the self-boiled lime-sulphur used in the summer sprayings were made in the usual manner, and to each fifty gallons of spray material two pounds of arsenate of lead were added. The column of "total costs" includes both material and labor. The material varies from one third to one half as much as the labor.

In my younger cherry-trees spraying was done to keep the foliage from leaf-spot diseases. The five-year-old orchard had such a nice crop of fruit that it received one more spraying. The result of these four sprayings was a perfect foliage throughout the season. The younger trees with three sprayings lost much of their foliage early in September.

The apples were entirely free from scab and codling-moth, so for my conditions it would have been a loss of several dollars per acre to have sprayed five or six times, as is undoubtedly necessary to do in certain conditions. Had I sprayed the peaches three times instead of twice (assuming the extra application was made at the proper time), it would undoubtedly have prevented some brown rot appearing in early varieties.

Spraying Enough, but Not More Than Enough, is a Local Problem

So it would seem that the number of sprayings, three to four, or five to six, in a season that will give the greatest ultimate net profit to both tree and fruit must be a local problem, one to be worked out by the grower himself.

Hand-power barrel outfits, including the ordinary spray pump, hose, rod and nozzles, cost from fifteen to twenty-five dollars. Double-acting lever force-pumps cost from forty to fifty dollars, and when combined with two-hundred-gallon tanks make the complete outfit worth from sixty to eighty dollars. Gasolene-power outfits cost from one hundred and fifty to three hundred and fifty dollars. As spraying can be most efficiently done at a high pressure—two hundred pounds or more—the more expensive outfits are in favor.

So far we have used only the hand-power spraying outfits, which for young orchards, it seems to me, are more economical than the power outfit.

We must soon look to the high-pressure power outfits to do the work most efficiently, but in the meantime the spray outfit consisting of a double-acting, hand-power lever pump and a two-hundred-gallon spray-tank has answered the purpose, more than evening up its lack of working efficiency by less cost of depreciation and interest on investment.

Kind	Age	Number Times Sprayed	Kinds Spray Used	Total Cost
Sweet and sour cherry	1	2 summer	Bordeaux and arsenate of lead	$0.47
Sweet and sour cherry	2	3 summer	Lime-sulphur and arsenate of lead	.98
Sweet and sour cherry	4	3 summer	Bordeaux and arsenate of lead	2.33
Sweet and sour cherry	5	4 summer	Lime-sulphur and arsenate of lead	5.59
Apple	7	1 dormant 3 summer	Lime-sulphur and arsenate of lead Self-boiled lime-sulphur and arsenate of lead for summer	6.68
Peach, filler	7	1 dormant 2 summer		
Peach	8	(Same as filler)	(Same as filler)	9.41

Mammoth Potato-Vine

By W. E. Goodrich

THE illustration shows the vines and tubers of a single hill of potatoes grown by M. B. Durga, of Lewis County, Washington, who also appears in the picture.

The vine is eight feet one inch long and weighs forty-four and one-half pounds. The potatoes from it weigh twenty-nine and one-half pounds.

Selecting Garden-Seed

By A. E. Vandervort

UNFORTUNATELY many farm gardens are ruined at the outset by inferior seed. We depend on the country store for our seed too much, and we are careless. Look out for the gaudily illustrated seed-box. If you knew its hoary and shameless record, you might believe in total depravity. Old seed, inferior seed, everything that makes the garden third rate, are hidden in the little five-cent envelope. And if your congressman gets the Government to send you garden-seed, vote against him; he hasn't enough sense to be allowed at large in Washington. Just why it is that our great Agricultural Department does not put out better garden-seed I cannot understand. In our farming work here we have had invaluable and most accurate assistance from the Government for several years. It would be hard to overestimate the benefits, but as for their garden-seed, I don't want it.

As a matter of fact, there is no such thing as cheap seed. Twenty dollars a pound for good cauliflower-seed is cheerfully paid by many truckers, and they are glad to get it at that price. They could buy some cauliflower-seed for five dollars a pound, but they could not afford to take that seed as a gift. Start in right. Make up your mind to pay a good price for good seed, and pay it without a whimper. There is no use sowing trouble and disappointment.

Most Seed Catalogues Lack Candor

Write to reliable seed-houses for their catalogues. You will find their advertisements in the better class of farm journals and magazines. The study of catalogues is much harder work than planting the garden. Apparently seed-houses lack the senses of both humor and proportion. About everything they advertise is recommended so highly that choosing just which to plant is as difficult as threading a needle in the dark.

I wish to pay tribute to a man whose catalogue I received, for his courage. I have never used his seed, because when I got his catalogue I had supplied myself with all I needed. But his style in commenting on his wares is refreshing. He has not the least hesitation in condemning some of the seed he lists; and when he has something which he thinks is of high grade, he says so with the same wholesome candor. After all, if you study it out, there is considerable shrewd sense in his frankness. It inspires trust. I wish that some of the other seed-houses would inculcate that same spirit. It would save the poor, worried buyer a lot of trouble.

The safest seed-house, however, is your own garret. When you raise something which grades high, be sure to save and cure your own seed; and always try to save an extra supply provided against a bad season.

The seed-houses are beginning to realize more and more the necessity of growing some of their seed in the North under invigorating climatic conditions. In comparative experiments I have found that seed from the far North gave plants that would make more vigorous growth, yield better quality of garden stuff and resist drought, frost and disease better than their southern competitors.

Bush-beans, for instance, from eastern and from northern seed were planted side by side; a late frost did not seriously damage the one set of plants and almost totally destroyed the other. The ability to resist disease undoubtedly is due to the more vigorous constitution of the plants from the North.

GARDENING

By T. Greiner

Manure for Heavy Soil

WHAT manure is best for growing garden vegetables in a clayey hillside soil? I am asked. A warm loam containing a fair proportion of sand is most favorable to the production of a general line of garden vegetables, and if the soil is stiff, hard or inclined to bake, the first thing to do is to fill that soil with decaying vegetable matter or humus. Stable manure makes humus. Use enough of it to make the soil loose and friable so that it will not crack. Or, if such manure cannot be had, take the slower course of growing a crop or two of clover, or of rye and winter vetch, and plow a good coat or two of that green stuff under to be mixed with the soil and to furnish the needed decaying vegetable matter. Strawberries usually do well on rather heavy soils. If yours do not do well, the cause may be in the variety. Some varieties do well in one locality and do poorly in another. The large white grub found at the roots of some plants are the larvæ of the May-beetle, and they are often very destructive in strawberry-plantations. If the bed is old, plow it up and set a new one, using the variety or varieties which do well with your neighbors on similar soil. A few sorts succeed on almost any kind of soil, among them we have the Ozark, a very early and a very good berry.

Summer Use for Cold-Frames

After the plants are taken out in spring the cold-frames are in most cases left to themselves and become luxuriant with weed growth. A better way is to use them for growing cucumbers or melons or squashes. Cucumbers especially may be made quite profitable in such situation.

We can easily make room for a few hills, say one or two to the sash, in April or early May. The plants, under the favorable conditions of the average frame, come up quickly and grow rapidly. Tomato and other plants are taken out of the frames in time for the cucumber-vines to spread, and the latter are practically safe from harm, or can easily be protected. If the plants are started in the fall, they will yield nice cucumbers for pickles.

Rapid Plant-Setting

A Virginia subscriber tells of the backaching job of setting tobacco, tomato, cabbage and other small plants with the help of a sharp, round peg one and one-half inches in diameter and six or eight inches long. Don't set plants that way. You can do it with far greater ease, and many times as fast, by using a sharp spade or a crescent-shaped sod-cutter.

Have another person, a young boy or girl will do, to help you. The assistant is to carry a basket of plants ready for setting. This basket may be fastened to the assistant's waist by a strap, in such a manner that the hands are free to quickly pick one plant after another from the basket and insert it in the opening made with the spade. Walk on the row marked out for the plants, holding the face of the spade or other tool toward you. Thrust the blade into the ground where you want the plant. Pull the handle of the spade toward you, thus making a wedge-shaped opening at the back of the spade, and into this opening the assistant inserts the plant, putting it in just the position that it should retain.

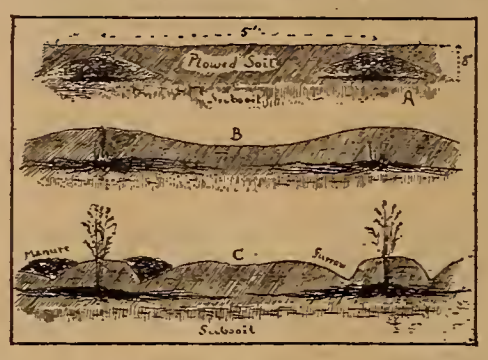
Carefully withdraw the spade, and set the heel of your right foot sharply against the soil a few inches away from the plant, thus pressing the soil in one move firmly against the roots of the plant and closing the opening made by the spade. The whole operation requires but a few seconds, so that two persons can plant an acre in a comparatively short time. We plant our strawberries in this manner.

Why Not Asparagus?

If my garden were ever so small, I would try to have some asparagus. Very likely it would be the first thing I would plant, the next being some rhubarb and a few currant-bushes. But you would not catch me without the asparagus; we get too much good out of even a little patch. With more room, I plant it in wide rows, the rows five feet apart, the plants about two feet apart in the rows. The roots run far out, easily meeting between the wide rows.

With plants set at a good distance apart, the stalks will grow big and fat, and many of them. Have the land well drained. Make it very rich with good manure. Plow deep, and for planting plow out the furrows the whole depth of the plowed ground. Then set good strong one-year-old plants in the way suggested at A in the diagram. Put them down deep, spreading the roots well, and cover with a little soil. Over this fill a good quantity of old compost or prepared loose and mellow sandy loam so that the sprouts will have an easy time pushing themselves through it to the surface. Fill in between the plants in the rows, either with the soil thrown out or, better, with more manure or compost.

Keep the weeds down by good cultivation or hoeing, gradually filling the furrows even with the level ground. The young shoots are



allowed to grow to the end of the season, when another dressing of manure or compost may be given, and the stalks may be cut and removed before the seeds have dropped off.

The second season a very few of the stalks may be cut and used. It is better, however, to let all grow that year and to treat the patch in a general way as the first year. The year after, the patch is ready for giving a full crop, and it may be laid off, in early spring, as indicated at B. Hill the rows slightly. Cut the stalks clean but carefully, so as to avoid injuring the crown of the plants. If the soil over the plant is very loose and mellow, we can run the hand down along the stalks and, instead of cutting them with a knife, break them off with the fingers near the crown. Cut clean until the green-pea season, about the fifteenth to the twentieth of June. Then let the stalks grow, but keep on cultivating and hoeing, or working the patch sufficiently to keep the weeds down. In early fall a furrow may be plowed away from each side of the row of plants with a shallow-running single-horse plow and the furrows filled again with good old manure, as indicated at C. When the tops begin to yellow, they may be cut and removed. The patch is then ready for another season of bearing. When well cared for, an asparagus-patch is good for many years—ten, fifteen, or even twenty. It is a never-failing, always-profitable, always-desirable crop.

Starting Celery-Plants

By H. F. Grinstead

A GREAT drawback to the universal culture of celery seems to be a failure to successfully grow the plants. It is true that failure often results when following the methods usually in vogue for growing other vegetables, but when the proper care is taken celery-plants are easily grown.

It is first necessary to have loose soil in the hotbed or outdoor frame. For early celery it will be necessary to sow the seed in a hotbed and later transplant to cold-frame for a few weeks till ready to transplant to the row; but for the main or winter crop the seed may be sown in an outdoor bed in April.

Celery-seeds are very small and should be sown thinly in drills two inches apart and have fine soil sifted on and packed down. Water the surface of the soil well, and cover with a piece of carpet or an old bag. There should be a covering of boards two feet above the bed to protect from beating rains. Keep the soil moist, and when the plants begin to show through take the cloth covering away, but allow the board shelter to remain to protect from baking of the sun or packing by rain and hail. A hard surface is fatal to tiny celery-plants.

When the plants are all through the ground, water frequently, and shade from the sun for a part of the day. When a few weeks old, transplant two inches apart in rows to a cold-frame or other suitable spot. About the middle of June they will be ready to transplant six inches apart in the open.

Use for Old Tin Cans

By H. F. Grinstead

TAKE an old tin can of three-pound size, melt off both ends, and loosen the side seam. The resulting piece of tin will still retain the shape of the can and may be held in place by a string tied around it. Set a number of them in the hotbed, fill with soil, and plant in them seeds of such plants as cannot be safely transplanted, as, for instance, melons and cucumbers. The cans should be set in the surface soil of the hotbed so that their tops will come an inch above the surface. When ready to set these plants in the open ground, take the cans out, set them in the hill, and remove the cans by clipping the string and lifting them up. They may be used several times.

THE KNOW HOW

To Feed Children and Get Good Results.

There are more nervous persons made so by undigested food lying in the stomach than the average individual would suppose.

If food remains undigested in the stomach, it begins to ferment, set up gas and a large portion is thus converted into poison.

That's why imperfectly digested food may, and often does, cause irritation of the nerves and stupor of the mind—brain and nerves are really poisoned.

"My daughter had complained for some time of a distressed feeling in the stomach, after eating, which set me thinking that her diet was not right." writes an anxious and intelligent mother.

"She had been fond of cereals, but had never tried Grape-Nuts. From reading the account of this predigested food, it seemed reasonable to try Grape-Nuts for her case.

"The results were really wonderful. The little brain that seemed at times unable to do its work, took on new life and vigor. Every morning, now, before going to school, she eats the crisp little morsels and is now completely and entirely well, she seems to have a new lease on life—no more distress in the stomach, nor headache, but sound and well everyway." Name given by Postum Co., Battle Creek, Mich. Read the book, "The Road to Wellville," in pkgs.

"There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

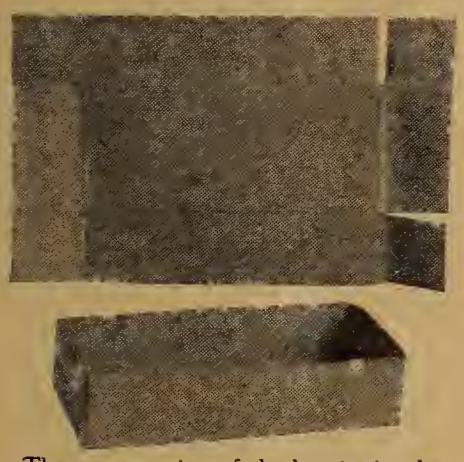
Marketing

Parcel-Post Packages in Germany

By Robert D. Skinner, Consul General

CONTAINERS for shipping eggs by parcel post in Germany have compartments for ten or more eggs, according to one's choice, as there is nothing in the limitations fixed by the post-office which prevent the forwarding of a larger or smaller quantity.

When eggs are sold in Germany over the counter the price is usually per egg; but when weekly contracts are made, the price very often is per dozen, and in the wholesale market a variety of usages prevail.



The construction of the box is simple

It is made to hold ten eggs

Thus. in north Germany the unit is a "shock" of 60 eggs, in south Germany 100 eggs, while in Russia, Turkey and France prices to importers are quoted per 1,000 eggs.

The small egg-box illustrated is one of the packages used. The inside compartments are so arranged that the eggs cannot receive any direct shock.

In the wholesale egg-trade with foreign countries, shipments are made in packages containing 1,440 eggs.

The cases contain double middle partitions which can be sawed through so that the importer can thus obtain two cases of 720 eggs each.

Paper boxes are used for butter shipments. They are made of flat sheets folded together and clamped to form a substantial container, and the carefully wrapped rolls of butter are laid inside, sometimes with a little extra packing, according to the skill and intelligence of the shipper.

In Germany, as in the United States, the fee for domestic parcel-post shipments is fixed by zones, and the most extensive zone is one of 150 kilometers (93.2 miles), within which 5 kilograms (11 pounds) may be transmitted for 50 pfennigs (11.9 cents).

For each additional kilogram over five, there is a further fee of 50 pfennigs, so that when parcels exceeding ordinary express weights are to be forwarded, it would be cheaper to send them by what is called *Eilgut,* the freight rate for 100 kilograms (220 pounds) for the same distance being 3.50 marks (83.3 cents).

Thus the selection of parcel post, or fast freight, which is equivalent to American express service, is regulated by the low price fixed for parcel-post shipments of small packages, and the relatively high price for transporting large packages by the same means. In France there is a uniform fee for parcel-post shipments, distance counting for nothing, as in the case of letters.

Market Epigrams

By Robert W. Neal

Success requires a balanced ration—equal parts of planning and push.

Speaking of good distributing agents, what about the manure-spreader?

Once I heard of a farmer who actually studied his market and sold his stuff where there was a call for it. But he made money.

Your home creamery is a first-class jobbing house when it wants to be. It can buy coal and other supplies at wholesale prices, and sell them profitably mighty close to cost.

Some political parties merely stand pat, some seek to win, and some stand for great ideals. I pick my markets and horse by the same rule; never got much good yet out of a strong horse with bad traits.

Ain't no harm in educating your retail dealer to the good points of your stuff that he sells. If you talk 'em up to him enough, he'll sort of catch the idea and talk 'em to his customers. Your name on the package will do the rest.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Eggs Sent Safely by Parcel Post

By Walter Going

THE first week of the parcel post brought me to recognize its value as a money and time saver. I was in the habit of making weekly trips to the city, about eighteen miles distant, to deliver butter and eggs to my various customers. I determined to give the parcel post a trial; so, having packed three separate five-pound packages of butter, I was pleased when I was told that it would cost me only twenty-seven cents to send it.

Now as to the money and time saving of this small shipment. The trip of eighteen miles to the city and back would have spoiled one day, and the work I performed that day by remaining at home amounted to at least eight times the amount paid for the shipment.

I have also shipped eggs, and find it a very safe plan, for I received a letter from my customer a few days later stating that not one egg had been broken, and they were perfectly satisfied. The eggs must be wrapped with excelsior, cotton or similar material that will prevent their striking other eggs or the bottom or sides of container, which must be made of double corrugated cardboard, wood or metal, to prevent damage to other mail matter. The package must be plainly marked "Eggs."

I have sent several other articles, and they were all sent profitably, especially farm products. Sugar and other groceries are generally a few cents dearer than in outside towns, but the cost of shipping would bring the price up equal to that paid at the country store. Although in use for only a short time, the parcel post has made a wonderful showing.

Back to the Sheepfold

By John P. Ross

THE fat and well-finished sheep and lambs that have been coming to market for the past two months bear conclusive testimony to the bounteousness of the harvest of 1912. Comparing present conditions with those which compelled breeders and feeders to make heavy sacrifices in 1911 and drove so many of them out of the business, mistakenly I think, the present prices of all things woolly must tend to bring many of them back to the sheepfold. The way in which unfit sheep were then hurried to market reminded me of an old saying among English sheepmen, which, though said jokingly, had a spice of truth at the back of it. It was that their brethren of the shepherd's crook over here made it a rule to part with their flocks as they did with their Presidents—every four years. But this easily caught sort of panic is gone and past, I hope, never to return, for in future there will always be two strings to the sheepman's bow—mutton and wool.

The Western Wool Clip

Some figures published by the National Association of Wool Growers afford strong evidence of the flourishing condition of the wool business in the West. In Wyoming, for instance, the fleece on nearly four millions of sheep averaged 8¼ pounds in weight, and its estimated value was close to $6,000,000. The clip in Montana, although a million pounds less in weight, exceeded that of Wyoming in value by $900,000.

As regards mutton, a Chicago daily paper complained recently that lamb was selling at one dollar per pound, but such statements must be taken with a big grain of salt, and must not be allowed to start enthusiasts trying to raise hothouse lambs in the back parlor. The regular prices ruling from the middle of February have been quite as high as any wise sheepman would want to see them.

A striking feature of the sheep market is the way in which the difference between the prices of sheep and lambs has been lessening of late. It seems but a short time ago when it was hard to find even well-finished and desirable wethers selling at over $4.50, while fat ewes were a drug on the market. At the same time lambs were bobbing up and down between $8 and $9.

High Prices for Feeders Prevail

Early in last month the older sheep of both classes began to be eagerly sought after, especially by the packers, prime aged wethers going as high as $6.35, prime ewes $5.75, and 80-pound yearlings from $6.50 to $7.50. As to feeders, prices unheard of before were paid; buyers snatching lambs from the packers at $7.75, and in some cases even $8. The fact of the matter is that feed is far more plentiful than are the mouths to fill with it.

Figures taken from the recently completed list of estimates of the number of farm animals in the country by the United States Department of Agriculture for the past year show a decrease of 880,000 sheep from those of 1911. Notwithstanding this, their aggregate value in 1912 was $202,779,000, as against $181,170,000 in 1911. During the same period cattle decreased $1,452,000, and hogs $4,232,000. These figures seem to presage a continuance of high prices, and should set breeders of all classes of live stock on their mettle.

Danger from Parasitic Worms

As spring approaches, the ewes with their lambs will soon be leaving the yards for the pastures, and unless proper precautions are taken they are likely to be subjected to certain dangers. One of the most common and harmful of these to the lambs is that of becoming infested with parasitic worms to which the ewes commonly become a prey on the fall pastures. While in the yards, they void many of these in their excreta, and cough and sneeze out others. On account of the nature of their food lambs kept in yards are not in much danger of becoming infected, but on the pastures it is different. Many of the various kinds of worms thus dropped among the young grass have a faculty for crawling an inch or two up the stalks, and are eaten by the close-biting lambs. This is one of the reasons why constant change of pasture is so desirable for sheep, and why pastures become "sheep-sick."

A Strong Eastern Demand for Hogs

By Lloyd K. Brown

THE hog market has maintained its strong, healthy condition, and the fresh-meat trade has been its controlling factor. With the industrial world active, there has been ample employment for labor, and the hungry and well-paid laborer is a heavy meat-eater. The price worked upward until the $8.50 mark was reached at Chicago because of a gradually dwindling supply. This figure seemed to have an influence in drawing hogs marketward, and the increased supply was enough to stop the advancing price, but not enough to cause a decline.

Feeding has become so profitable that buyers have appeared on the market for hogs to be shipped back to the country for feeding purposes. This incurs a cholera risk, but the buyers seem to be willing to incur this risk under the present relationship of the prices of corn and hogs.

Eastern shipping demand has remained strong, sometimes taking thirty per cent. of the offerings, and speculators have been active buyers. Under these conditions the packers have but little control over the prices. Their operations show no particular change, but little product is being put away in the cellars, and nearly everything is going to supply the fresh-meat demand. This means a hand-to-mouth business, but at present a profitable one.

The Cholera Situation is Serious

The conditions in the cholera-stricken districts have not improved; rather, they have become more serious, with large areas included. What is needed is a concerted state and federal action to control it, and until then we can hardly expect to be free from its ravages. The seriousness of the present condition has stimulated considerable agitation, and it is to be hoped that much real good will result.

The advance in price which has been registered has placed the market on the level where it was in the early fall. The $7 prediction of the packers amounted to a decline in December to a low point of $7.15, and there has been a gradual and steady rise since then. Whatever hogs there are now remaining in the country have been well fed, and they will be marketed only as they become ripe.

Somewhat heavier receipts can be expected during the clearance previous to the opening of field-work, but I look for lighter receipts when all the forces are busy with the crop-work. Indications are that breeding operations will be heavy this next season, except where the cholera risk is too great.

Poultry-Raising

The First "Ladies" of the Land

By B. F. W. Thorpe

Deviee for keeping water pure

AN ARTICLE in FARM AND FIRESIDE for January 18th, on "Testing the American Hen," described how the egg-laying contests at the Connecticut and Missouri Experiment Stations were conducted.

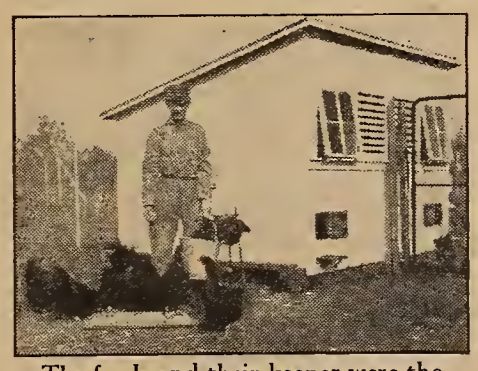
Here are some of the "first ladies in the land" who took part in the contests, speaking of course in poultry terms. All of the birds shown were exceptional layers.

Lady Showyou and her mate

Above is a photograph of Lady Showyou, a White Plymouth Rock and the best laying hen in the Missouri Egg-Laying Contest last year. With her is the cockerel mated with her during the breeding season. When photographed, this hen had laid 59 eggs in that many consecutive days. Her production for the year was 281 eggs, and at the close of the contest she was sold to J. W. Bell of Chicago for $800.

Canadian White Wyandottes which averaged 213.8 eggs each during the year.

The pen of Canadian White Wyandottes illustrated above finished second in the Connecticut Egg-Laying Contest. These hens laid an average of 213.8 eggs each.



The fowls and their keeper were the best of friends

Here is an interesting scene of a pen of Black Orpingtons receiving a little soft mash as an appetizer at the Missouri Egg-Laying Contest. Note the good terms existing between the feeder and his charges, also the mixed-grain self-feeder near his elbow.

The pen which won the medal for spring laying

This group of five White Plymouth Rocks in the Connecticut Egg-Laying Contest won the medal awarded for highest production during the months of March, April and May. This pen laid 845 eggs during the year.

Making Poultry Pay From the Start

By S. O. Bullivant

THIS is my first year's record of a small poultry business, from November 1, 1911, to November 1, 1912:

To 128 April and May pullets, at $1	$128.00
To 72 July 1st pullets, at 75 cents	54.00
To total expense, exclusive of labor	420.00
Total	$602.00
By eggs sold during year, 2,038 dozen	$553.01
By eggs used in family	30.51
By poultry sold during year and used	122.08
By 190 pullets, May 1st to 10th, at $1 each	190.00
By 130 one-year-old hens, at 60 cents each	78.00
Total	$973.60
Credit by balance for caring for the flock	$371.60

The income from each hen was practically $1.86 after paying all expenses, except labor in caring for them, which did not take one-fourth of my time, and my time would not be worth much at ordinary labor, as I am in my sixty-ninth year.

I got good prices for eggs and poultry, getting practically the New York quotations for the highest grade of fancy selected eggs and got more than the New York quotations for ordinary poultry. I keep White Leghorns, which are splendid layers, and I am in the business for eggs.

Eggs averaged a fraction over twenty-seven cents a dozen for the year. My hens averaged 132 eggs each from November 1, 1911, to November 1, 1912.

My hens are housed in a two-story house sixteen by forty feet. The roost and main feeding-room are below, the nests and scratching-room above, with an easy inclined walk three feet wide for them to go back and forth.

Green Food is Fed Liberally

I keep water and food before them at all times. I feed no wet mash. The rations are cracked corn, wheat and oats (two parts of measured corn, one part wheat and one part oats). A dry mash of equal parts by measure of beef-scraps, corn-meal, gluten-meal and mixed feed is kept before them in hoppers all the time. I feed green stuff, as I do not have a free range. In the spring the first green stuff is grass, which I cut fine.

Fine-cut grass can be fed to young chicks after they are a week old, and I consider it very important that they have it every day or something to take its place. They always get it in its natural state.

I sow a patch of oats early and cut them when the grass gets tough. I raise early cabbage, and as soon as I cut them for sale I feed them cabbage leaves, of which they are very fond. I also feed green clover cut up fine. I have second-crop cabbage in plenty that grows from the stumps of the early cabbage until cold weather. I also raise mangel-wurzels for a winter supply of green stuff.

Hens or Incubators?

By A. W. Richardson

BROODERS and incubators have reached such a stage of perfection and are being sold at such reasonable prices, that there is a question in the minds of farmers and poultrymen whether it really pays to set hens.

There is no question but what the setting of hens is considerable of a bother and takes considerable time. But there are other points as well to consider. It has been my experience that it does pay to set hens.

The spring months of April and May are the natural time for hens to become broody. Nature demands that they raise a flock of chicks, and the breaking up of persistent sitters is sometimes a task.

In the course of the year hens usually require a rest, and it has always seemed to me that if the hens could be utilized in hatching chicks and brooding them for three or four weeks, that in this way they could get their rest, be in prime condition to go to laying again and at the same time the trouble of breaking up sitters would be done away with.

The Trend of Vitality

Again, in these two months, eggs are usually at their lowest price, and if the hens must take a rest this is a good time for them to take it. I also believe that continued hatching by means of incubators and rearing in brooders tends, in several generations, to lessen the flock vitality. And if a few hens are set each year the general trend of vigor and vitality will be upward rather than downward. My idea is to use incubators to get our chicks out as early as possible and to use bens for the later hatches.

The Advantage of a Double Compartment

For the use of sitting hens a box may be made as long as one desires, one foot bigh and two feet wide, divided into compartments each a foot long. Tbese compartments are divided by a three-inch partition, the back half of the compartment being used for the nest itself. Each compartment has an individual door in which a small hole is cut so that the caretaker may know when the sitting hen wishes to come off.

The advantage of a double compartment lies in the fact that the hen, becoming uneasy or hungry, is not so apt to break and foul her eggs. By using two tiers of nests a considerable number of hens may be set in a small building. And if all are in one building it is quite easy to let them off to eat and drink, and by not letting them all off at once there is no confusion.

Thus it seems that if a man can increase his flock vitality and at the same time utilize his brooding hens, it pays in most cases to set hens.

The Useless Dropping-Board

By E. I. Farrington

FOR years past the use of dropping-boards in poultry-houses has been taken as a matter of course, but many commercial poultry-keepers are coming to believe that the time they have spent in regularly cleaning off these boards has been largely wasted. The tendency now is to seek means of economizing time and labor without sacrifice of efficiency, and the fact has been discovered that dropping-boards entail more attention than they are entitled to.

A newer plan is much simpler and just as sanitary. It is only necessary to construct a cement floor under the perches, or to use planed and matched boards running the same way as the perches. Tbe droppings are collected on this floor and confined there by an upright board six or seven inches wide. Then the perches may be lifted out of the way and the droppings removed witb a square shovel, the time required being less than half that needed to clean off dropping-boards. If a wheelbarrow is taken along, the manure may be thrown directly into it and the work of cleaning out a whole house made to occupy but a small amount of time. It is but a trifling operation to run a shovel up and down a narrow space of smooth floor.

A Relief to the Busy Poultry-Keeper

In actual practice it is found that if a little earth or old litter is sprinkled over the floor at short intervals there will be no occasion for removing the manure oftener than once a month in cold weather, and not more frequently than once a week at any time. If kept mixed with litter it is very easy to handle, and does not present the filthy, disgusting appearance of dropping-boards in freezing weather when too hard to remove.

This method comes as a wonderful relief to poultry-keepers who are trying to run large plants single-handed, and to whom the work of scraping off dropping-boards every other day has become an undisguised burden. It gives them more time for other things, and makes it possible for them to do more important work better.

It is a serious question, too, whether this plan is not really more sanitary than the one commonly followed. When dropping-boards are used, they are immediately under the heads of the roosting birds, and only a few inches away. The fumes which arise ascend directly into the nostrils of the fowls, which have to breathe them all night—and that means for many hours in the winter season.

Even when the boards are covered with absorbents, there is always a pile of filth just below each bird by morning. When these facts are stated baldly they certainly do not sound sanitary.

More Absorbents May be Used

With the non-dropping-board method these evils are largely done away with. Much more absorbent material may be used, and the droppings will be less exposed. When the matter is considered carefully one wonders why dropping-boards have been clung to so long. Often but little if any absorbent is used, and the boards become soaked with filth, and yet the owner of the house retains them because he thinks they are necessary.

If peat or one of the commercial litters composed of that material is used on the smooth floor under the roosts, it will absorb the moisture in the droppings to such an extent that cleaning out will not be needed oftener than once in two or tbree montbs. Consider the saving of time and labor.

The Main Floor is Made Cleaner

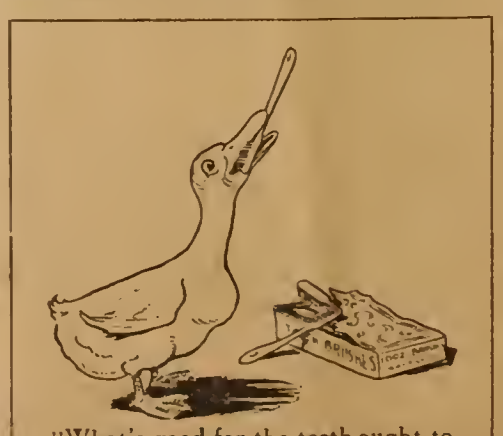
The upright board will prevent the droppings and litter from being scratched out onto the main floor of the house, and the general cleanliness of the building will not be affected in any way. Probably a cement floor is the best kind, and but little work is needed to make a thin covering under the roosts in bouses witb dirt floors. Matched boards will answer very well, though, especially if they are given a heavy coat of varnish, and the cost will be but little greater than that of dropping-boards.

Test the Incubator Thermometer

By E. I. Farrington

UNRELIABLE thermometers are frequent causes of poor hatches in incubating-machines. Many thermometers are not exact when purchased, and others go wrong after being used a year or two. The best instrument is none too good when the success of a hatch depends upon its accuracy, and any poultry-keeper wbo runs an incubator is justified in paying two dollars or even more for a thermometer upon which he can absolutely depend. Curiously enough a thermometer often registers unaccuratcly at about 103 degrees.

The only safe plan when using a tbermometer wbich is sent with a machine, or one about whicb tbere can be the slightest question, is to compare it with that of a physician or a druggist, and always with the mercury running as high as 105, which can be easily accomplished by placing tbe bulbs in a bowl of warm water, taking care that tbe water is not hot, in which case it might cause the bulbs to burst.



"What's good for the teeth ought to be good for the gizzard too"

Weather-Wise

By E. A. Wendt.

LAST July, when my hay was cut
And cured enough to rake,
I felt relieved and thankful; but
That night I lay awake
And heard the rain come with a sweep,
As if 'twould never stop—
Hard? Pshaw! I turned and went to sleep,
'Sif 'twasn't my hay crop.

When all was right to seed late wheat,
The soil prepared to drill,
The rain began and soaked and beat
Day after day, until
By the time 'twas fairly dry
And harrowed up again,
'Twas late. But, if I don't know why,
I know who sent that rain.

I simply won't waste time and health
In frettin' over things;
'Cause frettin' won't bring fame nor wealth
To common folk nor kings.
Besides, when I have done my best,
How much more can I do?
To moan and whine and lose my rest
Won't make an old roof new.

So when I must lose cash or feed,
I lose; and that's the end.
The One that makes all things I need
Sends what it's best to send;
He's sending what the morrow brings;
So why take it to heart?
I'm not responsible for things
When I have done my part.

Reasons Why You Should Listen

By Chesla Sherlock

IF A man should come to your farm some day when you are pretty busy and tell you that he knew of a "scheme" by which you could double your dairy profits, what would you do? I believe that your interest would cause you to listen to his plan. It is proper that we should be interested in everything that will double our profits.

It is the purpose of this article to tell of a "scheme" by which poultry profits may be materially increased. It is not an idle fancy that I have in mind, but a reality, an appliance that really exists and has been used for several years with the best of success—the trap-nest.

Why do we need the trap-nest? There are several reasons. The question might be answered by asking another one. Why do we need the Babcock test in our dairy work? Because, you answer, we found tbat we could easily determine the cows that were profitable to us and not be forced to depend on guess-work. Then for the same reason we should adopt the trap-nest, for the trap-nest bears about the same relation to farm poultry that the Babcock test holds to the farm dairy.

Get a Line on the Layers

For the benefit of those who are not acquainted with the trap-nest I will explain in detail its purpose. The trap-nest is a nest so contrived that when the hen enters she springs a "trap" which closes the door and bolds her captive until she is released by the attendant. The nest is of sufficient size to allow the hen plenty of space to move around in, or she would be apt to break the egg. It is necessary to keep a record of each hen until the flock is thoroughly culled out, or all the time, if you wish it.

You can see how easy a matter it would be to cull out the drones. The beauty of it is that you are not running the risk of discarding a valuable bird, but have absolute assurance which ones to cull out. In addition you are given the opportunity to build up your flock, just as the Babcock test gives you the opportunity to build up the efficiency of your dairy herd. By taking the hens of highest trap-nest record and mating them with males descended from heavy layers you will lay the foundation of a good strain of heavy layers. By careful trap-nest culling and with the same care in breeding, year after year, you will build your flock up to a high state of efficiency.

Some Egg-Production Figures

It is not at all uncommon for flocks that are trap-nested to average 180 eggs per hen per year. At the same time these flocks not infrequently contain individuals that have a record of 200 to 230 eggs each per year. It serves as an illustration of the value of trap-nesting.

The latest figures at hand from the Department of Agriculture declare that the average farm hen lays less than eighty eggs per year. Sixty eggs per hen per year would probably be overestimating the average, uncared-for farm hen. At any rate, the great difference between 200 or 230 eggs and 60 or 80 eggs is enough to think about seriously.

If you would adopt the trap-nest, it would be nothing difficult or at all out of the ordinary for you to double your present egg yield without adding to the number of hens you already have on the place. How? By trap-nesting your flock, breeding the best layers in the flock to males descended from heavy-laying mothers, as suggested above, and by

careful methods in general. Were you only able to increase the average yield of your hens to one hundred eggs per year, it would be a great step in advance.

There are many people who claim that they "haven't time to monkey with plaything," meaning the trap-nest. If the trap-nest is a "plaything," it is a mighty profitable one to "monkey with."

You use the Babcock test because you know that the service it renders more than pays for the labor used. If it did not, you would not use it. Then why not use the trap-nest? Isn't the fact that you will receive better results from the hens by its use inducement enough? You will not be required to visit the nests but twice a day (noon and evening), although oftener would be better.

Fighting the Lice and Mite Pests

By Wm. A. Lippincott

Poultry Specialist of Kansas

WERE it not for the diseases to which poultry and particularly chickens are heir, large poultry-farming enterprises would be much more common than they now are. Because the individual bird is of so small economic value, there has not been a great deal of attention given to the question of curing poultry diseases, by the investigators of animal diseases.

During the last few months there has been a decided advancement in the interest taken in disease prevention, and it is to be hoped that before many more months some important forward steps in control of poultry diseases may be taken. In the meantime we must fall back on the means of disease prevention, which of course means disinfection. Nature furnishes three very important disinfectants, which are not made as much use of as they should be, in the handling of farm flocks.

The Value of Sunshine, Dryness and Cold

The first is sunshine; second, dryness; and the third is cold weather. Every poultry-house should be so constructed that at some time during each day when the sun is shining the sunlight will have access to every foot of floor-space of the house. This will mean that many of the houses will have to have more and higher windows.

Dryness is brought about by good ventilation and a properly constructed floor, combined with a good location. Unless there is excellent natural drainage, particular precautions should be taken against allowing moisture to find its way into the hen-house. If necessary, a line of tile should be placed under the hen-house to carry off surplus moisture. If a board floor is used, there should be a ventilated air-space under it.

If cement foundations and floors are used, particular care should be taken to place from eight to ten inches of coarse crushed rock under the floor to prevent moisture coming up through the cement by capillary attraction.

Lime for the Soil Around the Hen-House

Good ventilation can be secured by having the poultry-house perfectly tight on three sides, and having generous cloth-curtained windows on the south side.

The cold weather may be made use of in killing disease germs, by plowing up the ground around the hen-house in the fall, opening it up for the cold weather as well as sunshine. It is an excellent thing to sprinkle slaked lime over the ground before it is plowed, at the rate of four to five hundred pounds per acre. Sowing a crop on the ground around the hen-house will also help keep it sweet.

Some Good Disinfectants

At least twice a year the hen-house should be thoroughly soaked, inside and out, by spraying. Most of the standard stock-dips are good for this purpose. Another spray which is very popular among poultrymen, but which is somewhat expensive if used extensively, is one part crude carbolic acid to eight parts of low-grade kerosene. If there are no mites present in the house, water may be used to take the place of kerosene When water is used it should be sprayed only on warm, sunny days, so that it will dry out again quickly.

Damp hen-houses, from whatever cause, are fatal to egg-production, and encourage disease.

Mites Do More Damage than Lice

In spraying to get rid of mites, which do not live on the bodies of the chickens as do the lice, but hide in the cracks and crevices of the roosts and nests, care should be taken to spray the second time. If the weather is very warm, the second spraying should be given seven or eight days after the first spraying. If the weather is quite cold, there should be about ten days between the first and second spraying. The reason for this is that the spraying seldom kills all eggs, and in very warm weather these eggs will hatch out in six or seven days, but in cooler weather it takes them longer.

Mites do far more damage than lice, as they are blood-suckers. While too many lice irritate the hen, they do not sap her vitality nearly so much as when she is attacked by

Dr. Quack—"All stiffened up, eh? Take a long swim every day."

mites every time she goes to roost or gets on the nest to lay.

An Effective Lice-Powder

Lice can generally be controlled by furnishing the hens with a good dust-bath, common road dust may be used for this dust-wallow, also sifted coal-ashes. Wood-ashes should never be used, for if they become dampened a lye is formed which will attack the flesh of the birds and make them sore as well as bleach out the feathers, making them unsightly.

Once in a while it seems to be impossible to control lice by the use of the dust-bath alone. In such a case a good lice-powder may be used, which is made as follows:

2¼ pounds plaster of Paris.
¼ pint crude carbolic acid.
¾ pint gasolene.

Place the plaster of Paris in a suitable pan or vessel, and stir in the two liquids which have been previously mentioned. Stir thoroughly until all the liquid has been absorbed by the plaster of Paris, then sift the mixture through a piece of window-screen on a piece of paper, and allow the powder to remain just as it has come through the sieve, for a few hours. The gasolene will evaporate rapidly. When the powder is dry it should be light and flaky.

The powder may be applied immediately, or, if kept for future use, should be placed in an air-tight vessel.

To apply, use a sifter made out of a covered tin can with a few small holes punched in the top. Grasp the bird by the legs, with head downward, and sift the powder into the plumage. Ruffle the plumage with the hand, and see that the powder is well worked in between the feathers under the wings and in the fluff surrounding the vent.

Clean the Incubator Between Hatches

In trying to prevent disease in farm flocks, as much or more pains must be taken with the brooder and incubator as with the house for the larger stock.

Between the hatches an incubator should be thoroughly cleaned, and every inside part thoroughly disinfected with a good strong disinfectant, preferably one made of about a three-per-cent. solution of one of the coal-tar dips.

As a further precaution it is well to wipe all eggs with pure alcohol before placing them in the incubator. This does away with any disease germs that may be adhering to the shell.

It is not necessary to wait for the incubator to dry out thoroughly before putting in eggs. As soon as the temperature is right the new eggs may be put in the machine.

Why New Ground Should be Used

The brooder should be placed on fresh ground every season if possible. This should preferably be ground upon which poultry has not been kept for some years.

Several diseases to which young chicks are susceptible infest the ground, and the surest way to avoid it is to raise the little fellows on new ground every year.

Besides this, every precaution should be taken to keep the brooder scrupulously clean. It should be also disinfected thoroughly between each brood, and, if any considerable number are kept together, two or three times during the time that the chicks are still being kept in the brooder. This of course should only be done on bright, sunshiny days, after the chicks are large enough to run outdoors.

Bunny as an Egg-Booster

By W. F. Wilcox

WE ARE always in need of fresh meat for our fowls, but fresh meat is costly and butchering time is far between. Still, when eggs are four cents apiece, as they frequently are here in Colorado, it is worth a good deal to get the biddies to laying.

I find that it pays to chop up the rabbits I kill and feed them to the hens. In this way they are worth more than the ten or fifteen cents which one can get for them in the city.

The Point

"Do you say that your hens 'sit' or 'set'?" asked the precise pedagogue of the busy housewife.

"It never matters to me what I say," was the quick reply. "What concerns me is to learn, when I hear the hen cackling, whether she is laying or lying."

Do you know what it costs to raise a dozen chickens to marketable size? Keep a record this year and find out.

Crops and Soils

Going Against the Crowd

"GO AGAINST the crowd." Mr. Morgan's advice to the young man who wanted a safe rule for speculating. carries a suggestion which may he applied to farming with profit. The experience of V. Green, a Colorado rancher, in raising onions while all his neighhors, following a well-estahlished precedent, grew cantaloups is an illustration of the advisahility of now and then "going against the crowd."

Back home in Maryland Mr. Green had been a truck-farmer and had found onions a first-rate crop. So when he came to Colorado in 1911 and rented a five-acre young apple-orchard on the hasis of using the "middles" for truck in return for caring for the trees, his first thought was onions. The

neighhors, hearing that the newcomer contemplated raising onions, hastened to assure him with emphatic unanimity that onions could not he grown successfully in that locality. "Take our advice," they said, "and grow cantaloups if you want to make hig money." On questioning these neighbors, Mr. Green discovered that not one of them, despite their positive attitude, had put the matter of growing onions to the test. In fact, so few onions were grown in the valley that five and six cents a pound were common prices at the stores. A splendid market and no good reason apparent why the soil and climate were not adapted to onions seemed to warrant a trial of the new crop. Of what followed his ultimate decision to grow one acre of onions to four of cantaloups Mr. Green tells in his own story:

How the Land Was Prepared

"With a will and spirit that were by no means lessened hy the neighhorhood skepticism I went to work. Late in February I plowed the acre, put twenty loads of fertilizer on it, disking it in. A week later I harrowed the field hoth lengthwise and crosswise eight times, and between harrowings went over it with a leveler. By the time I was through it was as smooth as a floor, and there was not a clod as large as a hen's egg in the whole piece. St. Patrick's Day it was seeded with four pounds of seed, one half Prizetaker and one half Yellow Glohe Danvers heing used. The rows were planted far enough apart to permit of horse cultivation. Before seeding, shallow irrigation 'creases' had heen made hetween the rows with a ditcher, and immediately after planting the water was turned into these ditches and allowed to run for twelve hours.

"The seed began to come up early in April. While doing so, a hard rain came, which haked the ground just as I had been warned it would. In a 'kill-or-cure' frame of mind I went onto the field with a two-horse spike-tooth harrow. If any of the plants were torn up, the field did not show the lack of them later.

The Onions Were Carefully Irrigated

"After the onions were well up, I irrigated them about every ten days, letting the water run only in the daytime so that it could be watched and watering hut one side of the rows, alternating the sides with each irrigation. After irrigation I went over the patch each time with a wheel-hoe, filling in the creases to keep the soil from baking and simultaneously weeding and cultivating. Each irrigation necessitated the making of new ditches. After the weather grew hot, the field was watered once a week, and for twenty-four hours instead of twelve.

"After the onions began to ripen, both irrigation and cultivation were stopped and the bulhs were allowed to mature in dry ground. In October I plowed them out, topped them and put them up in one-hundred-pound sacks. There were nine tons. They ran so evenly they necded almost no sorting. The nine tons were sold to the stores and private parties at an average of two and one-half cents a pound, $450 heing received for the crop. After deducting $8 for seed, $25 for help and $23 for two wheel-hoes and a seed-drill I had a net profit from the acre of $394.

"As for the four acres of cantaloups, I shipped my yield, along with some thousand other growers, to eastern markets. It happened to be a good year for cantaloups and a poor year for cantaloup prices. The bottom fell out of the market in midseason. The growers, ignorant of the fact, kept on shipping, and when the final returns were in found they had not got their box material hack on part of their shipments. As a consequence, they barely came out even on their crop. Though I did a little better than some of my neighbors, if it had not been for the acre of onions I should have had little to show for my summer's labor."

Grains That Grow in Drought

By C. Bolles

WESTERN farmers often imagine they have pure cane-seed, when in reality it is a bad mixture. One farmer of my acquaintance here in Nebraska said he had a fine field of cane (the seed came from a sorghum-maker two years previous) that was pure. He intended to pick seed from this patch, yet the adjoining ten acres were planted into milo. Oftentimes we hear farmers say their stock won't eat the stalks, but eat only the leaves of their listed cane. Reason—too much broom-corn planted near it. A certain farmer threw out a part of a load of pure orange cane-fodder and beside it some so-called cane-fodder. They cleaned up the orange fodder before touching the other.

One can safely plant one or more varieties of sorghum beside another patch of cane if he will take the trouble to put a paper sack over such heads as are fit for seed just at flowering-time. These stalks are then marked and the sacks removed after the flowering period is past. We doubt if one can be sure of pure seed with two varieties nearer than forty rods in every direction—at least here on the plains. We have had them nearer and have seen pollen drift through four varieties and cross on a fifth. Brown kowliang seems to be the worst about crossing on everything about, while Jerusalem corn is the best in this respect. The common canes are also bad about wanting to fertilize everything in sight. The trouble with a cross is that it is hard to handle in years to come, and too often leads nowhere. So far as we are aware there is no cross that is now a commercial success, although there is one Kafir-durra cross that holds out a ray of light along this line.

Even if there is no other variety in the immediate neighborhood to give trouble, yet field selection for next year's seed is the only way. Field-selected seed will almost entirely eliminate smut, as well as be first-class seed. Out of over 450 bushels of sorghums thrashed last fall there were not over one hundred head of smut in the lot, and they came from seed brought in from other places. On the other hand, a neighbor using commercial seed thrashed but eighty bushels of cane, and his field would run fully one-fourth smut.

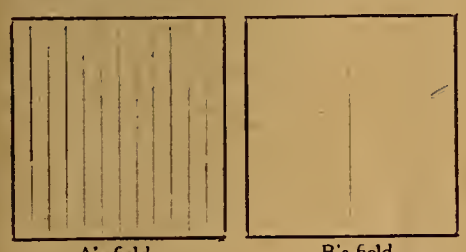
Another Opinion on Lands for Plowing

By Ira Pletcher

MR. KING in the January 18th issue of FARM AND FIRESIDE calls the man who plows a forty-acre field in about twelve lands Mr. Goodplowman, and the one who plows the field in two lands Mr. Poorplowman.

I would say from my own experience that he has the thing reversed.

To discuss this subject I will use A to represent the one who plows his field in twelve lands and B the one who plows his in two lands.



A's field B's field

From the above it will be seen that A will have twelve lands less than seven rods wide, and B will have two lands forty rods wide.

We will compare them as follows:

1. A will have the trouble of starting too many new lands; and I consider this one of the worst things about plowing, as, if he is not very careful, he will have several extra rounds in finishing each new land, while B will have only two.

2. As far as turning is considered, it requires a whole circle of 360° to plow around even in a triangular field; if A has only two turns, they are twice as far, or 180° each, while B makes four turns of 90°, or one fourth of a circle each.

3. If A turns along the fence all the time, it cannot help packing the soil, while B packs his soil only every other time, or when he turns the furrows out.

4. While A has his field full of dead furrows and banks, B can keep his field level.

5. As to resting the team while A is running empty along the end of the field, B can let his team stand and rest an equivalent time.

6. In case I have a rectangular field, I plow around the whole field one time, and the next time commence in the middle and turn all in.

Dry-Land Oats

By C. Bolles

WE HAVEN'T any seed for sale, nor do we feel we have discovered something new. We do, however, feel we have found a good oats for the dry belt, and it is our purpose to tell about it.

We call it "June oats" for want of a better name, since they ripen in June, except last season, when they, with other grains, ran over one or two weeks. Of its history prior to its residence here in Nebraska we know nothing. During its eight years' growth in this section it has been harvested from June 19th to July 4th, generally from the twenty-second to the twenty-eighth of June. This would make it an eighty to one hundred day plant.

Apparently Rust-Proof

Its growth and appearance is very similar to sixty-day oats, the main difference is that the seed is white. It has never been known to lodge or rust. We have no comparative yields, since no one on our divides has been able to grow a barley or an oat for the eight years. An oat may do well for a few years and then drop out because of grasshoppers or drought. One grower has had an average yield of thirty-one bushels of June oats for the eight years, the lowest yield being zero (last year), and the highest fifty-five, the first year tried. These trials are through five years of the severest droughts the country has known, years when winter wheat ran naught, two, ten, thirteen and sixteen bushels, and that was on early summer plowing. During these eight seasons corn failed altogether once and has had an average of fifteen bushels.

At present the area sown in these oats is small, perhaps less than 10,000 bushels were grown this season, but they are the only thing we have found that is reasonably sure. The only competitor is the Burt oats. These are almost as early as the June, but we do not know of their being tried side by side for any length of time. It is our opinion that one of these two will be the oat of the plains, especially where there are drought and hoppers, in the future.

Woodlot Management

By J. Gordon Dorrance

This is the Second of a Series of Short Articles by Mr. Dorrance on Forestry

THROUGHOUT the East and Middle West we find on almost every farm a woodlot. This forested portion of the farm, in addition to utilizing land which could often be used for but little else, furnishes the farmer with his fuel, possibly protection and purification of his water-supply, and if rightly managed should produce as well railroad-ties, mining-timbers, telephone and telegraph poles and certainly such lumber as he may need at odd times about the farm.

The Survival of the Fittest

The farm without the woodlot would quite often be an unprofitable investment, for few farmers could afford, or would care to pay, the present high and rapidly increasing prices for all the forest products which with a woodlot are always available to him and cost him but little except the labor of cutting and removing them.

When other farm work is impossible, he usually does his cutting, and were he to exercise in the management of his woodlot the same care, skill and intelligence elsewhere manifest in his labors about the farm, his timber yield would be augmented very greatly in both quantity and quality. Few farmers realize that with scarcely more time and labor their woodlots could be made to produce at least fifty per cent. more of all their forest products, as well as a constant and practically inexhaustible supply of wood and timber for future needs.

In natural forests, though the growth is slow, we ultimately receive a timber crop of finest quality, which is a very apt illustration of the old saying in regard to "the survival of the fittest." With the average American lumberman this rule is quite reversed, and it is indeed seldom that any but the very poorest survive his destructive cut, while in removing the best he usually destroys most of the young growth, which, if left, would be quite likely to produce in less time a crop of even more value than the first.

Apply the Weeding Process to the Woodlot

This the farmer on his more restricted holdings cannot afford to do. He should invariably remove first of all the poorest specimens, the weed-trees of the forest, leaving in possession of the soil selected trees of the more desirable kinds to guarantee a valuable future stand.

Nothing is easier and less expensive for the farmer than what the forester calls natural seed-regeneration. Undesirable species having been removed, the others are gradually taken out to suit the demands and convenience of the owner, and while a complete harvest of the old crop is occurring, natural reproduction is taking place simultaneously through a few remaining "seed-trees" on every acre. A method so simple and satisfactory should commend itself to all, giving, as it does, maximum results at a minimum of time and expense. A knowledge of forestry is not necessary to the successful practice of natural reforestation.

The Group and Strip Systems

Another method along these same lines which is always productive of good results is termed the "group system," where not individual trees, but groups of them, are removed, the resulting openings being seeded up by several near-by seed-trees.

The "strip system" is especially successful with those trees having light-winged seeds, and of which the maple, elm and ash are good illustrations, such seeds being easily carried by the winds over the areas to be

A woodlot which has been kept fenced
The second growth is coming up in abundance

regenerated. An opening in the form of a narrow strip is cleared at right angles to the prevailing winds, and as the ground is seeded new strips are secured to the windward side. This method is especially well suited to woodlot management by the farmer, giving, as it does, greater concentration of cutting with less attendant expense.

With heavy-seeded trees, such as the beeches, oaks, hickories and chestnuts, heavy preparatory thinning should be made a couple of years prior to a heavy mast year, thus exposing the soil to atmospheric influences, insuring a good seed-bed, and in consequence a large number of young seedlings.

When reproduction from seed is greatly hampered by continuous fires, the sprout system may be resorted to, and commends itself to many because of its simplicity of management, since by the mere harvest of the old crop a new one is secured. But the old trees should not attain too great an age, as the oaks, for example, often fail to sprout from stumps exceeding fifteen inches in diameter. Low stumps, too, should prevail, as the high stumps decay more rapidly, and it is very desirable to force the new shoots out from beneath the soil on the stumps. As prolific sprouters, chestnut oak, red, white and black oaks, sugar maple and chestnut deserve mention as among the very best.

Growing Trees on Worn-Out Farm Lands

Any or all of the methods just given will, when intelligently applied by the forest-owner, increase his crop from one half to two thirds at the very least, guaranteeing as well an almost perpetual supply for all his future needs.

In every part of the United States lie thousands of acres of land which are to-day producing absolutely nothing. In the West are many regions habitually, though not necessarily, treeless. In the East we find abandoned farms, lands once cultivated with careless skill, now left in wasteful, unproductive state.

Wherever these waste and worn-out lands may be located, they should be planted with trees, provided they cannot be used more profitably.

Live-Stock Must be Kept Out

No matter whether they are in the shape of arid, drifting sands; the marshy, overflowed shores of lakes and rivers; bare, wind-swept brush lands, or old fields grown up in weeds, there are trees which will grow in all these places, and which can be grown there with profit. Such waste, non-producing areas are a disgrace to our present high standards of civilization, and whether by State, community, corporation or individual, tree-planting is practicable and profitable.

In the State of New York many abandoned farms have become barren, sandy wastes, and the drifting, wind-blown heaps of sand are a source of damage and even danger to all the near-by farmers. Let us see what

Woodland grazed to death
Note absence of all young growth

can be done with such lands. First of all, the fixation of the soil surface is necessary in many instances. This may be easily accomplished by sowing a crop of sand-grass. In addition, all sheep and cattle should be carefully excluded. Wherever there is grazing, the growing of trees is well-nigh impossible, especially on eroded and unstable soil surfaces.

Of all the valuable forest trees, the pines are probably most successfully planted in regions where the soil is exhausted and the moisture content poor, and among these we have the scrub, red and white pines for available species. The common scrub, though not so valuable as the others, is nevertheless a desirable tree for planting on very poor sites, as it thrives under the very worst conditions and spreads rapidly over the exhausted soils of the Eastern and Lake States. Within the past few years it has been discovered that the scrub pine, hitherto considered as the most worthless of trees, is quite well adapted to the manufacture of high-grade newspaper stock, producing a pulp paper said by many to equal that made from the finest spruce.

Two Ways of Getting Trees

As to the red, or Norway, and the famous white pine, little need be said. The former has long been considered one of the most useful trees of the northern United States because of its rapid growth, large size and high quality of wood, while the latter is the most valuable of soft woods and the largest of the conifers growing in eastern North America.

For purposes of reforestation seedlings may now be purchased very cheaply both in this country and abroad, and some of the States (among the number New York) will furnish nursery stock to farmers at cost prices. Or, the farmer can himself grow his trees at slight personal cost, as with white pine, for example. One pound of good seed will produce at least ten thousand plants if properly germinated.

On the type of land just considered two-year-old pine seedlings should be set out in spring when the ground is moist enough to work readily, and in most cases preparatory treatment of the site to be planted is unnecessary. In work of this sort intervals of six feet each way between the seedlings are advised, and though for the first few years the trees may not present a hardy aspect, they soon pick up, and the once desolate land is scarcely recognizable. As an additional benefit, fertile lands further in are well protected from the encroaching sands which were a serious menace a few years before.

Ridge Planting in Marshes

Regarding low, marshy lands bordering on lakes and other bodies of water, it is of

An easy way of reforesting
Numerous fast-growing trees in front, seed-tree in background

course well to drain off as much of the stagnant water as possible, and when this cannot be done "ridge planting" may be resorted to. This work, in contrast with that just referred to, is done in the autumn when the water is low, and, also, is quite an advantage, when the farm work is commencing to be somewhat lighter. Ridges are made by ditches dug about eight feet apart, the trees being planted on the soil thrown up in the center. Alder and birch of the same age, from two to three years old, may be planted in mixture four feet apart, while ash, silver maple, cedar and spruce also do very well in such a location.

Forest Planting is Not Expensive

The writer has seen in Germany, along the famous Rhine, willow poles of three-inch size effectually holding down the river sands and preventing them from laying waste the rich alluvial soils within. Many novel expedients may be witnessed abroad along these same lines. There the ground is often plowed up on bare tracts, sometimes in the woods, and acorns planted in the furrows. And on soil which is not too dry potatoes are sometimes raised for the first year or two between rows of pine seedlings to keep out the weeds at a time when they can do the most harm. In Germany, forest protection is unusually good, and that is important, for in the successful practice of forestry we must first of all have protection from forest fires.

Forest-planting is not necessarily expensive, and it is worth while, for usually trees enrich them. Every farmer who has a tract of land which is incapable of producing crops certainly could not invest spare time and labor to better advantage than in the afforestation of his worn-out farm lands.

Heating a Small Plant-House

By T. Greiner

A SMALL hot-water heater, such as is sold by various supply-stores, and a system of common black iron pipe, usually two-inch, is undoubtedly the most convenient way of heating a small greenhouse. But if it is a "plant-house," mainly used for starting the ordinary vegetable plants for a moderate-sized market-garden, and run only from the latter part of winter until spring, or during the time that our early plants, such as tomato, pepper, eggplants, etc., need a little more protection than a mere cold-frame can give, the heating may be done by means of a fireplace located at the end of the house on the prevailing-wind side with a stone or fire-brick flue running under the bench the entire length of the house. I have also seen such houses heated by means of a heating-stove and stove-pipe running the length of the house. This last plan gives a rather dry heat, but it will do to start the plants, which later may be transferred to cold-frames. It is possible to grow good plants in this manner, and quite a good many, comparatively, in even a small house.

Farm Notes

Gas-Engine Fuels

By James A. King

This is the Third of a Series of Short Articles on the Gas-Engine

ALL grades of gas-engine fuel come from one source—crude petroleum. It is obtained from wells in different parts of the world. About two thirds of the world's supply is obtained from the United States. At the present time the United States can be divided, in a general way, into three principal fields. These are, (1) the Pennsylvania, or eastern, field, including all the oil-producing regions east of the Mississippi River; (2) the field variously spoken of as the mid-continent, or the midwestern, or the southwestern, field, including the States between the Mississippi River and the Rocky Mountains, and (3) the Pacific Coast field, including California and the Rocky Mountains. The approximate production annually of each field is:

Field	Annual production of crude in barrels
Eastern	31,000,000
Mid-Continent	55,000,000
Pacific Coast	90,000,000
Total	176,000,000

Practically all the crude oil obtained in the eastern field has what is called a paraffin base. By this is meant that if all the different liquid oils were taken out of the crude oil we would have crude paraffin left in a solid form. The southwestern crude oil has an asphaltic or semi-asphaltic base. The Pacific Coast crude oil has an asphaltic base.

How Gasoline is Made

These four grades of fuel are obtained from the different crude petroleums by a process known as fractional distillation. The crude petroleum is put into a big vat or "still" and is heated up to a certain temperature. This temperature depends upon the exact nature of the crude oil that is being distilled. It is kept at this temperature as long as any important amount of vapor is being driven off. This vapor is conducted to what is called a "condenser." Here it is condensed into a liquid. This liquid is used as a source of certain oils used for certain special purposes in the arts and the sciences.

Then the still is heated up to another and higher temperature. Again, and in all cases, the exact temperature depends upon the crude oil that is being refined. It is kept this hot as long as very much vapor is being given off. The vapors are condensed and called gasolene. The temperature of the still may be raised gradually, a few degrees at a time, the vapors given off at each step in the change of temperature being condensed and collected in different tanks. This gives the different grades of gasolene.

Then by making another general raise in the temperature of the still and collecting the vapors they get the naphtha. The next general raise gets kerosene. This is why the process is called fractional distillation; because they distil only a fraction at a time.

As the various gases given off are condensed, they do not give the pure refined oils. They still contain certain impurities. The oils distilled from the midwestern and the Pacific slope crudes will also be discolored when first distilled. In order to get a perfectly pure, water-white gasolene or kerosene, it is necessary to take these condensed liquids and "wash," or "scrub," or "purify," them. This process of purifying does not add materially to their values for engine-fuel. But it does add materially to the price which the consumer has to pay for them, because the process of purifying is rather expensive.

The amount of each one of these fuels which can be obtained from any crude oil depends upon the field from which that "crude" came and even upon the district or the individual oil-well in that field.

What Makes the Difference Between These Fuels?

Their greatest difference is in the temperature at which they give off a vapor which, in the presence of air, bursts into flame when ignited. This temperature is called their "flash-point." Another important difference is their weight to the gallon. This is called their specific gravity or just "gravity."

It was found that all refined oils from the eastern field which showed the same gravity test also showed the same flash-point. For example, every sample of oil having a gravity test of 64° would have the same flash-point as every other sample testing 64°. But it would he a higher flash-point than that of a sample testing 72°, and lower than that of a sample testing 58°. This was because the higher gravity oils are more volatile and give off a vapor at a lower temperature than do the heavier oils.

But when the midwestern and the Pacific Coast fields were opened up a big difference was discovered. It is true that there was still a close relation between the flash-point and the gravity test, but the relation was not the same as it was in the eastern oils. A midwestern oil testing 56° or 58° will have the same flash-point as an eastern oil testing 62°. The relation between the flash-point and the gravity test thus depends upon the crude oil.

So the single standard gravity test is no longer a thoroughly reliable method of determining all the qualities and characteristics of a petroleum oil. It simply indicates its weight to the gallon; that much and nothing more. The actual flash test itself must be made before you can know what it is; you cannot tell from the gravity test.

Which Makes the Best Engine-Fuel?

The exact answer to this question will depend upon the engine itself. But a general answer can be made by saying "the heaviest fuel which it will burn successfully." What this will be depends upon the design of the engine.

The thing which will determine what weight fuel an engine can burn is its ability to properly vaporize and completely burn the heavier fuels without carbonization. In other words, it will depend upon what flash-point of oil it is able to use successfully, and again upon the field from which the fuel came. Some engines will not burn successfully an eastern oil heavier than 62° or a midwestern heavier than 56°, while others will successfully burn an eastern oil testing as low as 42° or a midwestern testing 38°.

The reason for burning the heaviest oil possible is that it has the most power to the gallon. All petroleum oils found in the United States contain practically the same number of heat units to each pound. And heat means "power." An oil testing 38° will weigh about sixteen per cent. more to the gallon than will one testing 60°. And so a gallon of the heavier one will do about sixteen per cent. more work when burned in an engine than will the lighter one. Thus it is easily seen that one should burn the heaviest oil he can,—when there is no difference in price,—because he gets more power and more work done for his money. It is like getting a hundred acres plowed for the price of only eighty-four.

Live Stock and Dairy

Sheep Sense in Missouri

By V. A. Place

A NUMBER of farmers down in Missouri are following a system of sheep husbandry quite out of the ordinary. They are finding their method of management a very profitable one. Because of this and because it is a comparatively new method, we believe a description of their methods, as given by one who follows it, will be very timely.

These farmers purchase uniform western ewes which have come direct from the range to our large markets. In selecting these ewes they endeavor to get them with good fleeces, sound mouths and udders. These ewes are bought in August or September, while the run from the ranges is quite heavy. At this time the ewes are in thin flesh and can be purchased at from four and one-half to five cents per pound, and weigh around one hundred pounds.

The Rams are the Mutton Type

They are shipped to the farm and turned on the stubble-fields and pastures, where, from the succulence of the green material, they gain rapidly. These feeds also have the effect of flushing the ewes so that they breed early and at about the same time. This brings the lambs in February or early March. The rams used for sires are pure-bred mutton rams of desirable market type.

The reasons for having the lambs come early are: (1) the lambs can be marketed early and ahead of the heavy run from the West, (2) higher prices are secured for early lambs, (3) early lambs reach market weight before very bad weather and (4) there is less danger of infestation from internal parasites.

During the winter months the ewes are handled not a great deal differently from breeding ewes in any well-kept flock. They are fed clover, alfalfa or corn-stover for roughage, which is supplemented with a grain ration. The owners are quite careful to provide a good warm place for the ewes at lambing-time, because it is from the lamb crop that they expect to derive the profit.

A Grain Ration Prevents Shrinkage

As soon as the lambs are old enough they are given a grain ration to push them to a desirable market finish as early as possible. The grain is valuable also, because it gives a firmness to the flesh which is very desirable, and they do not shrink in shipment to market nearly so badly as if they had received no grain. In the fall, rye is sown for succulence for both the ewes and lambs in the early spring. This increases the milk-flow and helps materially in forcing the early maturity of the lambs.

Now these lambs are not being raised for breeding purposes. The entire crop is marketed. The ewe lambs, as well as the wether lambs, are sold. So long as thrifty, healthy, uniform western ewes can be purchased at about five dollars per head, it does not pay to retain their seventy-pound ewe lambs for breeding purposes when these lambs will sell on the open market for seven or eight cents per pound.

By knowing how to select their ewes, the farmers generally consider that the wool will about pay for the keeping of the ewes, and the lamb crop is about clear money. Let us see what this amounts to from a typical example of one of the men who practises this method. This man purchased one hundred head of western ewes on the Kansas City market in August. These ewes cost him $5.10 per head at his farm. During the winter and in lambing period he lost five head. The remaining ninety-five head sheared an average of seven and five-tenths pounds of wool, which he sold for twenty-four cents per pound, realizing $171 for his wool crop. These same ninety-five ewes raised one hundred and twenty lambs, which averaged sixty-two pounds on the market the middle of June and sold for seven and one-half cents per pound, making a total of $558, or $48 more than the ewes had cost him, and he still had his breeding flock to repeat the operation the following year.

This is but one of the many examples that might be given of the success these farmers are having with this method of sheep husbandry. It seems to me that there is a lesson in this for farmers of the corn belt who are equally well equipped for this work as are the men "from Missouri."

The Square Silo a Failure

By E. M. Rodebaugh

CONSIDERABLE interest has been manifested in the practicability of square silos which I mentioned in a casual way in a recent issue of FARM AND FIRESIDE. The silos in question were built after the usual old square pattern of two thicknesses of wood with the grain crossed and are twelve feet square, although the size is a matter of individual choice. A square silo

in southern Ohio which has been in use for about twelve or fifteen years, and which has a continuous door-frame and doors in sections, is fourteen feet square. It has tarred paper between the boards and is painted on the inside with a coating of tar paint to make it air-tight.

Few Square Siloes Have Been Built Lately

Only a few square siloes were built in Ohio the past year as compared with thousands of round ones. The square silo is not popular with those who have used them and tried them out in comparison with the perfected round type. There are several reasons for this, perhaps the most important being that the square silo wastes too much silage.

Silage packed into a square silo will not settle evenly. The middle will go down, and the silage will stick to the walls in the corner and bunch up, making air-holes and crevices; these will conduct air down into the silage, causing it to rot and become moldy. Usually the corners will show a line of rot from top to bottom, and it is nothing unusual to see a big pile of rotten silage just to one side of the door, which represents corner loss.

Another reason advanced for the failure of the square silo is the fact that rats will work through the walls just above the foundation and then up inside in the silage, and these holes will conduct air into the body of the silage and cause an enormous loss.

It Has no Redeeming Points

Those who have used the square silo for a number of years and have had opportunity to investigate the subject thoroughly say with me that the square silo is a failure even though it is cheap.

Many which were built a number of years ago when the silo was in the experimental stage are being replaced by more modern types of round construction, any of which will prove far more satisfactory, and many more which contain good material are being changed each year, and by the building-in of false corners are being made into round siloes. There is no question in the minds of men who have investigated that the round silo is the type to build. I do not recommend any particular kind; that is a matter of individual choice.

Businesslike Community Farming

By A. E. Winship

ONE of the best demonstrations of the businesslike attitude of the Oregon mind is the East Gaston Association of Washington County, in the Willamette Valley, about twenty-five miles south of Portland. The Association embraces a rich farm area of about seventy-five square miles. The genius of the scheme is Mr. W. K. Newell, president of the Association, which includes about fifty farmers.

They voted to raise the same kind of stock. They at once proceeded, about three years ago, to raise only Holstein cattle, to buy, in common, high-standard bulls. Some got registered heifers, and all cows had the Holstein strain, no other bulls being used.

On the same principle they selected two breeds of hogs—Berkshires and Jersey Reds—and worked out all that did not have one or the other of these strains.

They also settled upon one breed of sheep, and for poultry they raised only White Leghorns and Rhode Island Reds.

No one in the Association advertises or pushes the sale of anything as from his special farm, but everything is "East Gaston." They get four cents a pound more for the butter-fat in East Gaston cream than any other brings. They guarantee the quality and also the amount they will furnish.

No one of them pays more than five per cent. interest on money, and that in a part of the world where eight per cent. is quite the common figure. The members of the Association know all about one another's business, and if necessary will back up anyone who needs money for the improvement or development of farm or stock.

They have clubbed together and purchased the best thrashing-machine on the market, and confine its use to their own members. The same is true of other farm machinery.

If any one of them discovers a bulletin, or book, or article that all should read, he passes the word around.

So exceedingly profitable is this to all members of the Association that it is to be given State recognition, and other communities are to be organized for the same purpose along lines of interests in different localities.

Selling Cream de Luxe

By Hollister Sage

NOT only can cream be made to pay the producer more money than butter, but it makes less work for the producer. Everything depends, however, on what kind of cream is made, to whom it is sold and what is received for it. A few days ago I visited a dairyman who has worked up his trade among the best people of his neighboring city, has made good cream only, ever since starting, and who now gets ninety-six cents per quart for it. The cream contains forty-five per cent. of butter-fat, and he sells it in half-pint jars. The price represents nearly one dollar per pound for its butter equivalent and is the culmination of long, sincere effort to produce what wealthy people desire on their tables, a very rich cream.

You or I cannot hope to leap into such a business suddenly and win the success which this careful and persistent man has been eight years building up. But we can start as he started, and get good prices from the time we begin, if we are satisfied to be controlled by rules that are as unalterable as the laws of the Medes and Persians. Our friend bought a run-down farm that had to be brought up in fertility before he could get a living from it.

He knew he had to keep stock to restore the farm, and chose dairy cows that he might get a weekly income, for he was without means. After long and bitter experience and much figuring he decided to produce cream, cream that was above reproach.

The Demand for High Quality Must be Fulfilled

He found that to get the best cream he had to have cows giving rich milk, and to get this kind he had to raise them. Besides, he wanted cream free from the faintest suspicion of tuberculosis.

The dairyman already in the possession of a choice herd may well afford time to think seriously whether he shall consent to sell milk or butter instead of cream, for he has the opportunity to build up a business that will pay him far better than either. But let him remember that, while consumers of cream pay well for it, their demands for purity and richness are imperious and must be strictly obeyed. He will have to use the Babcock tester with greater persistency and skill than ever before and will be forced to great watchfulness to guard against robbing either them or himself; for it is easy to make cream so rich through carelessness that it exceeds what is possible to supply for the price paid. No guessing at the fat content will be permissible, because the measure of richness, like the length of the rainbow, can be actually determined only by measuring it.

If the cream tests thirty-five per cent. fat, it should bring fifteen cents per half-pint bottle or jar (sixty cents per quart), and this means that if the milk tests 4.25 per cent. it will bring a trifle more than eight cents per quart where the skim-milk is kept on the farm and fed to advantage, being worth twenty cents per hundredweight. Or, if the skim-milk is made into skim cheese and sold at ten cents per pound (and I paid seventeen cents yesterday), it means nine cents per quart for the milk, and the whey left to feed pigs and calves. Does it seem roundabout? It *is* further around to the cash than selling whole milk, but the returns also will be found to go further. If you have lots of "business gumption" in you, it will not be difficult to realize what I have here mentioned.

How to Make the Cream Keep

Above all, the cream must keep well, even in the pantry, dining-room and frequently iceless refrigerator of the consumer. The milk-pail used is partly covered at the top to keep out all the specks of dirt possible. The cows are brushed before milking, and their udders washed and dried. No wet-hand milking may be indulged. The milk is strained and separated immediately after milking and the cream iced as low as possible and so kept until delivered to the consumer.

Beginning with the very first suspicion of warm weather, and it is better to begin this before it is needed, the cream must be carefully Pasteurized before being put in the jars. The jars are sterilized before being used.

Simple Pasteurization

Do not fear you could never learn to Pasteurize. It is almost as simple as telling the time by your watch. "But it would require the purchase of a load of expensive machinery," somebody exclaims. Not a bit of it. Having got your cream, let it be put at once into a common milk-can and set in a tub of water. If this is at boiling-point all the better, for the heating of the cream will the sooner commence. Have the can held from the bottom of the tub by two bolts or pieces of pipe, so the water may circulate beneath the can as well as about its sides. Stir the cream with an up-and-down motion from the start.

A simple Pasteurizing device

Heat it to 145° F., but do not let it exceed 155°. When the cream is at the desired temperature, shut off the steam or remove the water vessel from the stove, cream and all, temper the water to 145°, and keep the cream at not less than 140° for thirty minutes, stirring it meanwhile. At the end of this time let spring water into the tub or ice it, and stir until the cream has cooled to 60° or lower.

As soon as cooling begins, cover the can tightly with sterilized cotton cloth to keep

out air, with its myriads of bacteria. Now when filling your sterilized jars be sure you put in no dipper that has not been baked or boiled, and cap at once after filling. Next ice and keep iced all jars just the same as if the cream were raw in cold weather.

The directions may lead some inexperienced person to believe the work hard and lengthy, but after doing it three or four days it will be found far less irksome than butter-making and much more satisfactory from a pecuniary standpoint.

Farm Fables—The Dog

A DOG'S bark is considered a pretty useless sort of thing, but a dog's thoughts in a magazine should make men think, especially farmers, each one of whom should be on terms of firm friendship with at least one good dog. As for bad dogs I am no more responsible for them than you are responsible for the vagaries of bad men.

I am Carlo, plain Carlo, though why anyone should have named a conscientious cow-dog Carlo is more than I can explain. But Carlo is my name; and I have never done anything to disgrace the name, and hope I never shall.

I do not bite children, but I do growl at tramps.

I do not track mud into the house, because I aspire to the friendship of the ladies of the house.

I do not chase cows or sheep uselessly, for it is upon the welfare of cows and sheep that my usefulness depends.

I do not run after and bark at passing teams, because such performance is silly, and sometimes results in the dog which practises it receiving an ugly clip from a cutting whip.

I awake early in the morning, because I go to bed early at night.

I have my place in the world, else I would not have been placed in the world.

CARLO—THE DOG.

Butter "Secrets"

By Mary H. Bowers

EVERYBODY knows how to make butter. Certainly! but how about good butter? How about butter that will not only melt in your mouth, but leave your mouth sweet and delighted with that flavor that the oleo manufacturers would give a million dollars to be able to reproduce? How many of the following rules of butter-making do you follow? They are the wide-open, known-to-all-hut-followed-by-few rules of a North Carolina housewife.

There are three essentials for making good butter.

First, the milk must be clean.

Second, the cream must be kept cold and at an even temperature.

Third, the cream must be properly ripened before churning.

You cannot get good milk from a cow that is not healthy. You cannot get good milk from a cow that does not get sufficient nourishing food and plenty of good drinking-water (and by that I mean water that *you* would drink). A certain amount of food is necessary to maintain the cow in health; all she eats above that amount goes to fat or to make milk. She should be curried to be clean, and the udder and teats washed with warm water before each milking. The milker should be clean in person and clothing, and the milking-place clean and open to the sunlight. *You can't be too careful or too clean about milk,* for milk is a great absorbent of odors, good or bad, and for that reason it should be carried from the barn as soon as possible.

Germs multiply very rapidly in heat, so the next point is to cool the milk as rapidly as possible. Plenty of cold water is necessary, and ice too, in summer. Cream can be kept several days before churning if it is kept very cold. It should be stirred well with each addition of cream to keep it uniform in temperature and acidity. Do not add fresh cream to your churning.

The Proper Acidity

It will take longer to churn, and even then a large part of your butter-fat will be left in the buttermilk. *The Elgin butter is the standard for the United States, and it is made from sour cream.* Fresh cream alone can be churned, and many people like it, but it is not considered as good as butter made from sour cream.

The last point is the proper ripening of the cream, on which the perfect flavor most depends. This can be learned only by experiment and observation. About one tenth as much good skim-milk clabber is added to the cream, twelve to eighteen hours before churning, and thoroughly mixed with the cream. This will produce the proper acidity if kept in a temperature of seventy-five degrees. But, as I said, there is no hard and fast rule, and your common sense must be your guide to judge the appearance and taste.

Churn as nearly at sixty-five degrees as possible, and stop when the butter is like grains of wheat. Draw off the milk, and pour cold water into the churn. A few revolutions of the churn wash out the milk. The butter is then salted and all the water pressed out. An ounce of salt to a pound of butter. The square mold is preferred, as it can be wrapped quicker and neater, and packed closer for shipping. A good way to advertise your butter is to have your name on the paper box that encloses each pound package.

A Brush Better Than a Cloth

Wash all milk-vessels first in cold water. Use soda and a scrubbing-brush, as *dish cloths are not sanitary.* Rinse in plenty of boiling water, and put in the sun to dry and sweeten. The heat of the boiling water will help to dry them quickly. There is no better food than good milk, but it requires care and attention to every detail to have your milk and butter clean and pure.

Treatment for Indigestion

By Dr. A. S. Alexander

"PLEASE tell me what to do for my horse," writes a friend of FARM AND FIRESIDE in Ohio. "She is eleven years old and naturally good life, but she got run down and out of order about a year ago and has not been just right since. She will get to doing better, and I will think she is going to do all right, then she seems to go back. She is thin in flesh. I have driven her eight miles a day the most of the time, but she has done no other work and has had four quarts of grain three times a day and good hay. I have let her rest for the last month and fed the same, but she does no better. Her hide is tight and the hair dead. She has no life. Her appetite is good, hut I have to feed oil-meal in order to keep her regular."

The mare undoubtedly has indigestion and will do better if the feed is cut down one half until she can digest it properly. It would be well to have her teeth attended to by a veterinarian, also to clip the hair from her belly to a line with breast-strap of breeching and breast-collar, and from legs above knees to hocks.

Her drinking-water should be given before feeding, and she should have access to rock salt. Her feed should be whole oats, wheat-bran and mixed hay, with carrots, parsnips, rutabagas or a little silage to regulate the bowels. Put her grain in a wide-bottomed, shallow box if she bolts her food.

She should be worked abundantly, exercised every day and should occupy a roomy box stall. Bandage her legs from feet to knees and hocks each time she comes in.

If she does not respond readily to this care and treatment, give her a tablespoonful, night and morning, of a mixture of equal parts powdered saltpeter, dried sulphate of iron, powdered gentian, nux vomica and fenugreek, and continue for ten days; then skip ten days and repeat, if found necessary.

Mules Popular in Illinois

By J. L. Graff

SEE the faithful long-eared creatures in this corn-harvesting team, all stretching traces, though the driver has them well reined.

This picture was taken by the writer on an Illinois farm in a section where more and more mules are being raised.

Mules are excellent for plowing, too

Plowing in Illinois discloses the fact that much of the soil-turning is being done by this kind of power, in some instances by mules exclusively, in others by horses and mules. One of the best drilled plowing teams in northern Illinois is made up of two mares and two mules, the mares being the mothers of the mules.

Don't put too much cream in the churn at a time—about one half full is sufficient, and if only one third full so much the better. This gives ample room for the splashing and agitation of the cream.

The FARMERS' LOBBY.

President Wilson's Parable

By Judson C. Welliver

PRESIDENT WILSON begins a chapter of his recently published book with this parable: "In that sage and veracious chronicle, 'Alice Through the Looking-Glass', it is recounted how, on a noteworthy occasion, the little heroine is seized by the Queen, who races her off at a terrific pace. They run until both of them are out of breath; then they stop, and Alice looks around her and says, 'Why, we are just where we were when we started.' 'Oh, yes,' says the Queen, 'you have to run twice as fast as that to get anywhere else.'"

We've Run no Faster Than Alice

COMMENTING on this adventure of Alice, Mr. Wilson ruminates:

"That is a parable of progress. The laws of this country have not kept up with the changes of economic circumstances in this country; they have not kept up with the change of political circumstances; and therefore we are not even where we were when we started. We shall have to run, not until we are out of breath, but until we have caught up with our own conditions, before we shall be where we were when we started; when we started this great experiment which has been the hope and beacon of the world. And we should have to run twice as fast as any rational program I have seen, in order to get anywhere."

When I read that I wondered if Mr. Wilson were not a bit pessimistic. Next day I received a letter from a reader of the "Lobby," who asked if I wouldn't write down very simply the facts about the income tax that is soon to be the law of the land. Right away I realized that the income tax is the complete illustration of what happened to Alice that impressed Mr. Wilson so strongly.

In this income-tax matter, we have been running tremendously for a century and more, only to fail utterly to keep where we were when we started. We are about to get an income tax, by dint of a long fight that has been marked at length by the adoption of an amendment to the Constitution. The amendment doesn't give us the income tax, however. We have yet to pass the law, and to fit it into our complex fiscal system.

And yet the time was when we had an income tax, and nobody gravely questioned our right to have it. The question of the constitutionality of such a tax was never pressed very seriously when the legislation was passed, in Civil War times, to use this means to pay the war's cost. Back before the Civil War, whenever the income tax was proposed, there was always opposition, but it was not on constitutional grounds so much as on others. It was always urged that such a law would be inquisitorial, and that it wasn't desirable to have the Government prying into everybody's business. Also, it was protested that the tax would be sectional; the rich states would pay more than their proportion. But the idea of its being unconstitutional was not pressed. At last, after we had lived for most of a decade under an income-tax law, had repealed it because we didn't need the revenue any longer, and finally had passed a new one, the Supreme Court, in 1894, discovered for us that we never had a right to employ such a tax: it was all wrong!

So in 1894, after running a long way with the income tax, we found that we weren't nearly so far along as when we started. We cast about, and started again. We would amend the Constitution so as to permit such a tax.

There's Always a Tax, Even Though Invisible

SEVENTEEN years we have been running like mad to catch up with ourselves; and at last we have got so far as the amendment of the Constitution!

It would be difficult to find another such complete illustration of just what Alice and President Wilson were getting at. In the early days the court decisions seemed to indicate plainly that an income tax, if established, would be sustained. There was never sufficient pressure for revenues, until the Civil War imposed its huge burden on the nation, to induce the adoption of the system. Then the country went in for it, and a patchwork of legislation was the result. It was not popular legislation, but then paying for the tremendous wastes of the war was not very popular, no matter in what form the bills were presented. As the pressure for money became stronger, the tax was applied to smaller and smaller incomes, until at the end incomes as small as from $700 to $800 were being assessed.

In 1871 the income tax was repealed; it was regarded as a "war tax"; everybody hated all the war taxes; and when the Government was able again to lop off some of the huge revenue this tax came in for early repeal.

There were far-sighted men however who strenuously opposed repeal. They protested that there was no better plan of taxation, none more equitable, none which made the individual feel so definitely and clearly the direct weight of his taxes. People of this persuasion insisted that direct taxes were desirable; they kept the people sharply reminded of the fact that government was costly, and therefore needed to be watched; they tended to induce economy. Wrap up fifty cents of taxes in the suit of clothes you buy, and you don't notice that you are paying any taxes. Tax yourself a cent and a half on every pound of sugar you eat, and so long as it's added to the price of the sugar you don't realize it's a tax at all. In the end you get the pleasant notion that your billion-dollars-a-year government doesn't cost you anything. But it does, even though it is supported by indirect taxes.

Now the Law of the Land

AFTER the war income-tax was repealed there was demand that it be restored. The protective-tariff interests strongly opposed it, because they wanted revenue raised at the custom-houses, as a means to keeping protective rates amply high. So the income tax was off the books till 1894, when the Wilson tariff act was passed and an income tax was included in order to bring in revenue to take the place of that lost through reduction of tariff duties. This measure was promptly assailed as unconstitutional, and the Supreme Court very soon found it was. The Constitution says that "no direct tax shall be laid unless in proportion to the census." If the income tax were a direct tax, it must be apportioned among the States according to their population. The Supreme Court held it was a direct tax; it had not been so apportioned; it manifestly couldn't be, in fairness. So the income tax law of 1894 was destroyed; considerable parts of it were not affected by that decision; but by common consent the whole statute was dropped because it would have been discriminatory to enforce those parts which were left intact.

Again there was demand for the system's establishment, through amendment of the Constitution. Finally came 1909, and another tariff revision.

But the organization, in control of Aldrich, Hale and the old guard, cooked up the corporation tax, which they finally passed as a substitute. In order to get their substitute accepted they had to pass a resolution submitting to the States an amendment to the Constitution that would remove all possible doubt about the income tax.

An amendment to the Constitution requires the ratification of the legislatures of three fourths of the States; that is, to-day, of thirty-six. This amendment has now been ratified by thirty-eight, and will be approved by some more this year. It is therefore the law of the land.

This brings us down to date. The Democrats will include, along with their new tariff measure, an income tax. They expect to raise about $100,000,000 a year by it. This will be a very small levy, as may be imagined from the statement that if we were to impose as high rates as the British income-tax law imposes it would raise about $350,000,000.

But, as leaders in framing this legislation explain, it is not desired to attempt raising a very great share of the revenue in this way until the law has been tested.

It is Aimed at Big Incomes

CHANGES in our fiscal system will come with the income tax. At the outset there are two opposing views of it. Shall it be made to affect a very wide range of incomes—say, all down to $5,000—or a small range—say, all above perhaps $25,000? If you raise $100,000,000 a year from incomes above $25,000, the rate will be much higher than if you spread it over all incomes down to $5,000. The people with the very big incomes want it made "popular"—that is, applied to the widest possible range; a device, of course, that would really make it unpopular. It'll never be very popular at best with those who pay. On the other hand, many people want this tax to hit those with the big incomes; they want it to keep the great fortunes from growing too fast; to make them pay a big share of the governmental burdens.

Objection to income taxation as inquisitorial is little heard in Britain nowadays, because they have a careful system of taxing the income "at the source." That is, if you draw $25,000 salary as president of a railroad, the railroad reports that fact to the government, pays your tax for you, and takes it out of your pay-envelope.

Concerning Corporation Taxes

YOU never see an assessor. It's the same with incomes from securities. About two thirds of the British collections come thus from the source; the actual owner of the income doesn't ever get the money that represents his income tax. That system is to be worked into the new law for this country so far as possible, I am informed.

Although almost nothing has been heard of it in the daily news, I am informed on excellent authority that the effort will be made to couple the inheritance and income taxes together in the legislation that will pass this year. There is no constitutional bar to the inheritance tax, and it is very popular; much more so than income taxation. But some thirty-eight States already have inheritance tax laws; half of them on all inheritances, the others on inheritances that go to collateral heirs. The States are jealous of federal efforts to take this source of revenue from them, though their rates are so low that few of them raise any considerable part of their revenue in this way. If the inheritance tax advocates insist on working in this tax along with the income levy, the legislation will require still more time in consideration, and it is not unlikely that the income measure will be postponed for the present. If so, however, it will come up again at an early date, for there is general purpose in Congress to adopt it.

The present corporation tax is one per cent. on net incomes, and it produces $30,000,000 annually. Extending the same rate to individuals, it is estimated that from $30,000,000 to $60,000,000 more would be raised. The corporations are allowed exemption of their first $5,000 from taxation, and this estimate assumes that individual incomes would be exempted in the same sum. Indications are, in fact, that the new law will very likely impose a one per cent. tax on all incomes over $5,000. On this basis a $5,000 income would pay $50, and $10,000 would pay $100.

It is conceded that theoretical justice would exempt corporations from paying income taxes, because a corporation is only a means for earning profits for individuals; if they are taxed after the individual gets them in the form of dividends, that should, theoretically, be enough; to tax the corporation on its income, and then to tax the same money again, after it has got into the pockets of the shareholders through dividends, makes double taxation.

Just Because It's a Corporation

THE answer is, first, that corporations enjoy special privileges and opportunities because the Government permits them to use corporate charters, and therefore ought to pay for these; second, that the tendency to aggregating vast properties in corporate control justifies the check of income-taxing; and third, that any politician who advocates taxing individuals and exempting corporations would be the victim of demagogic howlings, and would never get the people to understand what he was doing. The third reason, I may add in all fairness, is the real reason why corporations will be included as income-tax payers.

It never looked fair to me to tax the income of a business twice, merely because it happened to be incorporated. There are exceptions of course. Probably it would be justifiable to require the great corporations which enjoy rights of eminent domain and the like to pay the income tax; but the modest industrial concern, that incorporates as a means to aggregate capital together in the most convenient way, certainly suggests double taxation in an unfair way.

However, I'd be a poor politician. I don't believe any corporation ought to be "soaked" simply because it's a corporation, any more than I think it should be able to break the law without the ringleaders of the offense going to jail—just because it's a corporation.

The ADVENTURES of a BENEFICIARY

by W. T. Nichols

Illustrated by W. C. Nims

Characters of the Story

EMERY WRIGHT, a young city man whose claim to his Uncle Nathan's fortune depends upon his successfully managing a Revolutionary relic in the shape of a man-propelled river ferry in New Hampshire. In his ignorance he is persuaded by "Chicken Smithers" to buy six "mated pairs" of chickens. They are "Alderneys" and "Holsteins." A large Shanghai rooster has a bantam hen as an affinity.

While Wright is sketching he is attacked by an angry "cow" that chases him across a field, and through this episode he learns that cows are sometimes bulls.

PETE, a half-witted youth, who seems to "come with the ferry." Later Emery Wright learns differently and has to deal with Pete's uncle, who demands wages for Pete's services.

MISS LANSING, a young lady whose parents have a summer residence close to the hereditary ferry. She meets Mr. Wright on his first trip across the ferry. He falls at the same time into love and the river. He rescues himself and the ferry and then determines to learn to swim.

MR. DODD, the attorney, who makes known to Mr. Wright the terms of his uncle's will and who is to give the nephew any necessary legal advice.

MRS. HUTLEY, a middle-aged woman, knocked senseless by Wright, who mistakes her for a thug.

When Emery Wright arrives at the ferry, his adventures begin. This is a continuation of them.

Chapter XXI.—Nice Points in the Law of the Common Carrier

THE quiet of mid-afternoon lay upon the countryside, and a drowsy landscape spread before the eyes of Wright, who sat on the door-step of the ferry-house and occupied himself intermittently with the cleaning of the big duck-gun. The intervals in this labor he divided between the study of a certain document, being the Dodd Compendium of the Law of the Common Carrier, over which he knitted his brows, and a survey of the living-room and its occupants. By one window sat Pete, huddled over a bound volume of a war-time illustrated journal, and by another was Mrs. Hutley, pallid of cheek and with a region of prismatic coloring beside one eye imperfectly concealed by the layers of bandage, which rose, turban-wise, above her head. For Mrs. Hutley was not dead. She had not been slain there in the shadows by the waterside, though for some terrible minutes Wright had believed her about to claim the services of that other ferryman who sails from our world to the next. The Dentist was stationed before the lady's chair with his huge head in her lap and thumped the floor solemnly with his heavy tail in token of sympathy. Whereupon Mrs. Hutley patted the head, and the dog's eyes closed in dreamy contentment, for Mrs. Hutley had achieved a conquest of the Dentist, in spite of his apparent ferocity.

An ancient top-buggy, drawn by a leisurely nag, hove in sight, and approached surely, if slowly.

"Somebody is coming, Mrs. Hutley," Wright said over his shoulder. The creak of a chair moved back from the window, a sigh which bore semblance to a groan, and a shuffle as the Dentist shifted his position bore testimony that the warning had been heeded. For one reason and another Mrs. Hutley and the ferryman were agreed that the lady in her mummified state was no sight for the casual passer-by. Wright was watching the buggy and its occupant, when the vehicle made a half circle before the door. He knew that this was to be a social rather than a professional call.

"Howdy, Mr. Plummer," he said.

"Af'noon!" Uncle Nathan's executor responded. "How be ye?" he added with unexpected and explosive cordiality.

"Fine!" Wright said promptly. "And I trust you're well, sir."

"I'll do, I'll do," the visitor said, crisply. "Hain't changed things much, have ye?"

"Well, no," Wright admitted. "Would you like—that is, do you feel you ought to come in?"

"What for? What have I to say? Ferry's yours, ain't it?"

"Yes—and I'm the ferry's," Wright said with feeling.

With a resounding splash it plunged into the river

"Well, guess I'll be goin'," said he. "Just dropped in, for pure friendliness, in passin'. Nothin' special on your mind, eh?"

"N—o. That is, nothing much except a message I suppose I ought to send to Mr. Dodd. Zeb Simonds has sued me. Fellow brought around a paper this morning. I can't make out much from it except that it's about a bull of his that—that died a while ago."

"I know—yearlin', family pet," Mr. Plummer said. "Seen Zeb a while ago. He told me."

"Oh, did he?" Wright observed. "But you'll let Mr. Dodd know, please."

The executor gathered up his reins and clucked to his horse. "Glad to obleege!" he responded and drove away.

Wright reverted to his hearthstone to experience a surprise. Mrs. Hutley was on her feet, swaying unsteadily, but with that in her mien which suggested dominating purpose.

"Look here, Mr. Wright!" she said. "You heard what that old gray rat said, and I heard it, too. 'Hain't changed things much, have ye?' And him cacklin' inside like a settin' hen locked in the wrong coop! Laws a massy! Hain't changed things! I'll bet you ain't been house-cleaned since the flood. I knew it meant something, when I seen all the family last night, but mostly Dowager Alexandra. She was pizen-neat, Dowager Alexandra was. I'll house-clean you, I will; I'll—"

"But, my dear lady!" Wright broke in. "Consider your health. We're all comfortable. We get along beautifully, Pete and I. We're snug as—"

It was the lady's turn to interrupt. "Fiddlesticks and fiddle-de-dee!" she said, but not unkindly. "There's cobwebs here of the crop of '62. Now, you and that boy just keep out of my way—that's all I ask. I'm goin' to manifest my faith by works."

Wright instinctively retreated a pace or two.

"My dear Mrs. Hutley!" he expostulated. "It's kind of you, and thoughtful, and sweet, and all that, but you mustn't! There's a difficulty, don't you see?"

"There's dirt—a heap of it!" the lady responded. "I don't see nothin' else."

"But the—the—you know," Wright urged, somewhat incoherently. "We're bachelors, single men, Pete and I, both of us, and the Dentist too for that matter. It's a—er—er—a kind of monastic establishment, don't you see? It sounds inhospitable, I know, but—but—I don't see how you can stay here three or four days."

Mrs. Hutley set her hands upon her hips in the pose which lends itself so admirably to fixity of purpose.

"I'd like to know why not?" she said determinedly.

Wright dropped circumlocution. "Because you can't afford to compromise yourself, Mrs. Hutley," he said firmly.

"Compromise?" the lady repeated. "That's just what I won't. I said I'd house-clean you, and I will, if it takes a month!"

"No, no! I didn't mean that way," Wright hastened to explain. "I meant—oh, the other thing, you know; what people might say, if they knew you were here; the—er—er—the talk, and gossip, and—er—er—the scandal! Everybody around here would say things."

"Oh, that's it, is it?" A smile of scorn began to spread over her features. "That kind of compromise, eh? Well, I ain't worryin'. I've lived quite a while, and I've married three men, and I've buried one, and got my bill from another, and kinder mislaid No. 3, but I ain't never been compromised, and I ain't in no particular danger now—not so much as you be, I guess."

"Don't think of me!" the ferryman began, but again Mrs. Hutley cut in.

"But I will think of you! I'll keep out of sight. You and Pete can hustle in the water and firewood, and I'll tend to business inside."

The tooting of a horn, not the ferryman's signal, but the warning of an approaching motor-car, afforded Wright a diversion. He turned to the door, but almost instantly he was back in the room, catching up Mr. Dodd's instructions and perusing one of the paragraphs.

"Pete, I want you," he said briskly. "Take eight pennies out of the tin box on the shelf and go down to the boat. If I carry anybody across, you are to get on the boat too. And you're to be a passenger, mind you! You pay me four cents right away—remember that! Eight cents—four each way—you pay me, sure!" Wright told him, as the boy began to rifle the treasury.

The scow slipped away from the bank

"I pay you four cents. Yes, I know," Pete said proudly. He was well down the bank when the red car reached the top of the descent.

Lomond's dominating note was the supercilious. He cast a glance at the house, saw something which seemed to amuse him and showed his teeth in a grin; but all he said was "Here you! I want to be taken across." Even while the car was being run upon the scow he remained silent, and it was left to Wright to open whatever conversation was to be held by the two men.

"Lomond," the ferryman said before he pushed off, "I suppose you insist upon making this trip, but I'd like to have you put yourself on record."

"Common carrier, my friend," the motorist said.

"I must warn you this vessel may be a common carrier, but it's a carrier of passengers," Wright said. Pete had stepped aboard, and as if to point the remark the ferryman gravely took from the boy four of the pennies.

Lomond pulled out a quarter and tossed it to Wright. "Well, I'm a passenger too," he chuckled.

"And you still insist upon being carried over?"

Lomond sank back in his seat in high good humor. "Go ahead, common carrier; go ahead!" said he.

There must have been full vigor in Wright's application of the pole to the bank, for the scow moved out into the river almost with a jump. A third of the way across Wright laid down his pole, picked up a pail used in bailing and stepped to the side of the car. Bending down he placed the pail directly under a little cock below the seat; turned the cock and stood up, assuming a posture which might best be described as preparatory to resisting a possible attack.

"Hey! What the devil are you doing?" Lomond shouted. "Stop that idiocy! You're draining off the gasolene, and I'm short anyway!"

"So that is gasolene, is it?" Wright answered. "I suspected as much, and it makes my duty absolutely clear. As a common carrier I have no right to transport explosives or highly volatile and inflammable liquids on a vessel engaged in passenger traffic."

"That's rot. Turn off that cock!" Lomond commanded. He started up too as if about to quit his place for the deck, but Wright waved him back.

"Keep still!" he said sharply. "I'm saving you and me and Pete and the boat from the danger of an explosion."

Lomond's answer was to spring to the planking, but as he did so, Wright deftly emptied the pail over the side, put it back in place, and possessed himself of a stout club.

"You just linger where you are, Lomond," he counseled. "I'm running this boat, and you and your traveling magazine of explosive have no business here."

Lomond neither advanced nor retreated. "I'll have the law on you for this, you sneak!" he shouted, keeping his eye on the club. "You'll pay a dollar for every drop of that gasolene that you empty into the river."

"Softly, softly; it ill becomes you to threaten," quoth Wright. "And you needn't be afraid of this stick. I'm merely acting as your friend by keeping you from the assault you'd like to make on a common carrier in the performance of his duty. You'd rather keep out of jail as long as you can, wouldn't you?"

"You won't!" Lomond growled.

Wright knelt swiftly, turned the cock and again emptied the pail into the river.

"Danger's all over now; barely a drip is coming," he explained. "And now I'll get out the oar and scull a while. Won't do to drift too far down stream, you know."

Lomond gnashed his teeth, checked himself with an effort, and with his back to the ferryman glowered at the shore. The scow came to the bank a little below the customary landing, but at a spot where the slope was fairly smooth, albeit a few degrees sharper than where the worn tracks ran.

Lomond climbed into the seat and grasped a lever. There was a snap, then a series of reports; the car moved forward; its front wheels struck the ground, and the hood seemed to rise as the machine began to climb the grade. Lomond felt the jar of his drivers leaving the stage. He was ashore, with power to make good his escape! He sprang up and shook a fist at the ferryman.

But victory was not to be snatched from the maw of defeat. The climbing car held motionless for a fraction of a second and began to slip backward. Lomond missed his dive for the brakes. The car gathered momentum on the sharp grade and with a resounding splash plunged into the river just as the scow slipped away from the bank.

Chapter XXII.—An After-Midnight Alarm

BY GUESS it was two o'clock in the morning. A dog barking fiercely had roused Wright from a heavy slumber, and the report of a gun, discharged close to the house, brought him from his couch with a bound.

Wright could hear Pete moving in the corner of the living-room, while from above stairs there were sounds indicating that Mrs. Hutley was astir in the boudoir. He heard her call and Pete make reply with some reference to the Dentist; and thus satisfied that neither of his charges had come to harm, he emerged from the house.

The night was dark, with a clouded sky and a steady breeze blowing from the northeast. Once he thought he made out a man's voice in a muffled cry, and again he was sure of the beat of feet running rapidly and seemingly at a distance. Yet the immediate neighborhood of the ferry was as quiet as it normally would be at such an hour—quieter, indeed, for ordinarily the growling of the big dog could be counted upon were anyone stirring. So far as he was concerned, the earth might have opened and swallowed him.

With his gun in readiness to fire, Wright stole forward, stepping softly, taking advantage of such cover as was afforded. He made the circuit of the house, without discovery of any sort, and turned his attention to the barn. When he came up to it, a cloud of smoke was swept into his face, and the secret of the alarm was explained. His barn had been fired, and with the wind that was blowing, barn and house might go.

Three months earlier Wright might have had difficulty in picturing the procedure of a property-holder who discovers the yellow flames crackling on the windward side of his barn, but now he knew instinctively what to do and how to set about it. Mrs. Hutley was drawing water, Pete was hobbling with pails from well to fire, and Wright himself was wielding ax and bucket, when the earliest of the volunteers arrived. How they caught the alarm, how so many of them should have been aroused and how so speedily they presented themselves upon the scene were problems which later on he could not solve to his satisfaction. The one feeling roused by their coming was hope of saving the barn, and this feat was accomplished.

Dawn had come before the crowd began to scatter. Wright had a breathing-spell, in which he looked over his helpers, a little shaken in the classification he had made of the sheep and the goats, but finding a grain of comfort in that neither Zeb Simonds nor Lomond was among them. Then somebody brought word that the dog had come home, dragging himself along with hanging head and a badly wounded foot; and Wright was about to turn to care for the animal, when Pete, prowling about the barn, made an odd discovery. Under a clump of bushes the growing light revealed an object which excited his curiosity. Wright saw the boy kneel, grope for an instant among the twigs and then raise into full view a small lantern with a staring bulls-eye on one side. Wright saw this, as did a half dozen men who pressed about him. He took the lantern in his hands, and in view of them all turned it over. And there on the back, stamped roughly but clearly in the metal, was a number—3343. A murmur ran about the group. All of them knew that 3343 was the number of the dashing red motor-car.

Chapter XXIII.—The Dentist's Treasure

MISS LANSING'S manner was not precisely icy. She sat very erect in the pony-cart, and her glance was held in the general direction of the ferryman, but focused on a point a foot above his head.

"No, Mr. Wright, you are quite mistaken," she said. "I—we—that is, all of us heard of the fire and—ah—ah—of other things. And I need not detain you—oh, no indeed!"

"But you're not detaining me," the young man objected with reason; for he had stopped Noddy's course by the simple expedient of stepping in the pony's way, when he detected an evident intention on the part of the pony's mistress to pass him by.

Miss Lansing still studied space above Wright's head. "Very trying weather, isn't it?" she observed.

"It's abominable," Wright agreed. "But, do you know, I'm surprised you shouldn't be well entertained? We've certainly tried to furnish a good deal of excitement lately. And so you've heard all about the fire? And it's an old story in two days? I'd supposed it would be good for a nine-day wonder at the least."

"I have heard all I care to hear, Mr. Wright."

The young man's smile was too engaging to have been wasted upon a person who declined to look him in the face.

"There I feel deep deprivation," said he. "I'd rather counted on telling you, because—well, because it's a good scheme to get things at first hand. I didn't know the way the yarns would reach you. Always a chance for—well, for personal bias or that sort of thing. But you've heard all you care to hear, and you don't seem pleased. I'm sorry for that!"

"I am not pleased!" There was that in the tone which left no doubt of the substantial accuracy of the statement.

"That's too bad," Wright said sympathetically. "But perhaps you didn't like that dive of the auto? Still, you know Lomond hired a gang of railroad section men to hoist it out of the river, and I dare say it will be running again, and as good as new, in a week or so."

Miss Lansing bit her lips. "I care nothing about that whole affair," she said decidedly.

"Then it must be the fire. But surely that wasn't my fault. It happened once, I'll admit; but I'll try not to let it grow into a habit."

The girl shook her head. "No, no; it wasn't the fire," she said. "There was something altogether different."

"Then it was something definite, and it is something definite!" Wright said in triumph. "Now, please, what was it, and what is it?"

Miss Lansing dropped her eyes, not in maidenly confusion, but until they were looking straight and searchingly into his own.

"Mr. Wright, do you expect me to tell you?" she demanded.

The young man met her scrutiny unflinchingly. "Whatever I expect, I sincerely hope you will tell me," he said.

"Noddy!" cried the pony's mistress, but Noddy missed something in the command; for he simply cocked his ears and stood contentedly where he was. Wright dropped a hand upon his back, patting the shining hide approvingly.

"There's a good deal of cross-purpose about a hereditary ferryman's lot," he said. "Often—too often, perhaps—I don't care. Other times I do, and when complications rise between me and people who've been good to me I care exceedingly. I should be deeply grieved to think that I had in any way given pain or ground of offense to your father and mother, for example, or to you. You know about the rows I've had—feuds, if you'd prefer to call them so; but they don't rise as the counts in the indictment against me. It's something else; and on my word of honor, Miss Lansing, I don't know what it is that I've done. Now, in fairness, common fairness, I ought to have my chance. Are you going to give it to me? I ask, but that is all I ask—now."

There was a moment in which the scales hung in doubt. The girl was looking at him with troubled eyes, in which doubt and belief strove for the mastery. At last came decision.

"You have no right to ask—ask that," she said, not bitterly, but with a finality he could not ignore. He stepped back, and her road was clear; and then he was standing, hat in hand, watching the little cart, as she drove slowly toward the white house among the trees.

How long he stood there he hardly knew. The time might have been measured by seconds or by minutes until Lomond, carefully following the beaten path by the side of the road, discovered him. Lomond was garbed freshly and seasonably and had contrived to keep the gleam of his patent-leather shoes undimmed by dust; and beside his outward evidences of opulent prosperity there was that in Lomond's expression that spoke of a spirit at ease.

"Say, you!" was his salutation. "Know what I've done to you and what I'm going to do?"

Wright felt his pulses quicken. There were uses in a good, whole-souled feud after all.

"Rather more accurately than you may suspect!" he answered.

"Bah! That's bluff!" Lomond retorted. "I've seen my lawyer, and there's three ways we can get at you, criminally and civilly. We're going to try all of 'em."

Wright permitted himself the luxury of a sneer. "When a thug of your type takes to law, it shows he's down to his last card," he said. "You began by offering to punch my head. Since then I've done you a few turns, and you've tried to do me a few; and here you are, for all your blustering, running like a cry-baby to your lawyer. You can sue me and be hanged, but if you try the arresting business, I'll cut loose at you. And that won't be any police-court case either, as I don't need to remind you."

Lomond licked his lips. "I don't know what you're driving at, and I don't greatly care. I'm going to sue you, and I'm going to have you arrested; but that needn't interfere with the other thing. I can't very well stop to thrash you now, for I've got an engagement, you can guess where"—here he showed his teeth in a grin—"and I'm particular about being on time. But between 5:30 and 6 o'clock I'll be coming back this way, and this will be as good a place as any other for a clean, workmanlike job."

"None better!" Wright said warmly. "Five-thirty be it!"

"Allow me a little leeway; I may hate to tear myself away," Lomond said. He leered in a fashion which filled Wright with increasing wrath that the combat could not be started forthwith.

But there were still hours to be disposed of, and, having no other asylum, Wright went home. There he found Mrs. Hutley with a torn fragment of cloth in her hand.

"Dentist's mighty sot on this rag, Mr. Wright," she said. "I can't seem to keep him away from it, and it's a nasty thing to litter up a clean house with. But he won't be happy 'less he has it, and I hain't really got the heart to deprive him, and him that hurt and pulin' and downcast! He brought it home that night of the fire, Mr. Wright, and he's been like a hen with one chicken about it ever since."

Wright took the cloth, and then almost dropped it.

"I recognize the pattern, Mrs. Hutley," he said. "So the dog brought it home the night of the fire, did he? I guess it helps to explain several things—how he happened to be shot, for example."

"Lord-a-massy, Mr. Wright, but what you drivin' at?" she asked, breathlessly.

"Simply this, Mrs. Hutley," the young man told her. "If we had a local newspaper at the ferry, and if it had a society column, it would have to record that our eminent fellow citizen, Zeb Simonds, Esq., has recently been moved to mark the progress of events by purchasing a new pair of the justly celebrated three-dollar pants."

[TO BE CONCLUDED IN MARCH 29TH ISSUE]

Easter Eggs and Cards

THIS Easter brings a novelty in the way of decorating eggs, one quite different from the time-worn methods,—egg dyes, onions, boiling with pieces of calico,—yet one which is within the powers of any person with a slight knowledge of drawing.

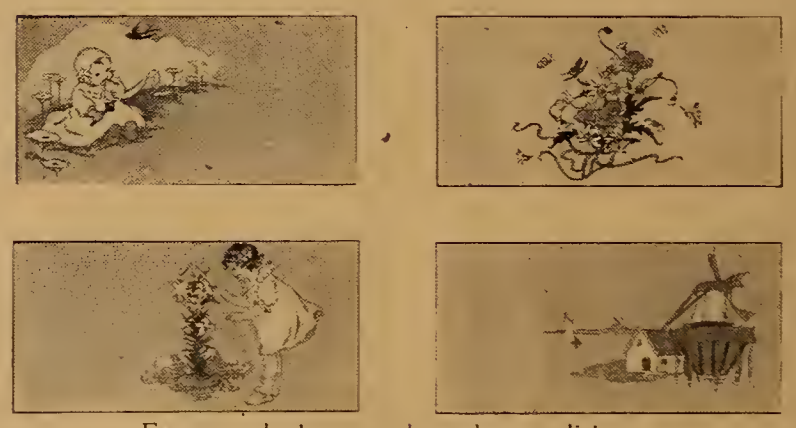
For this method of decorating are used the blue-print powders sold very reasonably by any store or mail-order house that carries photographic supplies. The powders are free from some of the objections which may be offered against the dyes sold for eggs, they are inexpensive, and the results obtained are new.

To decorate the eggs, neither a camera nor any other photographic accessories are necessary. As soon as the powder is received, mix it in solution according to the directions on the package, and put it in an amber-colored bottle or one covered with red or black paper. The solution must be kept away from daylight, and if that is done it will keep indefinitely. Even the coating of the eggs with it must be done under artificial light.

When the solution is ready, boil the eggs, or else blow out their contents. When the egg is prepared as desired, it must be thoroughly cleansed from dirt and grease, using washing-soda to remove the latter, then dry the egg thoroughly. to the sun; the egg is then washed as before described. The design, which is protected from the light by the paper cutout, is left white by this process, while the remainder of the egg is a beautiful blue. Lettering may be done upon this blue ground by the use of a brush dipped in a five-per-cent. solution of potassium oxalate—five cents' worth of the latter being sufficient for the work of several seasons. This solution leaves a white mark upon the blue of the egg; care must be taken to keep it from spreading outside of the desired limits, and the egg must be again washed thoroughly after its use.

If you happen to be an amateur photographer and have some small film negatives on hand, either landscapes or portraits, they may be used to print upon the egg coated with the blue-print solution as just described. An ordinary tumbler serves as a printing-frame, the egg and film being placed inside and held in position by means of sawdust or meal pressed into the remainder of the glass. As the progress of the printing cannot well be observed, it is best to expose a sheet of paper coated with the same solution under another negative of the same density at the same time; examination of this print will serve as a guide to determine when the design on the egg print is finished.

Easter eggs decorated in a new way



Easter cards that record weather conditions

The next step depends upon whether one wishes the design to appear in blue upon a white ground, or in white upon a blue ground. If the former, mix a little of the blue-print solution in a dish with a pinch of gum arabic to thicken it and keep it from spreading; then, with brush, pen or match dipped in this mixture, letter or draw upon the egg. When the sketching is completed, place the egg in the sun for a few moments, and then wash carefully in several changes of pure water; the design will appear in a beautiful deep blue tone which is indelible.

Instead of trusting to your skill in drawing, you may, if you prefer, cut out the little figures appearing upon the children's pages, dip them in the solution, and press them against the egg. The figures on the eggs illustrated upon this page may be cut out and used in this way. After they have been in contact for a moment or so, remove the paper and expose and develop the egg as before described; this will leave a solid blue image with the same outlines as the cutout, and upon a white ground. Stars, circles, rings and any other desired figures may be made in the same manner.

Should you prefer the design in white upon a blue background, immerse the egg for five minutes in the blue-print solution to which the gum has not been added; remove the egg from the solution, and dry. To letter or to make white designs upon this ground, cutouts of paper may be affixed to the egg and the whole exposed

While none of these preparations should penetrate the shell of the egg, it is possible that they may in some cases do so; should the meat of the egg be in any way colored by them, it is safer not to eat it.

In Easter cards, also, there is something different which will appeal to the country woman who wishes to remember her friends in some slight way on Easter.

To make the cards, one must have white blotting-paper or ordinary white paper, although the former is preferable, because it has a softer finish and therefore looks prettier. Small bits of white satin or silk also may be used to advantage.

Let a druggist or chemist prepare for you the well-known formula of chlorid of cobalt, chlorid of sodium and gum arabic. It is the preparation which renders materials dipped into it sensitive to the moisture in the atmosphere. After being treated with the solution, the cards will be blue on clear days, lavender when the weather is changeable, and pink when rain threatens.

When the card has been prepared, it may be decorated in some attractive way. Flowers cut out and pasted on with the leaves and stems drawn in with water-colors, the stamens and outlines put in with gold paint, is one way of using this sensitive paper; or prettier than any is a landscape to which the sky has been treated as above and which changes color with the weather indications. These small landscapes may be framed with a white passe-par out binding.

Sunday Reading

The Easter Hope

By the Rev. Richard Braunstein

Because I live, ye shall live also.
—John 14, 19.

IT HAS been said: "Some Christians follow Christ only as far as Jerusalem; they believe in the Teacher and Exemplar. Others follow Him to the cross and to the tomb. They believe in His passion; they emphasize His death, His sacrifice, His blood. Easter carries us beyond the cross. He is risen!" This fact that He is risen is the burden of the Christian's song and his theme, not alone on Easter day, but every day of his life. The writer once read of a preacher who, every Sunday morning of his life as a minister of the Gospel, gave out an Easter hymn. He wanted the world to know that Christ was risen.

The first Easter morning was preceded by dark hours. The Leader of that disciple band lay in the tomb. It was cold and dark in the hearts of the disciples. But a change occurred. On the morning of the third day the Lord of life stepped forth from the gloomy vault. Armed sentinels could not retain what they looked upon as mere decaying dust. At once began the joyous transformation in human lives. Sad and lonely women came to the grave to do honor to His body, but departed with the news of an empty tomb. Mary Magdalene returned in search of her Lord and found Him alive and hastened back to tell the blessed fact. Peter and John hastened to the spot and discovered the confirmation of the testimony of the women. The apostles, at different times, came in contact with their risen Master and went away light-hearted and hopeful—as all do who come in contact with Him. And the world has been hopeful ever since. The glory of His rising is being told, and whenever men hear it gladness fills their hearts; for the Easter news puts cheer and exultation into the lives of all who appreciate its spiritual significance and make a right use of its teachings. It tells of life and immortality beyond the grave. It is a demonstration that "our loved ones lost a while" shall come forth in newness of life in His own good time and way. It means that there shall be reunions in another existence. The question of the ages, "Shall a man live again?" has been answered. It shows that the grave has been robbed of its victory and that death has lost its sting.

Dr. A. C. Dixon says: "After the battle of Inkerman, in the Crimean War, some soldiers, gathering up the dead for burial and the wounded for the hospital, came upon the body of a young soldier lying with his head upon his arm as if asleep. As they picked him up, they heard something tear, and looking more closely they saw an open Bible upon which he had placed a finger of a hand congealed with blood. Scanning the page more closely, one of them read aloud the words: 'I am the resurrection and the life.' With that Bible they buried him, but he had died with the hope that some day he would live forever."

Easter comes in the springtime. Life is in the air. The spirit of renewal is felt everywhere. The breath of approaching life sifts through trees and grasses. Flowers bloom. Birds sing. Hope springs triumphant. It is resurrection-time. All around us Nature is preaching Easter sermons. The theme is "He is risen." It is symbolical that we too shall rise.

When the Master was laid away in the tomb, it was a dark hour for his friends and followers. When we are forced to open our arms and a loved one flies away, it seems as if the sun had ceased to shine. It is a dark hour for us. But we have the promise of the text: "Because I live, ye shall live also." It is this promise ringing down the aisles of time that causes the sunrise after our dark night.

We face a stern fact. There is a dark valley. Drawn by ties of earthly love, we are accustomed to visit the "White City." Those white stones with their chiseled inscriptions tell us the story of our destiny and the power of man's last enemy. But we cannot stop there. There is too much light, and it would be a flood of light but for our dullness. There has been expectation—always. The lowest savages have ideas as to existence after death. It is the universal instinct planted in the soul by God, and God never misleads. A philosopher says: "The Creator keeps His word. What I have seen teaches me to trust the Creator for all I have not seen."

"Love does not cease at death. It is eternal. The object of love must live too or that love is disappointed," says a recent writer. The story is told of a young boy who was flying a kite. He could not see the kite because it was hid in the fog. But he knew that the kite was on the other end of the string he held. *He could feel it tug.*

Those whom we love have gone up yonder. There is a mist before our eyes. We cannot see them, but the memory of them tugs at our hearts. But we have our text and other texts and evidences telling of immortality. When we remember these, the winter of our discontent passes out of our hearts. The time for the singing of birds is come. Let the glad bells proclaim it. Let the sweet flowers bloom it, and let them smile and nod for joy. He is risen! Let the choirs of earth and heaven chant the anthem of life forever more. Be of good cheer. Death is dead. It is the birthday of the soul. A woman quoted these words from a friend's letter: "We struggle through the winter only to turn around in the spring to see how many we have lost." Easter says no! Rather see how many you have beyond the power of losing—beyond time and pain, beyond sickness and sorrow.

We are thinking at this Eastertide of the Easter pilgrims, who have wandered long in a way checkered by shadow and light, tears and joy. Beholding them vanishing, we wonder where they might be. The Easter hope tells us that they are mansioned by light, baptized by love, fountained by life and home at last. They rest from their labors. They wander through green pastures. Weary, they sit by still waters. O hope eternal—O blessed Easter hope! Come to us this day.

The Test of Abraham's Faith

By Rev. Chas. O. Bemies

Sunday-school lesson for March 16th: Gen. 22, 1-19. Read Chapters 22-23.

Golden Text: I desired mercy, and not sacrifice; and the knowledge of God more than burnt offerings.—Hos. 6, 6.

The Bible, especially in the Old Testament and the four Gospels, is a rural-life book. Let us interpret it accordingly. We believe that the Bible is a true record of facts.

TESTED seed-corn is worth more than the doubtful kind. The blacksmith tests his spring not to break it, but to prove it. If Abraham became the established father of the full-of-faith people for all generations, his faith had to be tested. Don't think that God tempts any man with evil; a man is tempted when he is led away with his own lusts and enticed by the devil. God tests, not tempts. He couldn't be God if He commanded us not to sin and then directly tempted us into sin!

Since Isaac's birth Abraham had been living a retired peaceful existence on Easy Street in the town of Beersheba; like many farmers who move to town with nothing to do and simply stagnate. Both for Abraham's sake and all generations and the heathen around him he must have one crowning faith test. The heathen practised human sacrifice with the exalted principle of offering their best to their false gods. Could Abraham match the devotion of his heathen neighbors? Would his God prove greater than heathen idols? God tested the matter, and told him to take his only son to Mt. Moriah and sacrifice him as a burnt offering. That would take the nerviest kind of faith! None of us would have done it. But Abraham believed, although God had repeatedly promised to make childless Isaac the father of uncounted descendants, that God would raise Isaac from the dead after offering him up. Only a brave man could believe that. God's commandment was enough. God wasn't going to lie to him! Your weaklings are afraid to believe God,—cowards. A man is commanded to be a Christian. With all his courage running out from his toes he flabbily whines, "I would if I thought I could live up to it." If a man believes God will grow the seed he throws into the ground, he ought to be brave enough to believe God will keep and develop his own soul. Man must not be a weak-hearted quitter.

Abraham prepared every detail for the offering, including the split wood, before starting on the silent fifty-mile journey. Upon arrival near the mountain, Abraham transferred the wood from the animal to Isaac's shoulders, told the young men to remain behind, and he and Isaac went on alone. Isaac finally curiously asked his father where the sacrificial lamb was. Consider that steadfast confident answer! "God will provide Himself a lamb for the offering." Abraham thought of Isaac as the lamb! With grim heart-tearing determination he built the altar and placed the wood. Abraham didn't hesitate. He bound the astonished but submissive Isaac on the altar. Isaac was no little fellow, but a vigorous young man. Could you carry that animal load of wood two miles, and up the mountain? Isaac did. He could easily have resisted his father or have run away. Isaac's obedience matched his father's faith! Abraham went right on steadily with the ceremony and raised the knife to kill his son. Abraham's faith went the limit. God was satisfied with the test. With soul-swept delight and gratitude Abraham looked up, saw the ram caught in the bush and sacrificed it instead. God indelibly taught Isaac the lesson of absolute faith also. God proved superior to idols and Abraham's faith to that of the heathen. God condemned human sacrifice.

Isaac and Rebekah

By Rev. Chas. O. Bemies

Sunday-school lesson for March 23d: Gen. 24, 57-67. Read Chapter 24.

Golden Text: In all thy ways acknowledge Him, and He shall direct thy paths.—Prov. 3, 6.

THE Hebrew nation is the only race which is of pedigreed stock. They are line bred. God selected Abraham from his own kin and developed him to head the new race. Abraham in turn orders his chief overseer, Eliezer, to go up to Haran and select a wife for Isaac from his relatives. He made Eliezer swear he would not select Isaac's wife from among their heathen Canaanite neighbors. No cross-breeding allowed. Then and now in those countries the parents choose wives for their sons, and they frequently do not see them until married.

The secret of happy marriages is found in sane selection and sincere prayer. If marriage is holy, prayer should be its basis. Abraham and Eliezer prayed God to select Isaac's wife. The overseer started with ten camel-loads of equipment and rich presents for the journey and for the parents of the unknown wife. After the five-hundred-mile northward journey, Eliezer rested his camels outside Haran by the city well and prayed God to select the proper girl for Isaac by a certain sign. God answered quickly. A young woman, Rebekah, came and filled her pitcher. Eliezer asked for a drink. The girl not only gave him a drink, but volunteered to water all the camels. This was the sign agreed upon between Eliezer and God.

The overseer gave her a gold ornament and two bracelets, asked her whose daughter she was and for a night's lodging. The girl not only promised him lodging, but food and shelter for the camels, told him that Bethuel was her father and Nahor her grandfather. Nahor was Abraham's brother! Eliezer told her that Abraham was his master. She ran home and told her folks about the stranger. Laban, her brother, ran back and cordially welcomed him to their home, where Eliezer told all about Abraham's successful life. Hospitality is now mostly a lost art. Country people are not so neighborly as formerly. The railroad, trolley, rural mail delivery and telephone tend to keep people apart more. The schools and the churches should get busy and institute good, profitable social occasions of various kinds and get the people together more, and make country life more worth while. It's the salvation of many a country church too. Eliezer explained the object of his journey and the Lord's choice. Was the girl ready to accept? Certainly; right away! After affectionate farewells and presentation of many costly presents to the parents, the caravan started next morning on the long southward trip, and Isaac installed Rebekah in state in his deceased mother's tent.

On that first holy Easter morn,
Our Christ arose all life to bless;
So, friend, may we awake new-born
To Earth and Heaven's holiness.

—Gertrude K. Lambert.

Do You Want This Pony?

Will be Given to Some Boy or Girl

THIS is "Duke," the most beautiful Shetland pony you ever saw. He is a chestnut with shiny hair and the fluffiest, silkiest mane and tail in the world. "Duke" is about 42 inches high and weighs 350 pounds. He can really travel faster than lots of horses and is as gentle and playful as a kitten. Yes, he loves children and you will find that he will soon follow you around just like a big dog. Don't let anyone persuade you that you can't win "Duke," because our plan of giving away ponies makes it possible for children who live in small towns and the country to have ponies. We have already sent ponies to children in almost every state in the Union. "Duke" is a prince of playmates—just full of fun and mischief. Of course you will be the happiest child in the land if you win "Duke." He is the pick of several hundred of the very best ponies in this country.

This is "Duke" the Prince of Playmates

Buggy and Harness and Complete Outfit

WHEN you win "Duke," the Pony Man will send you, in addition, his beautiful buggy and harness shown in the illustration at the bottom of the page. Never was there a more elegant and stylish outfit than this. The buggy is a four-wheeled buggy with a whip-cord seat and cushions, nickel trimmings, and rubber tires. The harness is a jim dandy of the finest leather and just fits "Duke." It has highly polished nickel trimmings and you could not have a more handsome outfit if you were a little millionaire. This is the best chance you ever had to get a Shetland pony, and you ought to jump at this chance. We are going to send "Duke," together with this handsome outfit, right to the very door of the child who wins him, without a cent of cost. It is hard to buy a Shetland pony with complete outfit, such as we are offering, for less than $400 cash.

Send in Your Name To-day

"Duke" Will be Given to Some Lucky Boy or Girl

FARM AND FIRESIDE'S Annual Spring Pony Offer is now open to all our boy and girl readers. Don't you want to win "Duke," the beautiful Shetland pony shown in picture above? Then here is the chance of a lifetime. The Pony Man of FARM AND FIRESIDE is going to give "Duke" and his handsome buggy and nickel-plated harness to some boy or girl. Wouldn't you just love to be that lucky boy or girl? You can if you try hard enough. What fun it would be to go driving every day this summer. How you will enjoy going out for a gallop every morning, taking all your boy and girl friends for a drive! Just think how delightful it would be to have "Duke" to take you to school, or to neighboring farms or the village. The thing for you to do right away is to send your name and address in to the Pony Man, so that he can tell you how to become a member of the Pony Club and a sure prize-winner. Read the names of the boys and girls who have won FARM AND FIRESIDE ponies. Anyone will tell you that the Pony Man can afford to give away ponies to deserving boys and girls in order to get more people in your neighborhood acquainted with FARM AND FIRESIDE, the National Farm Paper. This paper has a reputation for fair and honest dealing that is over thirty-five years old.

A Few Winners *of Our* Prize Ponies

They can tell you just how easy it is to win a handsome pony and outfit

"Bonny," won by Leonard Foreman, Osceola Mills, Pa.

"Dandy," won by Iona Morton, Kernersville, N. C.

"Cupid," won by LaVerne Fulton, No. Lawrence, O.

PRINCE—won by Arthur Glisson, Solvay, N. Y.
DAISY—won by Johnnie Kielen, R. 4, Madison, Minn.
DICK—won by Daryl Porterfield, Emlenton, Pa.
BEAUTY—won by Wilbur Corey, R. 9, Auburn, N. Y.
JACK—won by Virginia Jamison, Iola, Kan.

FUZZY—won by Allen Webber, New Carlisle, O.
TEDDY—won by Viva McNutt, Vandergrift, Pa.
WUZZY—won by Marguerite Lawson, Hopkinsville, Ky.
PETE—won by Lena Purchell, Halcottsville, N. Y.
CAPTAIN—won by Howard G. Laidlaw, Walton, N. Y.
JERRY—won by Alf Erickson, Stanhope, Ia.

SPOT—won by Tom Clark, Pennington, London, Ky.
GINGER—won by Robt. Harrington, Amherst, Mass.
BILLY—won by Herman Morton, Kernersville, N. C.
GIPSY—won by Leona Collins, Mason, O.
TRIXIE—won by Irma Musanto, New London, Conn.

Read How to Become a Member of the Pony Club and a Sure Winner

Prize for You Sure

You are sure to win a handsome prize, if you become a member of the FARM AND FIRESIDE Pony Club and you will not have to invest a single cent of your own money. FARM AND FIRESIDE is one of the oldest and best farm papers. You are absolutely safe in accepting the promise of such a big well-established paper. Besides "Duke" and his complete outfit, two more handsome ponies will be given away to the second and third best members of the Pony Club. Also 500 elegant Grand Prizes and thousands of dollars in cash will be distributed to the lucky club members. You will be surprized at how easy it is to win one of the FARM AND FIRESIDE ponies. Hurry up.

Send in Your Name Today

Mail This Pony Club Coupon To-day

The Pony Man:
Farm and Fireside, Springfield, Ohio

Please send me by return mail Membership Certificate in your Pony Club. I wish to learn how to win "Duke," and want you to save a place for me in the club. I will try to help FARM AND FIRESIDE all I can and be a good member of the club.

Name .....

Town .....

R. F. D. ..... State .....

How to Join the Club

Do you want to join the Pony Club? Then write your name and address on the coupon on this page and send it to the Pony Man to-day. He will at once send you a a certificate of membership, telling you how to become a full-fledged member of the Pony Club right away. You have just as good a chance as any other boy or girl to be the owner of "Duke" and his handsome pony outfit. Once you are a member of the club, you simply can't help being a winner. FARM AND FIRESIDE positively guarantees a handsome prize to every member of the Pony Club.

Here is "Duke" with his Handsome Cart and Harness

Altogether Pony Club Members Will Receive Three Handsome Ponies and 500 Grand Prizes.

How to Win "Duke"

No child owns a handsomer and more desirable pony and outfit than "Duke" and his elegant buggy and harness. You will have every reason to feel mighty proud if you win him. We have sent ponies to boys and girls in almost every state in the Union, and will deliver "Duke" and his outfit to your very door, all charges prepaid, if you win him. You should write the Pony Man at once. Simply write your name and address on any piece of paper and send it to the Pony Man, FARM AND FIRESIDE, Springfield, Ohio, or fill out this coupon and send it along. The Pony Man will be glad to send you a Membership Certificate together with a picture of "Duke" and the other ponies and prizes, and everything necessary to start right in and become a pony-winner. Send your name now. Don't wait. Just as soon as you send in your name and address, the Pony Man will tell you all about it and send you a big list of other lucky boys and girls who have won ponies. All you have to do is to send in your name and address. Remember this will not cost you a penny to join and you will not be under obligation to do a single thing.

Write Your Name and Address and Send in This Coupon

Page for Our Boys and Girls

Conducted by Cousin Sally

The Molasses Bunnies

By Emily Rose Burt

"I WISH I had an Easter bunny," said Bobbie.

"What kind of an Easter bunny?" said Bobbie's mother, thinking of white sugar rabbits with pink candy ears and brown plaster rabbits with heads that unscrew.

"Oh, a real live one, Mother," answered Bobbie; "a cunning little brown lively one that could live in a rabbit-house and eat carrots and cabbages."

"I'm sorry, Bobbie dear," said his mother, "but you know people like us who haven't any yard can't very well keep rabbits. If we didn't live in a second-story flat, maybe you could have one."

Bobbie looked very much disappointed. "I wish I had one, anyhow," he said.

"So do I, Bobbie," said his mother; "but run along to school now and forget about the live bunny until we move to the country."

Bobbie trudged off rather soberly to school, but as soon as he had gone, his mother just put on her best embroidered thinking-cap and thought and thought till the thinking-cap was almost worn out.

Then all of a sudden such a splendid idea just popped right out from under that cap that she smiled a big smile all to herself and put on her hat and went down the street to the tinsmith's shop.

She asked the tinsmith a question that began like this: "Can you make—"

"Certainly, yes indeed, madam," said the tinsmith quickly. "A rabbit is as easy as anything that ever was. It's twice as easy as an elephant and three times as easy as a giraffe."

In two days a package came from the tinsmith to Bobbie's mother while Bobbie was at school. When the thick brown paper and the thin white paper were taken away, something made of shiny bright tin fell out glittering and sparkling in the spring sunshine.

"That's very nice indeed; just right," said Bobbie's mother, smiling at the tinsmith's boy, and she hid the shiny tin thing away back in the drawer of the kitchen-table till two days before Easter.

Then she got out her wooden pie-board and her big rolling-pin and her yellow cooky-bowl and a strong mixing-spoon and other kitchen things and finally from the back of the kitchen-table drawer the new shiny tin thing. Then she went and brought from the pantry good things such as sugar and flour and milk and eggs and butter and spices and a whole big cupful of rich sticky brown molasses, and she mixed them all up in the yellow bowl till they were all turned into a nice brown dough. Then she rolled it out thick and flat on the wooden pie-board with the big rolling-pin till it lay in a smooth brown sheet.

And here is where the shiny tin thing came in. Cut, clip! cut, clip! and pretty soon after that there was a most delicious smell from the oven like cookies baking.

But Bobbie didn't know a thing about all this, of course. It was a deep secret.

When it was Easter morning, Bobbie's mother woke up early.

"Come, Bobbie," she called; "come to breakfast early this morning. There's a surprise for you."

So Bobbie hurried very fast getting dressed, and washed his face and laced his shoes all by himself because his mother somehow was very busy downstairs. He was ready in just about five minutes and down in the dining-room.

"Oh!" he cried in another minute, for there at his plate was the surprise—a whole procession of fat molasses bunnies!

Bobbie fairly shouted, he was so pleased with his family of bunnies.

There were six of them, and each bunny was plump and brown and crumbly with long chocolate-coated ears and round raisin eyes. And the whole row of bunnies spelled the word EASTER.

This is how *that* came about: each little molasses bunny had his name in white frosting letters right down his back, and as the bunnies sat in a row the first letter of each name stood out so clear and large that even Bobbie who was not very far along in reading at school could make out the word E-A-S-T-E-R.

These were the bunnies' names in order: Eat-me, All-brown, Spicekins, Tipsy-tail, Ear-up and Raisin-eye.

Bobbie just laughed, he was so happy.

"Where *did* they come from, Mother?"

"Well, Bobbie," said his mother, "I made them for you myself. The tinsmith made me a fine new tin rabbit cooky-cutter, so here are the Easter rabbits you wanted. Not quite so nice as live ones maybe, but easier to take care of, aren't they?"

"I should say, Mother," said Bobbie as he bit off the chocolate ears of Eat-me.

Who Can Guess?

Mr. Smith's Horses

Mr. Smith has eight horses, each a different color. Can you name the colors from the descriptions given below?

1. An insect and to want.
2. A twice-told tale.
3. To agree and a sunbeam.
4. A blow between two letters.

5. A line and an article.
6. An inlet of the sea.
7. A certain acrid plant.
8. A small printed piece of metal and part of the foot.

Animals Seen on a Farm

1. A letter and a mass.
2. A letter and a drink.
3. A sea-faring man.
4. An English essayist.
5. A Spanish nobleman and a fastener.
6. To depress with fear.
7. To direct the course of a ship.
8. To perform and a letter.
9. To pass from one place to another and a preposition.
10. The cry of a cat and a measure.
11. The head of a western State and a letter.
12. The head of a western State and a drink.
13. Five hundred and a preposition.
14. Naught and ten.

The answers to these puzzles will be published in our next number.

An Easter Greeting to My Cousins

DEAR COUSINS: How are you going to spend Easter? It comes so early this year, when few of the spring flowers are up. But even without the flowers Easter can be made very joyous and happy. Here is a true story of what some children, who are now grown up, used to do in a tiny Pennsylvania village.

These children, two sisters, Mary and Lilly, and a brother named Henry, looked forward to Easter almost as eagerly as to Christmas. It meant early to bed the night before so that they could wake early on Easter, for the Rabbit came during the sleepy hours and left his many colored gifts behind.

As soon as they awoke they scampered into their clothes and rushed for the garden.

Then such merry searching under the lilac-bushes where colored eggs flourished, and squeals of glee from over in the corner where eggs grew upon the yellow raspberry-bushes, and shouts from behind the pear-tree where bright-hued eggs glowed. Why, even the little hillocks of dried grass had yellow and green eggs tucked into nestlike hollows. The Rabbit was always very generous, for these three lucky children lived on the fringe of a village which was really almost "country," and the Rabbit hadn't far to bring beautifully colored eggs to good little children.

After the surprise raptures were over, the little figures donned Sunday frocks and suit and went to a gray steeple-crowned church at the other end of the little town, whose gladsome ringing bells told that a new Easter had dawned.

In those days Easter meant happiness and joy to young and old, just as it does to you and me to-day. The pleasures of the Easter gifts which the Rabbit left gave no more joy to them than the wonderful service at church, when they heard the story of the Risen Christ which the angels told so long ago. These children had a very happy, joyous Easter, and I wish all my little cousins may have one that is just as joyous and happy.

Lovingly,
COUSIN SALLY.

Letters to Cousin Sally

DEAR Cousin Sally: This is the first time I have written to you, but Mama says I have been so helpful to her I ought to write and tell you about it.

I have learned to bake and do the sweeping and ironing, besides washing dishes, which I have done for several years. We have no baby, or I certainly would be taking care of it, for I love babies. I have a brother seven years old, and I am ten.

Mama has been taking the FARM AND FIRESIDE for several years and likes it very much. Yours truly,
DOROTHY MAUDE ERWIN.

DEAR COUSIN SALLY—I am a little girl twelve years old. I live on a farm, and I have a darling pretty shepherd dog. He drives the cows home.

From your little friend,
MAYMIE ELBON HAMBY.

DEAR COUSIN SALLY—I always read your page and enjoy it very much.

I would like to start a C. S. C. among my friends at school, how can I do it?

I am ten years and in the fifth grade. I have read many books and am taking music lessons. Sincerely yours,
ALICE BERNICE WILSON.

Answers to Puzzles in Jan. 18

President, resident; lark, ark; weasel, easel; cobra, Cora; rose, roe; fox, ox; tsar, tar; dog, og.

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[CONTINUED FROM PAGE 2]

Great Four-Sheet Chart
With Parcel-Post Map

EVERY reader of FARM AND FIRESIDE ought to have one of these Ready Reference Charts. It has been made up especially for FARM AND FIRESIDE by one of the most skilful map and chart experts in America. Aside from the beautiful color and workmanship, special emphasis has been laid on the accurate and reliable nature of the information contained in this great chart. You will find it of more value than a whole set of encyclopedias.

Four Great Charts in One

The First Sheet

contains a calendar for 1913, pictures of the presidents from Washington down to Wilson; also the seals of all the States. You will have occasion to refer to this sheet every day in the year. It will make a beautiful and practical ornament for the walls of your dining-room or parlor. But remember your whole chart has three more pages just as large, just as beautiful and just as useful. Size of each sheet, 22x28 inches.

The Second Sheet

contains the celebrated live-stock chart with complete diagrams of the various diseases affecting the horse and also the remedies prescribed for such ailments. This page alone would make it worth while for you to accept our offer. The reverse side of this sheet will contain important agricultural matter, tables of weights, and such like.

The Third Sheet

will contain a map of the State in which you live, showing the county, congressional districts and every post-office in the State. You will find this the most complete state map you have ever seen. On the reverse side of this sheet will be complete census figures giving the population of all the counties, towns and cities in every State.

Parcel Post—Fourth Sheet

will contain a combination map of North America with complete parcel-post diagrams that will enable you to determine just how much it will cost to send a parcel from your own post-office to any other part of the United States. The reverse side of this sheet will contain the 1910 Census figures of every State in the Union; also give comparative figures showing the growth since 1890 and 1900.

Great Premium Offers

Offer No. 1

THIS VALUABLE CHART will be sent prepaid to every person who orders Farm and Fireside one year and encloses only 60 cents.

Offer No. 2

THIS VALUABLE CHART will be sent prepaid to every person who orders Farm and Fireside three years and encloses only $1.00.

Club-Raiser Special

THIS VALUABLE CHART will be sent prepaid to every person who sends a club of two yearly subscriptions to Farm and Fireside at 40 cents each.

You must send your order soon—before our supply of Charts is exhausted.

Farm and Fireside, Springfield, Ohio

Crocheted Laces for Spring

By Evaline Holbrook

THE attractive Dutch collar for spring and summer use which is illustrated on this page is made as follows:

Use No. 50 crochet-cotton and a rather fine steel crochet-hook. Start it with thirty-seven chain stitches, and on the chain work three rows of thirty-six single crochet, picking up the stitches on the double thread.

Fourth row—Turn, chain six, *three double crochet in the fourth stitch along preceding row, chain one, and repeat from * until five stitches of the preceding row remain to be worked. Chain one, skip one, one double crochet in each of the other stitches.

Fifth row—Chain seven, turn, skip three chain, one double crochet in each of the others and one double crochet in the first stitch of preceding row, *chain one, three double crochet in the chain before the first cluster of preceding row. Repeat from *, making a cluster in each chain of preceding row, and a cluster in the chain after the final cluster.

Sixth row—Turn, chain four, make a cluster on each chain between clusters as before, and between the clusters chain one. After the final cluster, chain one and make one double crochet in each double crochet to the end of the row.

Repeat the fifth and sixth rows until eight cluster rows in all are made.

Ninth cluster row—Turn, and work as usual until the final cluster is made. Do not make a chain after it, but instead work one double crochet in the next double crochet.

Tenth row—Chain three, turn, one double crochet in the first double crochet and in each stitch of the first cluster, chain one, and work as usual to the end of the row.

Repeat the ninth and tenth rows until there are fifteen cluster rows in all, the last row ending at the pointed edge and containing the same number of stitches as the first cluster row. Now repeat from the beginning of the first single crochet row until three and one-half points in all are made. Fasten off, and make another piece of three and one-half points, joining them by overhanding together the last rows.

Now make three rows of single crochet across the neck (straight) edge of the collar, on the first of them narrowing sufficiently to give the correct size for the neck. Fourth row—Turn and make a cluster in every seventh stitch of preceding row, with three chain stitches between the clusters. Fifth row—Put one single crochet in each double crochet of preceding row, three single crochet in each hole. Carry the single crochet row around all the other edges of the collar, increasing at each point of the lower edge. Make a final row across the neck as follows: One single crochet in the first stitch, *chain five, one single crochet in the fourth stitch along preceding row, and repeat from * to the end. At the end of this row fasten off the work.

For the bow to go with the collar, make a point for each wing, following the directions given for the collar, and gather and sew them together on the straight edge.

For the buckle chain ten, and on the chain work three rows of single crochet. Chain fifteen, catch in first single crochet of preceding row, work one single crochet in end of each row down that side, chain fifteen, catch in other end of chain with which buckle was started and one single crochet in each row at that side.

Second round—Work fifteen single crochet in each loop, one single crochet in each single crochet of preceding round. Pick the stitches up on the double thread. Make three rounds more of single crochet, increasing if necessary to keep the work flat, then work a round of shells, as follows: One single crochet in the first stitch, two double crochet in each of the next two stitches, one single crochet in the next. Repeat this shell all around, and fasten off. Draw a length of velvet ribbon through the buckle, and sew over the centers of crocheted points. Sew behind the bow two lengths of black velvet ribbon to hang. The laces and medallion illustrated at the bottom of the page make attractive trimmings for summer waists and dresses. The patterns are exceedingly simple. The edging is known as the "shell edge of ten," each part being made with ten stitches. Use crochet-cotton No. 60. Chain ten, catch in the first chain made. Turn, chain ten, ten double crochet in one side of the ring. Turn, one single crochet in each double crochet, ten single crochet in the loop, catch in the catching stitch of the ring. Turn, one single crochet in each single crochet. Repeat from the beginning for the length of lace desired.

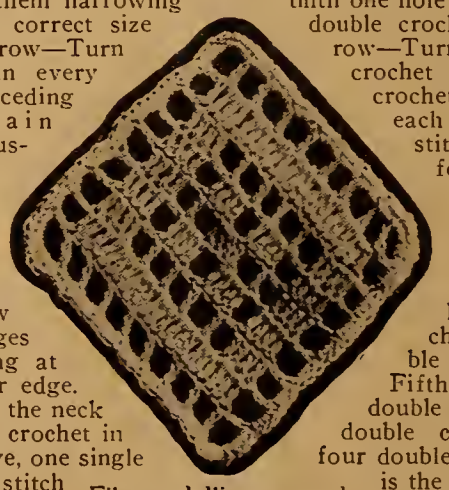
Dutch collar of simple shells with a bow to match it

For the filet crochet insertion use No. 70 crochet-cotton. Chain nineteen, turn, one double crochet in the eighth chain from needle, one double crochet in each of the next three chain stitches, chain two, skip two stitches along chain, one double crochet in each of the next four stitches, chain two, one double crochet in the final stitch.

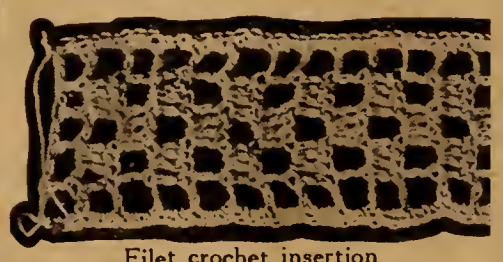
Second row—Turn, chain five, one double crochet in the second double crochet of preceding row, chain two, one double crochet in final double crochet of group, two double crochet in hole, one double crochet in next double crochet, two holes to end. Repeat the first and second rows for the length desired, and work three single crochet in each hole down each side.

Crocheted medallion—Chain thirty-two, turn, one double crochet in the eighth chain from needle, *chain two, skip two chain of foundation, one double crochet in the next. Repeat from * until there are nine holes in the row.

Second row—Turn, chain five, one double crochet in second double crochet, then two double crochet in each hole and one double crochet in each double crochet until one hole remains, chain two, one double crochet in the end. Third row—Turn, chain five, one double crochet in the second double crochet, one double crochet each in the next three stitches, five holes with four double crochet after the last, one hole. Fourth row—One hole, four double crochet, one hole, four double crochet, one hole, four double crochet, one hole, four double crochet, one hole. Fifth row—One hole, four double crochet, two holes, four double crochet, two holes, four double crochet, one hole. This is the center row of the work. Reverse for the second half, beginning with fourth row and working back to first. Then make three single crochet in each hole all around and nine single crochet in each corner.



Filet medallion to match the insertion below



Filet crochet insertion

The shell edge of ten

With the insertion and the medallion a simple filet edge worked of holes, as follows, may be used:

Make a chain for the length of edge needed, allowing plenty, as any additional length of chain may always be cut off.

Turn, one double crochet in eighth chain from needle, *chain two, skip two chain of foundation, one double crochet in next. Repeat from * down entire length.

Second row—Turn and work three single crochet in each hole down the entire length, in the center of every third hole working a picot. A picot is made by working five chain stitches and catching them in single crochet previously made. The same edge, with single crochet row down either side, makes a good beading.

Fashions for Spring

Spring Wardrobe Suggestions

Designs by Grace Margaret Gould

Fashions for Spring

THE new spring catalogue of WOMAN'S HOME COMPANION patterns will be ready for distribution in just ten days. Be sure to send in your order early for this big fashion book. It is filled with practical designs which will prove helpful to you in planning your spring and summer wardrobe. Its price is four cents, and it may be ordered from our pattern depots.

IN ORDER to insure a quick delivery of your patterns, be sure to send your pattern orders to the nearest pattern depot: Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York City; Pattern Department, FARM AND FIRESIDE, Springfield, Ohio; Pattern Department, FARM AND FIRESIDE, 203 McClintock Building, Denver, Colorado.

No. 2227—Tucked Waist with Vest

32 to 44 bust. Material required for medium size, or 36-inch bust, three and three-fourths of twenty-two-inch material, or one and seven-eighths yards of thirty-six-inch material, with one-half yard of lace. Pattern, ten cents

No. 2227

No. 2062—Blazer with Shawl Collar

32 to 42 bust. Material required for 36-inch bust, three and one-fourtb yards of thirty-six-inch material, or two and five-eighths yards of forty-four-inch material, with five eighths of a yard of contrasting material. Pattern, ten cents

No. 2062

No. 2178—Costume Blouse with Vest

32 to 42 bust. Material for 36-inch bust, four and five-eighths yards of twenty-two-inch material, with five eighths of a yard of all-over lace and five eighths of a yard of contrasting material. Price of pattern, ten cents

No. 2178

No. 2215—One-Piece Dress with Sailor Collar

4 to 12 years. Material for 8 years, six and one-half yards of twenty-two-inch material, or four yards of thirty-six-inch material, with three fourths of a yard of contrasting material. Price of pattern, ten cents

No. 1826—Six-Gored Skirt

22 to 34 waist. Quantity of material required for medium size, or 26-inch waist, six and three-fourths yards of twenty-four-incb material, or four and one-eighth yards of thirty-six-inch material. The price of this pattern is ten cents

No. 2229—Belted Russian Blouse with Jabot

32 to 42 bust. Material for 36-inch bust, two and one-half yards of thirty-six-inch, three-fourths yard of contrasting material. Price of pattern, ten cents

No. 1893—Two-Piece Skirt Buttoned at Sides

22 to 32 waist. Material required for medium size, or 26-inch waist, four yards of twenty-seven-inch material, or three yards of thirty-six-incb material. This skirt is an extremely easy one to put together. Pattern, ten cents

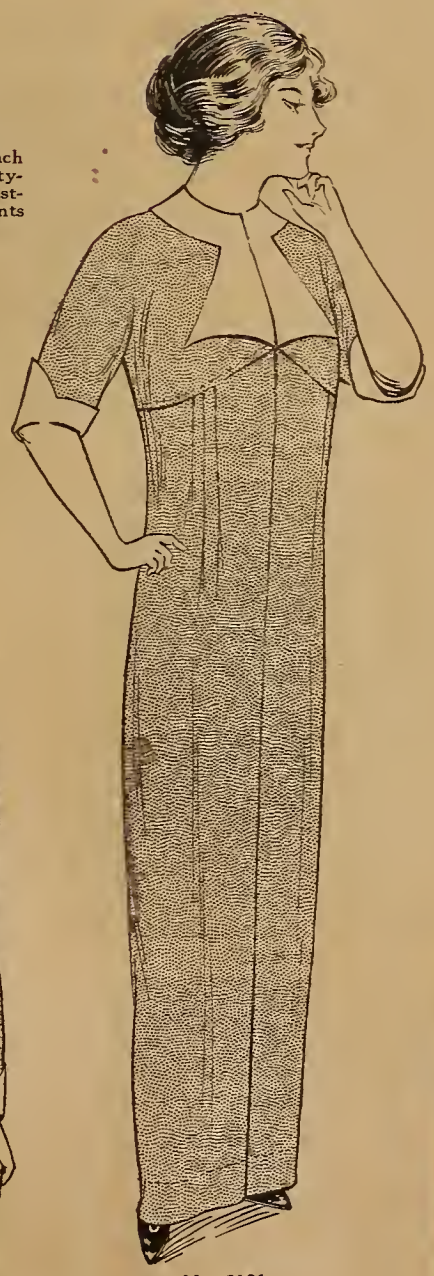
No. 2229
No. 1893

No. 2229
No. 1893

No. 2215

No. 2062

No. 2227



No. 2181

No. 2215

No. 1826

The width of this skirt at bottom in medium size, with plaits pulled out, is three yards

No. 2181

No. 2178

No. 2181

No. 2228
No. 2098

No. 2228
No. 2098

Our Pony Prizes

By the Editor

EVERY spring FARM AND FIRESIDE has run a pony contest for the benefit of its boy and girl friends, and we are now about to start the 1913 contest. Why do we run these contests? Well, to be perfectly frank with our readers, we have two very particular reasons. One we have just mentioned above, but the main reason we have yet to explain. The more subscribers a paper has, the greater its influence is bound to be. There are a number of ways to get subscriptions. We could advertise in other farm papers and tell people about the attractive features of FARM AND FIRESIDE.

Help Our Own People

We could hire salesmen to travel over the country calling on the farmers and soliciting new subscriptions. We could have thousands of huge billboards telling about FARM AND FIRESIDE placed at conspicuous points along the railroads and public highways. Of course all this costs a lot of money. Our experience has taught us that by offering some worthy reward, such as Shetland ponies to our boys and girls, an equally large number of subscriptions can be obtained, and our own readers get paid for helping FARM AND FIRESIDE instead of giving the money to outsiders. That's why we have a pony contest every year.

The rule is to give our young friends the very best ponies obtainable. In lots of contests only the leaders get prizes, but in FARM AND FIRESIDE contests every boy and girl who takes an active part in the contest gets a fine prize and is well repaid for helping FARM AND FIRESIDE. Everybody wins a prize. The three leaders can all have ponies, the others get equally fine prizes in proportion to the work they have done. Here are some of the reasons why we favor Shetland ponies as gifts for our young friends who help us.

Gentle and Intelligent Pets

The Shetland is by nature and disposition a great pet. The next time you see a Shetland pony just stop for a minute and observe him carefully, and you will know why he is such a reliable playfellow. The true Shetland has an intelligent, broad, brainy forehead, with a full, prominent and steady eye. Ninety-nine times out of a hundred a gentle, kind, fearless and good-natured disposition goes with brains and intelligence. While the Shetland pony is particularly the children's pet and playfellow, he is also a most useful and profitable little animal to have around any farm or home.

He performs endless tasks with such cheerfulness and good will that he endears himself to all with whom he comes in contact.

Great Little Workers

The work often required of a Shetland pony is more than is required of the large truck-horses. The average pony does not weigh more than 400 pounds. The ordinary pony buggy weighs about 200 pounds, three children weighing 75 pounds each would be 225 pounds, making a total of 425 pounds—or the load is heavier than the pony. A large number of families are now using a pony for the family driving-horse, while some farmers do much of the light work with ponies.

In Ohio there is a farm of forty acres on which the work is done by four Shetland ponies. Only the plowing and harrowing is done by the large horses, and the owner says that the Shetland is much more rugged and has a better disposition than any of the large horses.

A typical Farm and Fireside prize winner outfit. Allen Weber and "Fuzzy," New Carlisle, Ohio

A small Shetland pony will do all the family errands about town just as quickly and as satisfactorily as a thousand-pound horse. The little pets have wonderful pluck and endurance, and a number of them are fast trotters, too, and can make a buggy spin along at an amazing clip. One Shetland recently trotted four miles in sixteen minutes, and nine miles in forty-three minutes, carrying one person. It would tax the endurance of many of our finest buggy-horses if they were called upon to keep up with such a pony.

One of the theatrical troupes now on the road is said to use ponies to haul their baggage from the cars to the opera-house and back again. Just imagine what an astonishing sight it must be to see a pile of twelve or fifteen big trunks on top of a low-wheeled pony truck drawn by four small Shetland ponies.

After all, it is as a playfellow that the Shetland pony shines. He is at once gentle and mischievous. You would almost believe that the pony has a better sense of humor than many grown people. At times he will be as sober and solemn as anyone, and then break in with some prank that you never expected.

The pony can be taught to do about everything but stand on his head, and picks up new tricks very readily. After the pony has become acquainted with his new home, he will follow his little master around just like a dog and will gallop and play in a fashion that far outclasses the dog as a pet.

A pony is the safest and best pet children can have.

Every child ought to have a Shetland pony, because a good brisk ride is better than all the medicine that can be manufactured. It takes the children into the open air and the outdoor life incident to a good gallop. Holding the reins back of a good, vigorous pony is of untold benefit to growing children, whose lives are too often confined within doors. It gives good healthy exercise without fatiguing them and brightens and enlivens the mind.

One hustler's reward

Dear Pony Man:—My pony is a beauty. I would not part with him for any price. He had hardly reached here before all the boys in the neighborhood were on hand to see him. I surely have been more than paid for what I have done for you. I found it very easy to get subscriptions for FARM AND FIRESIDE. People were anxious to take it. I tried the half-work and half-play plan last year. This time I cut out the play and hustled and—I won. Anyone can win if he hustles. Your friend,
Howard G. Laidlaw, Walton, N. Y.

Rhubarb in Many Ways

By Elma Iona Locke

AFTER the heavy diet of winter, the pleasant acid of rhubarb offers an agreeable zest to the appetite, while the almost innumerable methods of preparing it give plenty of change to avoid sameness.

Unless the rhubarb, or pie-plant, is very young and tender, it is better to remove some of the surplus acid by pouring boiling water over it after it is ready for cooking, letting it stand a few minutes, then draining it off and adding fresh water for cooking.

Jellied Rhubarb—Cut fine one pound of rhubarb, put in a granite dish with one cupful of sugar, the grated rind of a lemon and a small piece of ginger root; cover, and bake until tender. Add one-half ounce of gelatin softened in cold water, and stir over hot water till thoroughly dissolved; then add one tablespoonful of lemon-juice, and pour into a fancy mold which has been dipped in cold water. Keep on ice until time to serve, then turn out on a glass dish, fill the center with whipped cream, and put small mounds of it around the jelly.

Rhubarb Pudding—Wash red rhubarb, and cut into inch pieces without peeling; to three pints add three cupfuls of sugar mixed with half a grated nutmeg. Line a well-buttered dish with bread-crumbs, cover with a layer of rhubarb, and add sugar and butter; repeat the layers till the dish is filled, having crumbs last; cover, and bake slowly. Slices of bread may be substituted for the crumbs.

Stewed Rhubarb—Peel, cut in short lengths, and stew in a small quantity of water until tender, adding sugar to taste while still hot. If a little orange-peel is first boiled in the water, it will give the sauce a pleasant flavor.

Rhubarb Soufflé—Put the rhubarb, cut fine, into a double boiler with plenty of sugar to sweeten, and steam till tender; then press through a sieve. To three cupfuls of sauce add the well-beaten yolks of three eggs, then fold in lightly the stiffly beaten whites, and bake in a well-buttered dish until it begins to crack open on top.

Rhubarb Sponge—Cut about a dozen stalks of red rhubarb into small pieces, and stew with about half a pound of crushed loaf sugar. Line a small pudding-dish with slices of sponge-cake, and fill with alternate layers of rhubarb and cake; put on a cover and small weight, and set aside till cold. Turn out on to the serving-plate, spread thickly with a meringue of the whites of two eggs and two tablespoonfuls of sugar beaten stiff, and place in the oven to set the meringue.

Rhubarb Snowballs—Boil a cupful of rice until soft; wring small pudding-cloths (about a foot square) out of hot water, and spread the cooked rice about a half inch thick over the centers of the cloths. Spread about half a cupful of rhubarb on each, tie up the cloths closely, and steam for twenty minutes. Then carefully turn out of the cloths and serve with any good sauce.

Rhubarb Puffs—Cream one cupful of sugar and two tablespoonfuls of butter, and two well-beaten eggs, one-fourth cupful of milk, one teaspoonful of baking-powder and flour to make a thick batter; then stir in one cupful of finely chopped rhubarb; half fill well-buttered cups, and steam for half an hour. Serve with pudding sauce.

Rhubarb Snow—Stew the rhubarb, and to a pint of the clear juice, sweetened and flavored to taste, add rather more than a half-ounce of gelatin; when it is cold and partly set, whisk in the stiffly beaten whites of two eggs, beating all well together.

Rhubarb-and-Apple Pie—Fill a paste-lined plate with chopped rhubarb and apple, equal parts, add plenty of sugar, some bits of butter, sprinkle over a little flour, cover with a top crust, and bake.

Rhubarb Pie—Having lined a plate with paste, put in a large cupful of rhubarb cut in small pieces; beat together one-half cupful of sugar and one egg, and pour over the top; sprinkle over a pinch of salt, and cover with a top crust.

The Housewife's Club

EDITOR'S NOTE—Monthly we give prizes of $2.00 for the two best descriptions (with rough sketch) o original, home-made household conveniences or labor-saving devices, and $1.00 for the third best or any that can be used. ¶ We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, and not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. ¶ All copy must be in by the third of April and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copies, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio.

How I Fasten a Loose Door-Knob—Dip some fine wrapping-cord in cold glue, and then wind it around the socket in the small joint, between the shoulder of the socket and the grip. The string was wrapped tightly until the joint was full, then the ends were tucked in with the point of a knife-blade. The glue was given time to set, after which the knob is firm.

MRS. G. P. E., New York.

A Novel Clothes Closet—Having no spare corner in my bedroom and no clothes-closet, I made a long, narrow box, screwed plenty of hooks into the bottom of it, two screw-eyes at the top, fastened two strong hooks into the wall at the proper distance apart and hung the shelves

from these hooks. A curtain to match the other furnishings of the room was fastened to the upper part of the box.

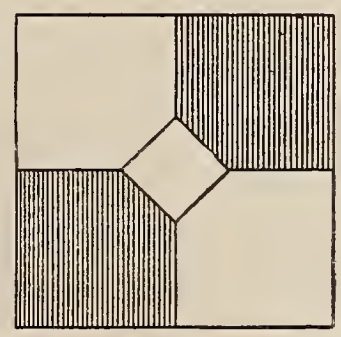
I find the shelf very convenient for furs, caps, scarfs, etc. It can be easily removed or the curtain thrown aside for frequent airings. M. C.

Handy Tray—A cheese-box with part of a barrel-hoop for a handle makes a very convenient tray for carrying several dishes of food—to or from the cellar, from kitchen to dining-room, etc. One can use it also for bringing vegetables from the cellar or in from the garden. A coat of enamel paint makes the tray easy to keep clean and fresh looking.

P. J. C., Virginia.

Will Mrs. W. A. Clapp, who contributed the patch-work design above and also some items for January 4th, please send address.

Necktie Quilt-Block: This quilt pattern is quite pretty either in just two colors or in "light and dark" scraps of all colors. Seams are straight and easily and quickly put together.



MRS. W. A. C.

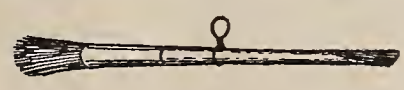
If the Vessel in which you cook rice, oatmeal or any of the cereals is greased with a little butter before the cereals are put in to cook, it is much more easily cleaned afterward.

MRS. V. V. V., Virginia.

Get a Set of tin spoons, and bend the handles so that they will go in the soda, baking-powder, coffee, sugar and all other cans and boxes, and you will be saved a lot of unnecessary bother in cooking.

MRS. V. V. V., Virginia.

Small Tool to Clean Cream-Separator Attachments—A No. 4 artist's bristle



brush, the handle sharpened to a thin, flat point, and a small piece of wire looped around handle to hang where it is most convenient.

E. M. S., Ohio.

The Use of Steel Wool—How many of your readers have availed themselves of the great advantages found in the use of steel wool for cleansing kitchen utensils? It quickly and easily removes burnt matter or anything that refuses to wash off. It is a mass of fine fibers of steel and will not scratch. M. McM., Virginia.

"How many things Colgate makes!"

Do you realize that for almost every toilet need there is a Colgate preparation? Look over this list of

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TOILET ARTICLES

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Cashmere Bouquet — Northern Rose
La France Rose — Almond Cream
Alba Rose — Brown Windsor
Pine Tar — White Clematis
Hermosa — Turkish Bath
Transparent Glycerine — Cold Cream
Eclat — Geraniol
Vernalis — Gerosa
Imperial Lilac — Soapumice
Edition de Luxe — Rosodora
Frangipanni — Sulphur
Dactylis — Turtle Oil
Italian Violet — Viodora
Peau d'Espagne — Big Bath
Monad Violet — Sweet Lavender
Violet — Elder Flower
White Rose — Colossal
Fragancia — Palm
Peau d'Espagne — Pure Palm Oil
Sandal Wood — Floating Bath
Heliotrope — Silverware
Lettuce — Tuscan Castile
Cradle — Wheelmen's
Coleo — Rosado
7th Regiment Bouquet — Popular
Vioris — Rico
Glycerine — Office
Honey — Hotel
Oatmeal — Pure Olive Oil
White Castile — Perfumed Bath
Bay Rum — Florizel
Mechanics' Soap Paste

GUEST ROOM

Monad Violet, Dactylis
Fragancia Peau d'Espagne
Lettuce, Sandal Wood

SHAVING

Shaving Stick, Perfected Shaving Cream
Rapid-Shave Powder, Shaving Tablets
Demulcent Shaving Tablets
Aseptic Shaving Cones
Barbers' Shaving Soap — Cup Soap

SACHET POWDERS

(Envelopes and Bottles)

Cashmere Bouquet, Monad Violet, Éclat, La France Rose, Dactylis, Alba Rose, Alba Violet, Alba Dactylis, Peau d'Espagne, Heliotrope, Caprice, Robina, East India Sandal Wood, Italian Violets.

TOILET PREPARATIONS

Cold Cream In Jars and Tubes
Aromatic Smelling Salts
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and see how great is the variety. Each of these articles is made and backed by a reputation more than a century old. Four generations of users have found in them always the same high quality.

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TALC POWDERS

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Monad Violet — Éclat — Tinted

HAIR PREPARATIONS

Brillantine, Bandoline, Florentine Cosmetique
True Bay Rum, Superfine Pomade
Shampoo Mixture

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For Men	*For Women*
Small sizes of	Small sizes of
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Ribbon Dental Cream	Toilet Water
Cashmere Bouquet Soap	Cashmere Bouquet Soap
and Talc Powder	and Talc Powder

FACE POWDERS

Caprice, Cashmere Bouquet, La France Rose
Heliotrope, Violet, Peau d'Espagne

PERFUMES

Eclat — Jasmin
Dactylis — Cashmere Bouquet
Caprice — Monad Violet
La France Rose — Cyclamen
Alba Violet — Musk
Alba Rose — Moss Rose
Hermosa — New Mown Hay
Vernalis — Opoponax
Vioris — Sandal Wood
Italian Violets — Tea Rose
Apple Blossom — Trailing Arbutus
Carnation — Lilac Imperial
Heliotrope — White Violet
Jockey Club — White Heliotrope
Lily of the Valley — Bouquet de Caroline
Pansy Blossom — Fleur d'Orange
Robinia — Four Seasons
Ylang Ylang — Night Blooming Cereus
White Rose — Patchouly
Fantasy — Rose
Frangipanni — Tuberose

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Caprice — Eclat
Dactylis — Monad Violet
La France Rose — Cashmere Bouquet
Violet — Ylang Ylang
Lavender Flower — Florida
Rosodora — Carnation
Robinia — Lilac Imperial
Sandal Wood — White Rose
Eau de Cologne — Heliotrope
Spirit of Lavender — Jockey Club

FLAVORING EXTRACTS

Lemon — Vanilla

COLGATE'S LAUNDRY SOAPS

"1806" Laundry Soap, Octagon Soap Powder
Octagon Soap, Bee Soap, White Floating Soap