



Vol. XXXII. No. 1

Springfield, Ohio, October 10, 1908

Terms 1 Year, 24 Numbers, 25 Cents
5 Years, 120 Numbers, \$1.00

Your Last Chance—A Golden Opportunity

THIS is the last season you can obtain a subscription to FARM AND FIRESIDE at the present rates (one year 25 cents, five years \$1.00). Very soon after the first of the year the subscription price will be raised. This decision is final.

The most frequent question asked us by our friends and readers is, "How in the world can you give so much for so little money?" Well, we can't much longer. The size of the FARM AND FIRESIDE family, as we have told you before, is the only thing that has made it possible, but with the increased cost of everything that goes into a good paper, even our large family cannot justify the low price any longer. Besides—and this is three times as interesting to you—we want enough financial elbow room to go ahead always improving FARM AND FIRESIDE, and to put into it the very best of information, of instruction and of entertainment, no matter what the material costs.

There have been times in the past when we wanted to get some one thing for the paper, something that was timely, something that was vital, and felt that we honestly couldn't afford to pay the necessary price. That limitation we propose to do away with.

It won't take much figuring on your part to see that what is a full money's worth at the new price after the first of the year you will be getting for 25 cents, and if you are far-seeing enough, as I believe you are, to invest \$1.00 for a five-year subscription, you will be getting for 20 cents a year what the other fellow is paying twice, and later on three times, the five-year price for.

From now on we shall set even a higher standard of excellence for FARM AND FIRESIDE than in the past.

The reason we **must** do this is so that new subscribers will be willing and glad to pay the new price instead of 25 cents.

The reason we **can** do this is because we shall be taking in, after the first of the year, the new price from each new subscriber and from all those old subscribers who have delayed to their cost.

Five years for a dollar, therefore, is now our watchword, and to show you how sure we are that you will thank us every year of the next five for giving you this opportunity to subscribe at the old price, **we will refund you pro rata at the end of any year if you wish to stop your subscription.**

What Farm and Fireside Will Mean to You for the Future

It is not enough that FARM AND FIRESIDE has stood in the front rank of farm papers for the last thirty years; it is not enough that it has barred all questionable advertisements from its columns and guarantees every advertisement it accepts. FARM AND FIRESIDE is going to do a lot more than that; it is going to give the farmer and his family the very best of practical and helpful material that **money can buy.** If it is about nothing more important than a post-hole digger, it's going to be told by a man who can make a post-hole digger better than he can do any other one thing. We are going to carry this utility idea through the whole farm as never before, and into the kitchen door, where the farmer's wife needs labor-saving helps and practical suggestions just as much as the men folks. All of our useful practical departments will be made bigger and better.

Around these practical working departments, carried out on a totally new plane, we shall forge material of interest and entertainment, which farm papers heretofore have put into the "can't afford" class.

We can afford the best, simply because we believe our readers will pay for the best, now that we are demonstrating our ability to give it to them. Right now is your golden opportunity to get all this increased value at the old prices.

Watch FARM AND FIRESIDE this fall and winter. It will be of immense interest to you. You will find no fine theories or high-sounding names unless those names belong to men who **know.**

But you **will** find some of the most vitally interesting and helpful up-to-date farm facts that can be secured. We are going after the best practical brains in the country to get these facts. Tried hands, every one of them. In one way or another, these facts will save you many times the subscription price of FARM AND FIRESIDE, I care not how approved and up-to-date your methods are.

What the Magazine Section Has in Store

We have been busy all summer getting hold of the best stories we could find—never have such stories been available for farm papers up to this time—stories which are full of interest from start to finish, written by some of our cleverest fiction writers.

There will be one or more of these stories in each issue of FARM AND FIRESIDE during the fall and winter. But best of all is the

Great Novel

"The Soul of Honor," by Lady Troubridge

author of "The Millionaire," "The Woman Thou Gavest," etc., which starts next month. This remarkable story is laid at Ascot Heath in England. It has a deep love interest and abounds in thrilling adventures, most cleverly handled.

Our Household Departments

All those things which help and interest the mother, the wife, the daughter, speak more strongly for themselves than could any words of mine. From every corner of the land come letters of congratulation and thanks for the wealth of helpful and entertaining information we are putting into these departments. With every issue this side of FARM AND FIRESIDE is broadening and deepening and gaining a firmer position in the hearts of the FARM AND FIRESIDE family.

To a

Fashion and Pattern Department

which for correct up-to-dateness and usefulness will be surpassed by no magazine or periodical, no matter what its subscription price, we are adding some practical moderate-priced embroidery designs by Evelyn Parsons, who is the foremost woman in the country in this line of work.

Do you know twice as many women are using Farm and Fireside patterns as were using them a year ago?

A Real Treat and Surprise

I have saved to the end the good news of our beautiful art supplements printed in six colors on supercalendered paper. We secured these from a collection of original paintings, which we never dreamed would be accessible for our reproduction purposes. We shall include several of these with FARM AND FIRESIDE during the winter, and every paid-in-advance subscriber will receive the whole series. Never in its thirty years of life has FARM AND FIRESIDE had such a wealth of good things for its readers.

If your subscription does not expire now, send along your renewal just the same, and we will extend it from its month of expiration.

Cordially yours,

THE EDITOR.

See Special Notice on Page 15

SEP 22 1910

Around the Farm

Items of Interest and Value to the Progressive Farmer

Political Issues of Interest to Farmers

IN A chat with a banker, a hardware dealer and a contractor a few days ago the outlook in the Middle West was discussed. The hardware man stated that he thought it would be a good idea for people generally to look pretty close to the little economies this fall and the coming winter. He said he was carrying several hundred farmers who had purchased implements of different kinds of him last year, and he had found that he would have to carry them to the close of another crop year. He said they had asked for an extension of credit, and there was nothing to do but allow it.

The banker said he thought it would be a good idea for people to look somewhat closely to the smaller matters of making and saving. He said he had about all the paper he cared to hold at present, and he was doing very little new business. He said he had suggested to some of his patrons in the retail trade to go a little slow about selling largely to people who rely upon daily labor for an income. Work would not be overabundant, and workmen would have to be careful about their expenditures to avoid distress.

The contractor said he found an increasing keenness in competition, and that margins were very small, and he could not offer much encouragement to labor from the present outlook. He said he was satisfied that farmers who have money are going to be cautious about spending it, and those who have very little are going to ask for credit. He declared he did not quite understand the present closeness, unless it was a sort of an echo of the flurry of last fall. He said that a good deal of noise was made about the few contracts being let, probably because this is an election year, but compared with two years ago there is little doing and not much in prospect.

A few days afterward I was telling a little group of farmers what I had heard, and asked them what they thought of it. One said he took a reef in his sails last year when the flurry commenced, and he is now in good shape for almost anything. He had cleared up his debts with the proceeds of last year's crops, repaired all the tools and implements that needed repairing, and had shut down on all purchases except necessities. His crops this season are very light, and he will not have much to sell; but as he is buying nothing to speak of, he is not scared at anything in the outlook.

The next one said he was in very fair shape financially. His crops this season are nothing to boast of, but he had cleared up all his small debts, and as he could get all the time he wanted on the large one, with a low rate of interest, he was feeling safe.

Another said he wished he could say he was as fortunate. He had to buy several implements last year, and his running expenses were quite large, and as his crops are small this season he had to have his notes extended, and he could see very little encouragement in the present outlook.

Another said he made a good crop last year, and sold it well, and his crops this season are very good, and as prices for all kinds of farm produce are well up he is going to make a nice thing out of his season's work.

The last of the group was a very quiet little fellow who farms forty acres. He saw nothing in the outlook that alarmed him. He said, "I have twelve acres of corn that will make sixty-five to seventy bushels an acre, and ten more that will make fully fifty bushels an acre, and seven tons of good clover hay in the mow, with a fine prospect for about fifteen bushels of clover seed. I grew two hundred and six bushels of wheat on four acres, and a hundred and twenty-three bushels of oats on three acres. I have sold two hundred and five dollars' worth of hogs, a hundred and eighty-five dollars' worth of poultry and eggs, and we are in good health. I feel well satisfied with the general appearance of things."

Farmers tell me that they are not buying half so much as they did last year, partly because they consider prices too high, but chiefly because crops are rather light. In some sections crops are excellent, while in others they are very light.

Just at present nearly everybody seems to be awaiting a turn of some kind.

I have carefully studied the platforms of both the great political parties, and though strongly prejudiced in favor of the party now in power, I have been compelled to admit that the platform of the Democratic party is better than the other. It gets nearer to the plain people. It is conservative and breathes more of the Teddy spirit—more of the square deal to ordinary mortals—than the other. It gives some assurance that the interests of the farmer and worker will receive as much consideration as those of the trade organizations and combinations, and banking and moneyed classes.

Officials Should Be Servants of the People

During the past six years thousands of us have appealed to the party in power to give us a parcels post; to remove the tariff from lumber and steel, and to enable us to elect senators the same as other officials, but our appeals were in vain. We were turned down by the bosses as though we were so many children. Last winter we asked earnestly for a law guaranteeing against loss depositors who placed their money in national banks, and we were actually hooted at. The other party is now asking for a chance to give us these things, and the matter is now up to the plain people. Farmers should study this question closely for themselves. They should not allow themselves to be swayed hither and thither by spellbinders nor partizan papers, but should calmly take the entire matter into consideration and vote as they think right.

So far as the personality of the candidates for President of the two leading parties is concerned, I think there is very little difference. Both are excellent men, and the country will be safe in the hands of either. Many years ago a fine old man who had held a high judicial position said to me, "Young man, you will find as you go through life that when a party remains in power very long it invariably becomes corrupt. You stick to your party until you see that it begins to favor the bosses and the moneyed classes and to forsake the plain people, then cut loose at once. A party may be good generally, but it needs cleansing once in a while of the barnacles and bosses that get control of it. Don't get so wedded to a party that you cannot shake it when necessary. It is the partizan who always blindly votes the ticket his party bosses give him. It is the patriot who votes for sound principles and good men. So long as your party officials remain the servants of the people, stand by them. When they become spoliators and dictators, get rid of them."

Bank-Deposit Guaranty

Speaking of a law guaranteeing depositors in national banks against loss, a banker said to me, "I am well satisfied such a law would be wholly good, and I was very much surprised to see the Republican national convention turn it down. What the leaders of that party were thinking about puzzles me. The other party played a trump card in taking it up. When the Walsh Bank in Chicago failed I had a distant relative, a widow with four small children, who had every penny she had in the world, about four hundred dollars, in that bank, and she was going to draw money out of it the following day to pay the rent on her little room, when a neighbor told her the bank was closed. The shock killed her. The four little orphan children were scattered, and never will see each other again while children, probably never. If the depositors had been guaranteed against loss, as contemplated by the law the Democratic platform favors, she would not have lost a penny. Neither would the hundreds of poor old souls who had their all in that bank, and were pauperized by its failure."

I know quite a number of people, many of them well along in years, who never put a penny in a bank. They have their savings hid away in queer places, and some of them carry them sewed inside the lining of their clothes. They dare not trust the banks with the only sum that stands between them and the poorhouse. If their deposits were guaranteed by the state or nation they would have no

fear of losing them, and they would also be rid of the fear of being robbed. When the panic began last fall I was surprised to see many old farmers quietly drawing their money out of the banks "to pay bills," and hiding it away. Some would draw a little every week, nervously watching the papers and listening to everything touching upon finances. Probably millions of dollars were hid away in town and country, and lots of it has not yet come out. The plain people need this law, and as soon as they comprehend its real meaning the demand for it will be overwhelming.

FRED GRUNDY.

Selling a Farm

THE letter from the subscriber in Green Bay, Virginia, who wished to dispose of his farm seems to have aroused interest in several quarters. Letters have come from parties in several states asking to be put in touch with the writer of the letter.

One of these, which comes from a city man, is of special interest. He writes that he was brought up on a farm and was formerly a practical farmer. He now owns a city home, but has been without work for the last six or eight months. He had just come from a ten days' job in the hay field and would be glad of the chance to do more of the same kind of work.

This shows the side of city life which one should keep prominently in mind before deciding to dispose of a farm. In times of commercial depression, such as the present, many men must be thrown out of work, and often with very unfortunate results. There are cases, to be sure, where the proceeds of a farm wisely invested will yield the owner more comforts in a small country village than will the farm. One great trouble, however, is to be sure of the wise investment. It may be safe, but yield too little return, or the return may promise well, but the principal be insecure. Nearly all investments look well when they are made, but very many look far otherwise later on.

I am sorry not to have preserved the address of this Green Bay subscriber, so that I could forward these inquiries to him.

FRED W. CARD.

Possibilities on a Small Farm

FOR the encouragement of those who are on small farms I will give a little of my experience on a farm of fifty acres.

My wife and I started in about nine years ago with an indebtedness of five hundred dollars and with only one small horse and one cow. To say that we were handicapped would hardly express it; but we started in to win.

I worked on the farm in summer and away from home in winter, and in less than three years we had the mortgage lifted and had a team and two good cows.

Things began to brighten. I then gave my whole attention to the farm, which was badly run down. I kept increasing my stock, buying feed and feeding it out on the farm, and making all the manure I could and hauling it direct to the fields. I have also hauled several hundred loads from our town, two and one half miles away, which I get for the hauling. I manure the corn ground in winter, and as soon as I plow that I go on to my pasture and apply twelve to fifteen large loads to the acre, taking pains to spread it evenly, and I want to say that this has paid better than anything else I have done on the farm. I have land producing five to ten times as much grass since giving it this treatment.

I have gone over about two thirds of the farm, and expect to complete every acre in a few years. We also keep a good brood sow and a fine flock of Leghorns, and my wife makes "gilt-edge" butter, which is engaged the year round at a good price.

We have two children, but kept them in school all the time, although they were badly needed on the farm. This has taken courage and hard work, but when I look around and see our fine horses and sleek cows, and grass growing where none grew before, I feel well repaid, and will say that if a man has grit and a good wife he will surely win. I would not exchange life with the city man, and I know what I am talking about, for I have tried both.

F. C. P.

A Question and an Answer

"WHAT is the reason the farms of this section are worth so little? Why, I know of farms that are selling for ten dollars an acre. Good-looking places, with house and barn. I don't see into it."

This is what a gentleman from Washington, who is connected with the Department of Agriculture, asked me the other day, when we were speaking of farming prospects in a certain part of one of our largest states. It happened that I could give a pretty fair solution of this problem. This is the way the story ran:

"Well, you see, this is essentially a grass-growing country. Dairying has always been the principal business since the lumber disappeared. For a long time this was a money-making business. I have heard my father-in-law tell about how the farmers of the North made money in the time of the war. Fifty cents a pound for butter, twenty dollars a barrel for pork, and everything else in proportion.

"But after the war things sagged back. High prices passed away, so far as dairy products were concerned. Then the farmers looked about them for the next best thing; and they thought they had found it in growing and selling hay. Hay brought a good price. In many parts of the country large cities were springing up. These needed hay and must have it. And the farmers began to sell off their hay.

"Then what? Then they discovered that if they sold hay they could not keep so many cows. They could not, in the old-fashioned language we hear sometimes, 'eat their cake and keep it, too.' How grave a mistake this was we know to-day. The scanty meadows of the country, the empty houses and the silent neighborhoods we find by driving for an hour in any direction out of the city prove how disastrous a proposition this was. You can go anywhere almost in these days and find plenty of homes that are practically abandoned. That is, the home is empty. The land is let to some one to work on shares; the grain and hay crops, such as they are, are taken off, and the farm left only so much the more barren.

"So you see right there the secret of the low prices. The farms are debilitated. They need restoration. They must have it if they ever bring their old-time price. Still another reason for this depression may be found in the drift of young men to the city. Hired help is scarce and hard to get at any price.

"But there is a brighter and better side to this matter. Only a week ago I received a letter from a young man who has for a good many years owned one of these deserted farms. It has been steadily going down, down, down—land poorer, house fairly dropping back into the earth, barn sills going to decay—but now see how he writes:

"I have been doing a lot of work on my buildings. I have put new sills under the barn and some slide doors, painted, on the barn. I have put a good roof on the house and laid up the walls again. I have fixed up the granary and the hen house and it is all nice and new again."

"Now he is looking for some good man to take the farm and bring back the fertility by keeping stock and using up the stuff grown on the place right at home. That is the right policy. Never will we see the goodness brought back to our farms until we stop selling everything off."

Just here my friend from the national capital added his word of encouragement. It is no secret, and I wish what he said might be published all over the country for the help and guidance of our farmer friends.

"You can bring your farms back. Perhaps they never will be just as they were at first. The natural humus is gone. Plow green crops under. If the soil is too acid—and I judge much of it is that way—spread on the lime freely. Save all the manure possible. Keep more stock. Till every crop thoroughly. Do your farm work better. Instead of buying more land, till less and do it in a more thorough and systematic way."

Then he went his way and left me to pledge myself that I would on my own farm follow this good advice, and with all the power of my mind and body strive to pass the word on that we need not be discouraged about the farms of our country.

E. L. VINCENT.

See Special Notice About the Above Blank on Page 15

Rotation and Farm Fertility

Rational System of Crop Rotation Necessary to Success

THE most successful farmers are the ones who have succeeded in making the most correct interpretation of Nature's laws. The observing farmer learns many lessons from Nature and her workings in the world about him. One of

incomplete fertilizers and depend upon the legumes for their supply of nitrogen.

The question of maintaining the supply of potash and phosphoric acid in the soil depends upon whether we are so situated that we may buy grain and feed it out on



Crop Rotation No. 1

these lessons is rotation of crops. It is by this method that Nature has made the soil fertile.

It is upon working in harmony with Nature that success in any branch of agriculture depends. The farmer who makes a close study of Nature, and plans his system of crop growing so that it will conform to her fixed laws and principles, is a scientific farmer and worthy of success in its highest degree. For this class of farmers it is hard to conceive of a systematic plan of farm management without a rational system of crop rotation. Any other method of cropping must be based upon a random availability, or caprice, having no special reference to the actual condition of the soil or its needs, devoid of system and based upon a more or less accurate forecast of the markets and weather.

Crop rotation conserves the fertility of the soil. By a wise provision of Nature the plant food contained in the soil is locked up, and it is only by the right combination of the silent powers of heat, cold, drought and moisture that the riches in the soil are made ready for plant food. To produce the right combinations of heat, cold, drought and moisture that will unlock this stored-up fertility we must follow some definite crop rotation and supply the soil with an abundant supply of humus-forming material.

An average soil contains sufficient potash and phosphoric acid to produce good crops for four hundred years, while the supply of nitrogen is only sufficient for about one third that length of time, and it has further been proven that the supply of soil nitrogen is dependent upon the amount of humus in the soil before it can be made into a condition available to nourish the growing plants. Thus we can see the necessity of providing a rotation that will add both humus and nitrogen to the soil.

The cheapest source of nitrogen is the air. Very few plants have the ability to avail themselves of this form of nitrogen except the legumes, and therefore the legumes must have a place in every rational crop rotation. The legumes of the greatest agricultural value are the clovers, cow peas, alfalfa and soy beans. Each of these legumes has the power to appropriate free nitrogen from the air and store it in the soil for the crops that are to follow in the rotation. It is upon the judicious use of these nitrogen-gathering crops that the permanent agriculture of the whole country depends.

The most thoughtful farmers are fast coming to the conclusion that they must follow some kind of crop rotation that will maintain the supply of humus and nitrogen in the soil, even though they depend largely upon commercial fertilizers to furnish the phosphoric acid and potash to their soils. The humus in the soil forms a base for the plant food to combine with when it is being changed into a form that will be available to nourish the growing plants. The cost of nitrogen makes it unprofitable to use fertilizers rich in that element when it can be supplied by the use of legumes that may be grown in the crop rotation. The most successful farmers who depend upon commercial fertilizers are the ones who use

our farms, or whether we must buy these elements from the fertilizer factory. It is merely a question of the conditions under which we are farming. When we apply manure to the soil we are adding considerable humus-forming material, and when we apply fertilizer we should plan our rotation so that some green crop



Crop Rotation No. 2

may be plowed under to maintain the supply of humus.

The indiscriminate use of commercial fertilizers without having a sufficient supply of humus in the soil will lead to soil ruin faster than any system of cropping that may be followed. The use of commercial fertilizers in the crop rotation should always be in connection with some kind of vegetable matter. Here is a question of importance. How can we add humus-forming material most economically? Shall we plow under legumes or green forage crops or haul it on the soil from the stables? Some may be so situated that it will be more economical to use mineral fertilizers and the legumes, but to speak from the standpoint of permanent agriculture, some form of live-stock growing or feeding must be followed; but I do not advocate feeding live stock at an actual loss just for the sake of making stable manure, for it is possible to maintain fertility when green forage crops and commercial fertilizers are judiciously used in the rotation.

But here again we must consider the economic or financial aspect of the matter. It is a very poor feeder who cannot derive considerable feeding value from the legume crops by following some branch of live-stock feeding, and we may discuss the subject until we are black in the face, and when we get right down to the bottom of the subject we will find that live-stock feeding is the surest way to maintain soil fertility. The question of maintaining fertility with fertilizers is more a question of possibility than of profitability.

Without attempting to lay down any definite crop rotations to be followed, I have tried to cover some of the leading phases of the subject. Every farmer

who reads and thinks is capable of deciding upon what rotation is best adapted to his particular soil, climate and location. These are matters that no man can answer unless he be familiar with local conditions and markets.

I believe that more of our land should be in permanent pastures, and then a rotation should be adopted on the land under tillage. For the average stock farm I would suggest corn, either for the silo or for grain cut and shocked, winter wheat drilled in the stubble and seeded with clover, the manure made on the farm to be applied to the clover after the first crop is cut, and plowed under after the second crop has made a fair growth in the fall, and the field planted to corn the next year. This is a very desirable rotation to take as a guide.

If you are making a large amount of manure it may prove more profitable to add a year to the rotation and grow some market or cash crop in the regular rotation. Many times such a crop may be grown with the same hired labor and teams, and the cost of growing reduced to a minimum, thus making the returns from the crop practically so much profit.

Growing and feeding live stock and carefully saving and applying all of the manure manufactured by them, and following a crop rotation with a legume every third or fourth year, will maintain and even increase the productiveness of the soil and afford an abundant supply of humus and nitrogen, and enable the soil to be put in the best physical condition, so that good crops may be grown instead of weeds. If the above line of farming is followed there will be little

States knows that clover rotation is his salvation and his main reliance for starting his impoverished soil back on the road toward its original fertility.

How very effective this means is or can be made is shown to me very strikingly this year in a piece of ground which about six or eight years ago was very common farm soil, a clay loam, quite low in productive capacity, apparently without much life, the supplies of humus and nitrogen having become well reduced. This patch was planted with raspberries and blackberries, kept under fairly good cultivation for several years, then allowed to grow up in volunteer clover. The clover between the rows of berry bushes was cut at least once a year for several years, for feeding green to cattle. Last fall the whole patch was plowed up and the berry bushes rooted out. This spring I planted cucumber and melon vines, sweet corn and tomatoes on it. Right on this spot the growth of everything planted was astonishing—far more luxuriant than I had with the same vegetables planted at the same time, or even earlier, in old garden soil that had been regularly and heavily manured year after year. The rest from interference with the plow and cultivator, together with the clover, and especially the latter, did wonders.

I can often observe this same thing in growing potatoes. It is on new land, on the land rejuvenated by being in clover sod for some time, on strips of old fence rows, old berry patches, etc., where we can look for big potatoes or big melons, squashes, pumpkins, big corn, big grain, and big crops of any of these things, while I always look with suspicion and mistrust on the old lands that have been cropped right along, even with heavy manuring, but without the rejuvenating treatment of clover rotation and rest in sod. Such soil often seems without life and without energy.

Persistently and continuously as the importance of clover rotation has been urged upon the readers of farm papers and the listeners at farmers' meetings for many years, and well understood as it may be by the progressive soil tiller, it is true, nevertheless, that the average farmer is not making use of this sure, effective and usually satisfactory natural method of soil rejuvenation as much as he might, or as he would find profitable.

Where there is plenty of land available, so that plenty of time can be allowed, the field to be rejuvenated may be left in clover, if necessary, by reseeded with alsike, etc., for a number of years. The rejuvenating process may be hastened, of course, by means of the free use of manures or of mineral fertilizers. I would use superphosphate (dissolved rock), and on light soils ashes or potash salts, anyway.

I find that clover and sod rest for a few years is even advisable and useful for the rich and regularly manured soil of the garden. Either change the location of the garden now and then, always for a piece rejuvenated and cleansed from foul weeds in this manner, or treat one half of the old garden and change occasionally

danger of the supply of potash and phosphoric acid becoming deficient in the soil.

W. MILTON KELLY.

Rejuvenating the Land

THE richness of "virgin" soil is proverbial. We have often seen the wonderful luxuriance of vegetation produced on new



Crop Rotation No. 3

land, land newly broken after the original forest had been cut down and removed, but when such soil has been used for years continuously for the production of grain or other farm crops, with or without occasional light manure applications, the productive capacity has gradually become lower, and finally sunk to the level of average crop production.

The rejuvenation of such soil, however, is no secret. Every good farmer in the clover-producing sections of the United

from the one half to the other. Thus put new life, new energy, new activity into the soil which, though abundantly supplied with plant foods, seems tired and slow. Clover here is the foundation of eternal youth for the land. T. GREINER.

**Look for the BLUE MARK
on the back page of this
paper---Page 24**

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Review of the Farm Press

What Others Are Saying About Important Farm Matters

The Tolman Open-Front Houses

THE best-known type of the fresh-air, open-front style of house is the kind devised by Joseph Tolman, of Rockland, Massachusetts, models of which have been shown quite extensively at the poultry shows, and plans and specifications offered for sale in the advertising columns of the poultry and farm papers.

Plenty of Air

The recent trend of poultry building has been away from the old-style, close-built house with glass front. It was found that much glass is an injury to the health of the birds because of the extremes of temperature. Curtains of cloth were substituted for glass fronts by many poultrymen. Finally experimenters like Mr. Tolman ventured to take the front out of the house altogether, simply closing in with wire to confine the fowls. The results were so encouraging that the plan attracted wide attention in the poultry papers, and hundreds of houses are being built on the Tolman model.

Eggs and Vigor

Said Mr. Tolman: "I have found since using this style of house that I have healthier birds, a better egg yield and much stronger chicks, in addition to a decided saving of money and labor in the operation of my plant. I have never used a curtain in front of the roosts or in front of the house, although the houses are so arranged that curtains can be used in front of the roosts in very cold weather if deemed necessary. It may seem curious, but it is true, that upon stepping into one of these open houses when zero weather is prevailing the building seems warmer than many of the old-fashioned kind. During the coldest weather which we had last winter my birds increased in their egg yield every day. I believe the fresh-air house is as far ahead of the curtain-front house as the latter is ahead of the closed type."

The use of this style of house began in 1904-5, when the new plan had a severe trial on account of the continued cold, stormy weather. The plan had been adopted according to the suggestion of Dr. P. T. Woods, who concluded that many poultry diseases were the result of close confinement and lack of sufficient air circulation. Although the first houses were not especially well adapted for the new plan, having been built for the glass-window style of house, the results were favorable from the start, eggs hatching better the first season and chickens becoming large, strong and vigorous.

Large Flocks

It will be noticed that the plan admits of larger flocks than the ordinary house, the ample air supply keeping the crowded flocks in good health, while the presence of a large number of birds protects the flock against cold. The house is ten feet wide and sixteen feet deep. The larger type of house is fifteen by twenty-four feet. There is a door on the east side, about half way between the front and back ends, and directly opposite the door is a window. In the large house are two windows. The open front is protected with one-inch netting. Half-inch or one-fourth-inch mesh is preferred in exposed locations, as finer netting keeps out drifting snow. The fowls roost at the back part of the house, and in bleak locations the use of a coarse muslin curtain in front of the roosts is recommended. The muslin curtain is tacked to a frame hung with hinges from the roof, so that it can be fastened to the roof out of the way during the daytime. The curtain is dropped in front of the roosts during zero weather. The front of the fresh-air house is never closed. The roosts in the rear of the building being above the level of the opening, the fowls are not exposed to winds blowing in at the front, and the other sides of the building being tight, there are no drafts.—The American Cultivator.

The Farmers' Institute

THE farmers' institute is growing in importance from year to year. Up to this time farming has been largely a matter of speculation. We do not mean by this that farmers have gone into the business for the purpose of speculation, but that their increase in wealth has been largely due to the advance in the price of land. In the future success in farming will depend not so much on the advance in the price of land as on

straight farming, bringing the farm up to the highest measure of production and disposing of the product in the highest market. It has heretofore been possible for the poor farmer to get rich through the advance in land. We do not say that this will not continue for some time to come, but that the advance in price will be much less rapid in years to come than it has been for seven or eight years past, and that this advance will depend largely on the skill with which the farming operations have been conducted. In other words, it will depend on the man's personal ability rather than the desire of the farmers of the United States to own land in the corn belt. For this reason the education of the farmer by institutes and in other ways is becoming more important each year.—Wallaces' Farmer.

Crop Rotations

THE owners of thin soils do not succeed with the common crop rotations in thousands of instances. These rotations of three, four or five years depend for success upon the ability of the land to produce heavy clover and grass sods which furnish humus when plowed down. Thin lands fail to grow a heavy sod, and if there is not a supply of manure the productive power of the soil decreases rather than increases, and matters go from bad to worse if the rotation is continued and plowed crops are grown. Grain and straw are needed on the farm, and the area in the farm fit for plowing may be relatively small, but the rotation of corn, oats, wheat and clover, or corn, wheat and clover, is not a success, as it is on more fertile farms.

A New Rotation

I want to urge consideration of a four years' crop rotation for thin land that is based upon experience I reported years ago in getting good sods on thin land by growing a summer crop of cow peas or soy beans. This experience was first on my own farm, but later we tried the scheme on fifty acres of thin land belonging to a state institution. It was only the adoption of the teaching and experience of good farmers throughout all past years that a seed bed for wheat and clover should be firm and rich organic matter should be in the surface soil. Having no manure for top dressing, the right thing was to grow the manurial crop and leave it on the surface of the ground.

The rotation was worked out for the southeastern Ohio test farm, which has some thin land in it, and the results confirm all that has been written in favor of such treatment of land. It is a rational rotation, especially for all thin land that must be cropped in the area south of the belt of profitable oats production. There is little land south of Pittsburg that can grow oats with profit on account of the heat. It is a good rotation because it provides two crops of legumes in the four years' rotation, and three of the four crops are ones to be fed on the farm, while the fourth provides straw. It is good, also, because it embraces crops that follow each other to the best possible advantage.

Clover

The main consideration is the clover. It is needed for feed and for fertility. Corn naturally follows the clover to furnish grain. The old rotations fall down because the clover sod is not secured. That is due to the lack of humus in the surface soil, assuming that the land is sweet. The ground having been cropped with corn, and maybe with oats, is broken for wheat, and the infertile soil brought to the surface will not start clover and grass well. It cannot hold moisture nor feed the little plants, and a poor sod is obtained.

Soy Beans or Cow Peas

The year following the corn crop on thin land usually is unprofitable, especially south of the best latitude for oats. If oats are seeded, the crop is poor. If wheat follows the corn, it is poor. The seeding to grass and clover in wheat on the impoverished corn stubble is rarely a success. This has been common experience on thin soils when there was not a supply of manure. At the Ohio test farm soy beans were put into a four years' rotation to follow corn, and thus we have corn, soy beans, wheat and clover. Rye is sown in corn stubble in fall as a winter cover crop, to be plowed down for the soys, and during the four years the land is not left bare.—Alva Agce in The National Stockman and Farmer.

All Eyes on the Farmer

THE eyes of the business world are upon the farmer and his crops. The Department of Agriculture has two different groups of men reporting on crop conditions from week to week and month to month, in addition to the experts in the various states giving their independent views as to the condition. Every principal railroad requires reports from its station agents along the entire line. The grain trade associations have also their reporters giving weekly or monthly estimates of the crops. The daily reports from the growing crops have a marked influence on the rise and fall of stocks in Wall Street. The great manufacturing trusts enlarge or decrease their operations as favorable or adverse reports of the growing crops are received.

All this gives eloquent and emphatic testimony to the fact that after all agriculture lies at the basis of our prosperity. With large crops in sight railroads see the opportunity to utilize all their cars, and if necessary, ordering more. With large crops manufacturers at once see the necessity of enlarging their operations and giving employment to labor.

This has always been the case, but the anxiety with reference to the farmer's crop is more intense this year because manufacturers and traders believe and justly that it depends upon the farmer to restore prosperity, or in other words, to put an end to this period of depression. Naturally, therefore, there will be a tendency to overestimate the crops this year, because in making reports and estimates usually "the wish is father to the thought." The danger of overestimation is minimized by the fact that comparisons are made with crops grown the previous year, which have also been overestimated.

It is now possible to make a fairly accurate estimate of the crops of the present year, with the exception of corn and cotton. There is no danger of the people of the United States starving this year, and in view of present conditions there is no good reason why mills should be idle or cars stand empty in the yards for many weeks longer. It would not surprise us if within ninety days we should hear complaints of scarcity of cars and blockade of elevators.—Wallaces' Farmer.

Cement Plaster for Houses

CEMENT plastering is being used quite extensively for outside finish, and is proving very satisfactory, durable, artistic and impervious to the weather. As a rule, two coats are used—the first, a scratch coat, composed of five parts of Portland cement, twelve parts of clean, coarse sand, three parts of lime and a small quantity of hair. The second, or finishing coat, consists of one part of Portland cement, three parts of sand and one part of slaked lime paste. Some masons prefer a mortar in which no lime is used, but this requires more time to apply.

In using this kind of a finish on a frame structure, first cover the surface with two thicknesses of building paper. Next put on furring strips about one foot apart, and on these fasten the wire or metal lath, of which there are several good kinds to be had from dealers in building material. Apply the first or scratch coat one half inch thick and press it partly through the openings in the lath, roughing the surface with a stick or trowel. Allow this to set well, and apply the finishing coat about three fourths of an inch thick. This coat can be put on and made smooth with a wooden float, or it can be thrown on with a trowel or stiff brush if a spatter-dash finish is desired. A pebble-dash finish may be obtained with a final coat of one part of Portland cement, and three parts of sand and pebbles not over one fourth of an inch in diameter, thrown on with a trowel.

We think it best, however, to make a smooth finish and then paint the color desired. This is becoming quite the practice with many masons.

The work should be moistened twice daily for several days. There is no cracking when the work is well done and good material, free from clay or dirt, is used. We do not think such a covering would prove the best for a roof. The weight is so great that unless the supports were very strong and rigid there might be danger of settling sufficient to cause cracks and leakage.—The Wisconsin Agriculturist.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Saving an Old Orchard

MANY orchards are overplanted, and the trees are deteriorating because of overcrowding. Before branches begin to touch, the trees should be thinned. Many orchards are on soils too wet for orchard trees. Such soils should be drained, for as long as the land is in such a state no amount of care and treatment will make the orchard profitable. Such lands are usually sour and the application of lime will prove beneficial.

Prune Thoroughly

Worn-out orchards have not been well pruned. This is indicated by the unsymmetrical heads, dead and dying branches, and a great growth of watersprouts. Prune the trees with a view to correcting these defects, to let in light and air and to facilitate orchard operations. Heavy pruning of the top induces wood growth. This pruning, therefore, will tend to reinvigorate the trees and to correct the mistakes of earlier years.

It is not necessary or even desirable to cut off all the watersprouts. Some of them if judiciously selected will help to form a new top and take the place of the old and decayed limbs. These watersprouts are the results of an attempt on the part of Nature to renew the tree. What is wanted here is new and vigorous wood to take the place of the old and dying. Heavy pruning is not a direct means of setting trees into bearing; in fact, it is rather a means of setting them into growing. But after they have renovated themselves by this means they may be expected to slow down and come into bearing, and a light annual pruning should be sufficient to keep them in shape. They should be pruned every year, however, for trees that are alternately neglected and heavily pruned are apt to be kept in a condition of unrest, which is apt to be fatal to the best productivity.

Heavy pruning in this climate should be done in late winter or early spring when the severe weather is past. Make the wound as near the tree trunk as possible and parallel with it; large wounds should be covered with paint or other suitable dressing, to prevent decay.

Reserve Old Wood

The shaggy bark of old trees indicates a "hide bound" and unthrifty condition and harbors insects and fungi. Scrape the tree with a short-handled hoe or other suitable tool, remove all dead or dying portions, cut out all signs of cankers, gummosis, dead spots, borers or other troubles of the wood. Some or all of these troubles are to be found in neglected orchards.

Early in the spring, before the buds start, follow the above cleaning process with a thorough spraying with a strong solution of copper sulphate—three pounds to fifty gallons of water—to kill mosses, lichens and fungi. Apply the seasonal sprayings as recommended in the recent bulletins upon that subject.

Tillage

"Worn-out orchards are usually in sod, and no matter what the system of tillage advocated may be, the breaking up of the sod and subsequent tilling for several years must hold first place as a means of renovating old orchards." Plow each spring and cultivate throughout the season after every rain or as many times oftener as may be necessary to keep down the weeds, so that they cannot take the cream of the land and that plant food may become available for the trees.

The soil of worn-out orchards can be greatly improved by cover crops. They add humus to the soil in which old orchard lands are usually deficient, and if legumes are used, nitrogen is added, also. Cover crops should be sown when the trees have made the proper season's growth—about the middle of July—and plowed under the following spring.

Nearly all worn-out lands contain little available plant food. Hence stable manure, cover crops, potash and phosphoric acid in varying quantities to suit different conditions can be applied to advantage. Nitrogen is best applied by an occasional cover of clover or vetch. Stable manure improves the physical condition of the soil as well as supply plant food. With the nitrogen supplied through a cover crop a dressing of one part of acid phosphate, ground bone and muriate of potash at the rate of one thousand to fifteen hundred pounds to the acre could probably be applied to good advantage in most cases.

These fertilizers should be varied in accordance with the soil, age and vigor of the trees. In conclusion permit me to say that it is gratifying to note that the number of farmers who regard their orchards in the light of a specific crop for which it pays to care is growing larger and larger. The time in which orchards are left to shift for themselves is passing by. Orchard management includes many important items. If a man is going to grow apples he must pay attention to all the little details which in the end insure success. Those of you who have done your work intelligently, know that the apple is a sure and profitable crop. Of course it is not always possible even with hard work and big outlays to secure a crop every year. It isn't always possible to contend against disastrous winter freezes or frosts during blossoming time, which may work havoc some years, but I wish to emphasize the fact that if you do the proper cultivation to maintain the physical condition of the soil and retain the moisture and fertilizers to replace the plant food removed, and if you do the spraying which is necessary to secure the free circulation of light and air and do the spraying with proper materials at the proper time, which will largely control the fungous and insect pests, it is possible for you as fruit growers to secure a crop of clean, large, well-ripened fruit every nine years out of ten.—Prof. H. Beckenstrater in The American Cultivator.

Artificial Clouds for the Protection of Vineyards

IN REPLY to an inquiry from an American grape and fruit grower who had lost during the present year very heavily in young fruit trees and grape vines from frost, Consul D. I. Murphy, of Bordeaux, furnishes the following information concerning a French process of producing artificial clouds for the protection of vineyards:

"The process, the invention of Mr. Edouard Lestout, of Bordeaux, consists in filling small wooden boxes, open at the top, with an inflammable composition consisting of a mixture of equal parts of resinous with earthy matters (clay, terra alba, and the like) reduced to a fine powder, and pressed into a compact mass. In the center a wick extends through the compound and serves to kindle it. The wick, however, may be dispensed with and the composition ignited by pouring a few drops of alcohol, petroleum or other inflammable oil over the mass, and applying a match. These boxes, about eight inches long by six wide, made of pine wood ordinarily, are placed in line, about thirty feet apart, around certain areas, say of fifty acres.

"So far as grape vines are concerned, the most dangerous period of the year is in April, when the young shoots are showing some vigor and the juices running freely. Then a slight frost may mean disaster unless the plants are protected in some way. There is but little danger when a dark or cloudy morning follows a cold night. The trouble comes when the first rays of the morning sun strike the almost frozen and unprotected plant. Rapid disorganization is sure to follow, cases being known here where entire vineyards have been so destroyed. By the Lestout process a dense cloud of smoke is produced, hanging over the vineyard long enough to protect the plants from the sun's rays and give them a chance to recuperate from the dangerous effects of the frost.

"The composition in the boxes to windward only is ignited, the thick, black, heavy smoke hanging over the field forming a shield against the sun's rays. If it is desired to extinguish the fires it is only necessary to have an open box a trifle larger than the others, by means of which the flames are quickly smothered. It is claimed that the protection of fifty acres by this method of producing smudges can be achieved at an expenditure of two dollars.

"The inventor declares also that his process may be used for masking the movements of an army, hiding the erection of field works, etc.; also as a rain producer, and even for driving off grasshoppers and locusts.

"The process has shown to have merit in the protection of vineyards, and it, or something similar, might be used with advantage by American fruit vine growers and horticulturists."—Daily Consular and Trade Reports.



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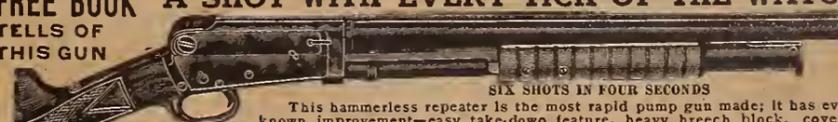
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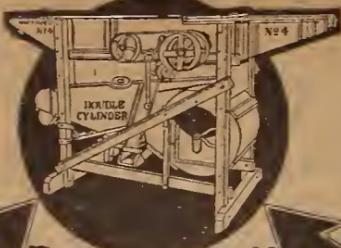
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Fruit Growing—By Samuel B. Green

Slug on Cherry Foliage

THIS slug is a brownish, sticky like affair that eats off the surface of the leaves, which then appear to have been skeletonized. The same or similar insect works on roses. The best remedy is spraying with some poisonous compound. In this case, since cherry trees are rather liable to injury from arsenical liquid sprays, I think you will get best results from using a dust spray made up of air-slaked lime and Paris green at the rate of one pound of Paris green to one hundred pounds of lime.

Mulching Currants

E. M. B., Eaton, Ohio—I think it is a good plan to mulch your currants in the rows, and cultivate between the rows. I think this is better than trying to keep down weeds by mulching the whole surface, as this latter is rather impracticable. You will find that it will take a large amount of straw to do this mulching effectively, as the weeds quickly grow through a thin covering.

Mildew on Roses

M. C., Callery, Pennsylvania—Mildew on roses generally results from unfavorable conditions surrounding the plant. It is very common for it to appear on outdoor-grown roses at this season of the year, when the nights are quite cold and the days warm. Under such conditions the most sensitive kinds of roses are very liable to be thus affected.

Probably the best treatment for holding this disease in check is to dust the foliage with flowers of sulphur. Spraying with Bordeaux mixture would have the same effect, but would leave the foliage unsightly, and it is not so easy to apply.

Sowing Basswood and Choke-Cherry Seeds

A. P., Alvarado, Minnesota—Basswood is propagated by sowing the seed in spring or autumn in drills about two inches deep, but these seeds will not start until after one year. However, they generally come very well.

In the case of the oak and choke cherry, the seed should be sown in the autumn if the land is such that it does not pack badly on top in the winter; otherwise, it is better to mix it with sand, bury in the ground, and sow in the spring.

Planting Catalpa Seed

A. F. O., Johnstown, Ohio—The catalpa is easily grown by sowing the seed in light, loose soil in the spring after the ground is somewhat warmed up, say about corn-planting time. The seed should be sown at the rate of about twenty to the foot and the rows three feet apart. It should be covered one inch deep. It grows easily. As to saving the seed, the pods may be gathered any time after they are ripe. As they hang on the trees all winter, they may be picked at any time before spring.

The Apple-Leaf Aphis

G. H. H., Omaha, Nebraska—The insect to which you refer is known as the apple aphis. It is very common, and is especially troublesome on thrifty, growing young trees. The most satisfactory remedy that I know of is to gather the ends of the branches together and dip them into a basin filled with strong tobacco water. This latter should be made about the color of strong tea by pouring hot water on tobacco stems. This treatment is much better than spraying the leaves, since it is almost impossible to reach with any spray the insects in the curled-up leaves. This insect seldom does serious injury, and I am inclined to think that its work is about over for this year, judging from the specimen that you sent on.

Raspberries in Minnesota

M. L. H., Madison, Minnesota—I do not know of any raspberry that is perfectly safe in western Minnesota and Dakota without some protection in winter. I know the Columbian raspberry, about which you inquire, very well. It does not sucker, and produces a large amount of fruit, which I like. The fruit, however, is purplish in color, and is not desirable for marketing on this account, and on account of its strong growth it is rather difficult to lay down on the

ground, hence is not well adapted for a cold section. However, it is a plant that produces fruit on the new growth that comes from the main cane, so that if this cane is killed back badly there will still be a crop of fruit.

Some of the raspberry growers in the vicinity of Lake Minnetonka, Minnesota, do not cover their King raspberries, and think they are gainers by so doing. However, where raspberry plants in Minnesota can be covered to good advantage, I think they should be so protected in winter, especially in your section, and more especially where they are exposed to winds.

Fruit Trees Not Bearing

J. R. B., Mexico, Missouri—Your letter is of so much general interest that I print most of it here:

"I have an orchard of sixty-five acres, about four thousand apple trees nine to twelve years old, and pronounced by competent judges to be one of the best in the state. Last year we of course had no fruit, and this year not over five hundred of the four thousand trees will produce an apple, and these range from half a dozen buds to a full crop.

"We are unable to account for it, except on theory that last year, having no fruit and a fine growing season, the trees made excessive wood growth and failed to set buds. The same condition is liable to prevail this year, also. Trees do not need pruning in the least and are in as fine condition in this respect as could be wished. I just finished removing water sprouts and whitewashing the trees with lime-sulphur wash.

"What treatment would you advise? One neighbor has one hundred and thirty-five acres about eight years old, mostly Ben Davis, and not a bloom. Old trees in this locality are fairly well loaded with bloom."

There can be no question but that anything that interferes with the circulation of the sap of trees in the growing season has a tendency to cause the production of fruit buds. Among the causes that will do this are removing the foliage in the summer, pruning the roots or girdling the trees, all of which, if done before the middle of the summer, will have a most decided effect in this way. If done after the middle of the summer, they frequently fail of their purpose.

I have girdled a large number of the Russian apples that were a long time in coming into bearing, and generally with good success and no injury to the trees. However, I dislike very much to recommend this as a general practise. As a rule such treatment is not desirable in good fruit-growing sections. However, it is possible that your orchard is on soil so rich in nitrogen and has started in to make such rank growth that it needs a check of just this kind. I think this can be done better by girdling than in any other way, and probably at less expense, and I would recommend you to girdle your trees, using for this purpose an ordinary fine-toothed saw. Starting at a point in the trunk where the bark is reasonably smooth, cut completely around the tree, completing the cut about one inch below where the saw was started into the bark, cutting just through the bark and lightly touching the wood under it. This does not completely shut off the flow of return sap from the leaves, but will have a decided effect. I have known of this being tried on several hundred trees in experiment orchards in Minnesota, and with good results, but a continued practise of it is a poor plan.

Nut Trees in Northern Minnesota

Miss I. W., Holyoke, Minnesota—There are no nut trees especially suitable for northern Minnesota, although the black walnut, butternut and hickory nut grow there. The black walnut and butternut will probably produce some fruit if planted in favorable places. In the case of each of these nut trees it is advisable to plant only trees grown from Northern seed, as your location is close to their northern limit.

Wild Rice for Planting

J. E., Cassopolis, Michigan—The ordinary wild rice in the form it is generally offered for sale has been scorched to remove the hull, and in doing this it is probable that the germ has been killed.

Several years ago Mr. Carl Scofield made a study of wild rice and the conditions under which it grows to best advantage, which information was given out in bulletin form by the United States Department of Agriculture, and I think you can obtain it by addressing the Secretary of Agriculture direct or through your congressman.

One of the points brought out that showed the reason why failure attended efforts to grow this grass was that the seed of the wild rice must not be allowed to become dry for any considerable time before planting, but should be kept moist. Naturally the seed is shed in the autumn and is so heavy that it soon sinks to the bottom of the water, where it starts into growth the following spring. Autumn planting is generally most successful.

Wild rice seems to grow easily in the black soils that are covered with water throughout Minnesota and Wisconsin and south to the Potomac, and is generally found where there are from two to four feet of water. It prefers locations where there is slight current in the water.

We have no figures as to the amount of wild rice that is gathered for any purpose in Minnesota and Wisconsin. It is almost all gathered by the Indians. The largest single amount of it that I have ever known to be gathered was at Aitkin a number of years ago, where one concern reported to have over five hundred bushels on hand.

Peculiar Effect of Lightning

B. H., North Vernon, Indiana—As I understand you, a locust tree growing near your place was struck by lightning early in June, and at that time this limb and the rest of the tree was in full, vigorous growth, and not a locust tree on your place had bloomed that spring. The branch that was struck by lightning lost its foliage, and later on came into leaf, and in August was a mass of bloom. This occurred in the season of 1907. At the time of your writing me, in May, 1908, the branch seemed weak and was apparently dying, and you ask for an explanation.

It is my opinion that the tree came into flower as the result of the lightning, which checked its growth. It is well known that anything that checks the growth of a tree in June is quite likely to cause the tree to produce flower buds, while without such a setback only leaf buds would be produced. We occasionally have apples, plums, and even maples and other spring-flowering trees, bloom in August when we have dry weather in June and July, which checks their growth and causes them to set flower buds. Just why the lightning acted in this way I do not know, and have never known of a similar case. It is certainly interesting, and I am glad that you brought it to my attention.

Moving Large Norway Spruce

P. C. van V., Elroy, Michigan—Norway spruce trees eight feet high can be moved if carefully handled. Great pains should be taken, however, to get them with a good ball of dirt, and to protect the roots in moving, so they will not be dried. I generally prefer to move evergreens just as the new growth is starting, but I think that in your vicinity they can now be moved to good advantage. I have sometimes moved them successfully when the new growth was nearly three inches long.

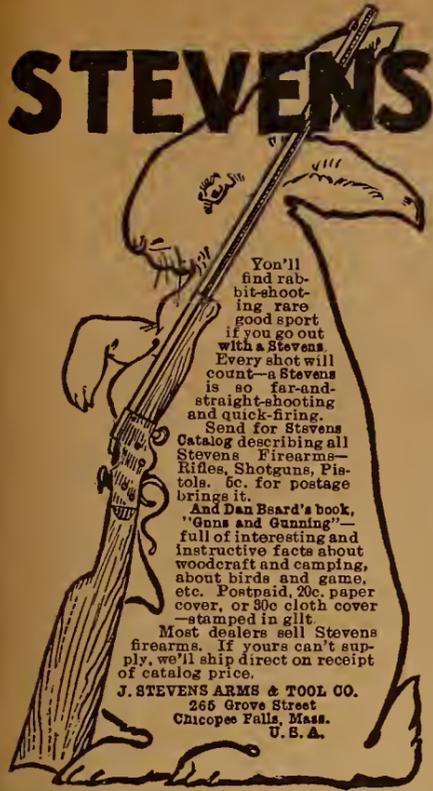
American Blight in Natal

What is known as American blight in England and Australia is the woolly apple louse. The following note from a subscriber to FARM AND FIRESIDE from Natal, South Africa, is interesting in this connection:

"I noticed in your May number of FARM AND FIRESIDE an article on insects to destroy aphid or American blight on fruit trees. Thirty years ago we planted here an orchard of oranges, noatches, lemons, etc. American blight started soon afterward amongst them. But I noticed that the black ants found it out immediately, ate up all the blight, and have kept the trees clean ever since. The trees have never been sprayed, only white-washed with lime and a little flour (the latter to make it stick on) every spring from the ground up to where the branches begin, and all look healthy. Natal has a mild climate, so consequently a great many pests trouble us.

"Yours very truly,
"G. MORTON.
"Tweedle, Natal, Africa."

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Gardening

By T. Greiner

Sauerkraut

A MINNESOTA subscriber asks why the home-made kraut is not as white as that bought in the stores, and what the commercial makers put in to make it so white.

I am not aware that it is necessary to put anything into the kraut but cabbage and salt to make it of proper color, and any other ingredient, so far as I know, would be of evil.

Mrs. Rorer's recipe (and there is no better authority) is as follows: "Shred the cabbage fine. Line the bottom and sides of a small keg with the green cabbage leaves, put in a layer of the cabbage about three inches thick, cover with four ounces of salt, and pound down well, then another layer of cabbage and salt, and so on until the keg is full. Put a board on top of the cabbage, and on this a heavy weight, and stand in a moderately warm place to ferment. The cabbage sinks when the fermentation begins, and the liquor rises to the surface over the cover. Skim off the scum, and stand the keg in a cool, dry cellar, and it is ready to use."

Vegetables Going to Seed

J. S. R., a Minnesota reader, wants to know why his salsify plants go mostly to seed this year, and whether the roots of such plants are good to use. The seed

to the fact that the normal, strong vegetative growth and development has been interrupted and checked by untoward conditions, such as a long, dry period, heat or cold, lack or excess of moisture, etc. Anything that threatens the very life of a plant is apt to cause it to make at least an attempt to reproduce itself before it dies. If you ask me, therefore, how you can prevent plants of root crops from going to seed prematurely, I would say, use fresh seed of strong vitality, sow it at the proper time (not too early), and give to the plants the best conditions for vegetative growth—good, fertile soil, good cultivation and a continuous moisture supply.

Rose Mildew

Mrs. W. H. S., of Emporia, Kansas, "wishes to inquire, through these columns, whether there is any remedy for mildew on rose bushes." She has a climbing rose that set flower buds quite freely, but these never opened, and branches and stems are covered with a white coating.

I saw Mr. Wm. C. Barry, one of our greatest authorities on outdoor roses, during the florists' convention in Niagara Falls. With him I believe that the rose has a place on the premises of every home in the land, and that it should be more freely planted. It is the "queen of flowers," and if properly handled seldom



Mammoth Squash—Unusual Growth Attributed to Lavish Watering

was sown early in spring. Another reader asked me the same questions about carrots, beets and parsnips.

All these plants are biennials. In their normal development they make a vegetative growth the first summer; in other words, they form root, and this root, if left in the ground over winter or replanted in the following spring, will send up a seed stalk and produce seed. In this process the substance of the root and its real food elements are drawn upon for the formation of the seed to such an extent that the root itself is depleted of all that makes it good for food, and rendered worthless for that purpose.

Under some circumstances the whole normally two-year process of root production and seeding is gone through with in the course of a single year. The true cause of this is not always easily discovered. Sometimes it is due to very early sowing; in another instance perhaps to the use of seed that has lost much of its original vitality by age; in still another

seriously affected by diseases or insects, except, perhaps, where the rose bug is rampant. We have several specimens of the Crimson Rambler type trained up on the south wall of our house. When you see what immense canes, in size and length, a plant of this kind will make in the course of a short summer, you must infer that such growth cannot be made in poor soil or without proper allowance of water. Give food and drink in liberal quantities. Prune these climbers moderately. If there is any sign of blight or mildew, then spraying is in order. I asked Mr. Barry about this. He says spraying with Bordeaux mixture is good and useful. It is safe and can do no harm. If the trouble comes from lice attacks, or there are thrips, etc., then spraying with kerosene emulsion will be in order. We seldom have much trouble with this class of roses, but in the fore part of the season we sometimes give them a wash with the sprayer, using clear, cold water.

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Live Stock and Dairy

The Milking Machine in Use

WITHIN sight of Lake Ontario, and one and one half miles northwest of the village of Belleville, Jefferson County, New York, there is situated a three-hundred-acre farm of fertile soil owned by Mr. Seymour Eastman. All but ten acres of this land can be tilled, and it is farmed in a scientific and profitable manner. The Eastman farm is located in the midst of one of the richest dairy sections in the United States, and at present supports a dairy of forty grade cows, which will be increased in the near future to seventy. For nearly a year this dairy has been milked by a milking machine.

As you enter the center basement door there extends at your left hand a long line of forty stanchions. The patent iron stanchion is used, which is held from the top and bottom by a short chain, thus giving the cow much freedom of movement. At your right is the little engine room, which contains a three-horse-power gasoline engine, a vacuum reservoir and vacuum pump. Beyond this is a large water tank, and next another row of stanchions for thirty head of cattle. The whole basement has a well-kept cement floor.

From the vacuum reservoir are iron pipes extending over the entire row of stanchions on each side of the stable. Between every alternate two stanchions there is a vacuum cock in this pipe. A three-fourths-inch rubber tube is connected with the vacuum cock and extends to the milking machine, which is placed between the two cows near the base of the stanchion. This machine consists of a conical-shaped heavy tin pail, which will hold about sixty pounds of milk. The cover of the pail is a disk, in which is a vacuum motor, which produces the pulsations that draw the milk from the cow's teats. The cover is air tight and excludes all air from the pail. From the cover of the machine there extend two rubber tubes, about four feet long, one from either side. At the end of each tube there is a little metal square, from the upper side of which extends four small rubber tubes respectively to four cone-shaped metal cups, which are about six inches in length. On the top of the

flow of milk can be watched. The milk is drawn from the teat by intermittent suction. When the cow is being milked there is a slight up-and-down movement of the cups on the teat, which is very similar to the corresponding motion of the hand.

The number of pulsations of the machine can be regulated. Mr. Eastman runs his machine at about fifty-five a minute, the degree of pressure being about seven and one half pounds to the square inch upon the teat. When one quarter of the bag has been milked, the cup will automatically fall from the teat. The tube is at once turned and secured with a clamp, to prevent the pumping of air while the remaining teats are milked. This is also the procedure with a three-teated cow. The dropping of the cup prevents any injury being done to the bag. In some of the early machines this was not the case, and at times blood was drawn. The time occupied by the machine in milking a cow is about the same as that required by a man. It can be done much quicker, but it is more satisfactory to use a longer time. In this respect it is not much of a time saver.

In operation the machine is perfectly quiet, with the exception of a low clicking sound made by the pulsator. At first this clicking made some of the cows nervous, but they soon became accustomed to it. The machine being placed between two cows, one is necessarily milked from the wrong side, and you would naturally expect that some of the stock would object, but they paid no attention to this feature. Neither does the running of the engine disturb them. There were no kickers in Mr. Eastman's dairy, so he had no opportunity to test that kind of cow. About one in every six dislikes the weight of the four cups and tubes on the bag. In this case a strap is run over the back of the cow, and this supports the weight. As the flow of milk lessens, the one in charge rubs the bag or emphasizes the pulsations by lightly jerking the tubes. When the machine has milked as clean as it can, the bag is stripped out by hand. If this is not done, the cows will soon dry up, as has been the case in several dairies. Out of the Eastman



Mr. Eastman Emptying Milk

metal cone there is a rubber cap, about two and one half inches in diameter. The edge of this rubber cap is thick, diminishing into a thin diaphragm, in the center of which there is a circular opening about three fourths of an inch in diameter. The rubber diaphragm fits air tight about the teat. These heads are made in various sizes to fit the varying teats. It requires eleven sets for the Eastman dairy of forty head.

At milking time the machine is placed between two cows, the bag and teats are thoroughly cleansed, and the connection made with the vacuum cock above the stanchions. As soon as the vacuum cock is opened, all the air is pumped from the pail, and the motor in the cover immediately starts. The cone-shaped cup is placed over the end of the teat and the suction draws the teat into the cup. The machine milks two cows at a time. Just before the rubber hose empties the milk into the pail there is a short piece of glass tubing, by means of which the

dairy of forty there is just one cow which the machine milks perfectly clean. Another one, a hard milker, gives but very little to the machine, and requires the hand to produce the flow of milk.

The machine is most satisfactory during the flush of the season, and as fall comes on it milks the cows less and less thoroughly. It also does better work at night than in the morning. It works best on young cows and easy milkers. All the cows seem to like the machine, the younger ones taking to it more readily. It is claimed that a heifer first milked by the machine and never by hand will not hold up her milk and will be milked perfectly dry by the machine.

After each milking the machine and tubes are washed out with cold water, and each day are scalded with boiling-hot water. Once a week it is taken apart and thoroughly cleansed, although but little impurity is found. The milk is found to keep in better condition than when all the work was done by hand.

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This new 6-shot model is the simplest, surest, and fastest 12-gauge repeater made. It has the solid top, side ejection and double extractors—special Marlin features of comfort and convenience. The closed-in breech keeps the action clean and the shells dry—keeps out rain, snow, dirt, leaves twigs and sand.

The new take-down construction allows you to take gun apart in ten seconds for cleaning or packing, yet the joint is always as firm and rigid as in a solid frame, non-take-down gun. The fat forearm fits your hand, and helps quick operation.

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Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

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will make your old farm wagon as good as new. Save money because they never need repairs. Write for big free book telling all about them and how they pay.

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THE WARD FENCE CO., Box 867, Decatur, Ind.

Live Stock and Dairy

and the factory finds no fault with it. The milk is emptied from the heavy conical pails into ordinary milk pails; these in turn are emptied into a large strainer elevated some fourteen or sixteen inches above the can on a standard. No trouble is experienced in keeping the milk in perfect condition, even in the hottest weather. I asked one of the hired men how he liked the new method, and he replied, "I do not think much of it. I would much rather do all of the milking by hand than to monkey with any machine which you have to follow and strip the cows." His opinion is not shared by Mr. Eastman, who is well pleased with the machine.

It is found to be much more satisfactory in large dairies than in small ones. There are several dairies of from twelve to eighteen cows in Jefferson County that have used the machine for a time, then thrown it aside as impracticable. Mr. Eastman says that in his dairy of forty head he and his three men can do the milking just as quickly by hand as with the power milker, but that the great advantage comes in during the rush season in the fields, for one man and a boy can tend the three milkers and the rest of the men can work in the fields during the time that they would naturally be milking. Then, again, it gives him a feeling of independence, for should there be a general scarcity of help or should he be short of hands for a few days, the milking goes quickly and easily on just the same.

Some farmers, by much milking, have weakened their hands and wrists to the extent that they are no longer able to do much milking. Such men, by means of the machines, are enabled to continue in the dairy business.

At present the cost is prohibitive to many who desire it. The machines cost seventy-five dollars each, the vacuum pump costs one hundred dollars, and besides this, there is the expense of piping the barn and buying the gasoline engine or some other kind of power producer. Thus, the first cost will be somewhere from four hundred to eight

their machines nor allow them to go out on trial. A prospective buyer is advised by the manufacturers to visit some dairy where the machines are used, to satisfy himself whether or not he wishes to purchase. If then the dairyman still wishes the machine, the manufacturers are very glad to sell.

Feed this year is so high that it is a question with many farmers whether to grain their stock or to let them shrink in the amount of milk. The middle of August, milk was bringing one dollar and twenty-five cents a hundred pounds at the Belleville factory. Some were beginning to feed green corn, which is a very heavy crop in that section. Mr. Eastman was not feeding extra at that time.

He has a large silo, the capacity of which is three hundred tons. All but the milch cows are practically wintered on the ensilage, thus allowing him to sell his big crops of hay and grain at a large profit.

At the middle of August his dairy was producing nine hundred pounds of milk daily. During the flush of the season the amount was between twelve and thirteen hundred pounds. The milk tests about three and eight tenths per cent the greater part of the time.

Mr. Eastman has one of the largest and at the same time one of the best dairies, although a grade herd, in the vicinity of Belleville. His buildings are large and well kept. At present he is laying the foundation for a beautiful new house.

He is a jolly, affable man, one whom you would be glad to know and make your friend. He is a large stockholder in the Belleville Dairymen's Association.

The factory which this association conducts was started six years ago to prove to the Rosemary Creamery Company that the farmers of Jefferson County knew what their dairy products were worth and that they intended to get an honest price for their milk. The Rosemary Company, capitalized at three million dollars, sneered. To-day the Belleville factory is one of the largest in New York State.



The Milking Machine in Operation

hundred dollars, depending upon the number of machines purchased. This is the first cost; then come the necessary repairs and running expenses. The rubber heads for the teat cups cost one dollar each. Mr. Eastman has not had his machine quite a year, and it has been necessary to replace all the heads once, at a cost of forty-four dollars. He expects that this will be necessary about twice each year. The smaller the dairy, the less this expense; but the cost for each cow is less, the larger the herd.

The machine is going to make it possible to handle a dairy of seventy cows just about as easily as forty were formerly cared for by hand.

The hand-power machine at one time on the market did not prove a success. This year, on account of the hard times, help is very plentiful in the farming districts, but this condition will not last. Then the large dairymen will be more anxious to install a milking plant in their buildings.

The manufacturers no longer guarantee

The Rosemary people no longer run a factory in Belleville, but are glad to handle the output of the Belleville factory at the highest market prices. This shows what can be done if farmers will act together. NELSON A. JACKSON.

Crisp Notes on Live Stock

Save the best lambs for breeding, even if they would bring a dollar more; they are worth really more than that.

The best plan for the average farmer in starting a dairy herd is to take a few well-selected animals and breed up to the size desired.

If the litters are farrowed at about the same time, they may easily be divided to suit the size and ability of the sows to suckle them properly.

In currying a horse, don't use a curry comb with too sharp teeth. It is painful, and in time will destroy the disposition of a really good animal. W. H. U.



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There never was a better time to buy the best of Cream Separators than right now.

The advantages derived from the use of the good Cream Separator are greater in the fall and winter than at any other time—when the cows are old in lactation, the loss of butter-fat is otherwise greatest, and butter prices are highest.

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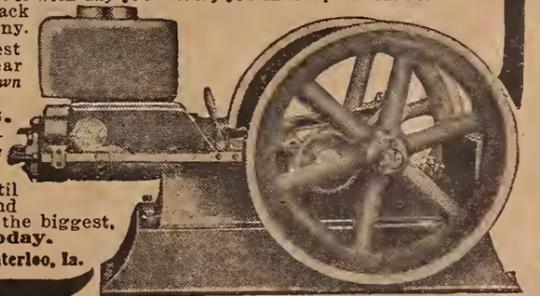
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If you are about to purchase a wagon why not assure yourself in advance of long, satisfactory service by buying one of the well known and dependable I. H. C. wagons?

The Weber The Columbus The New Bettendorf

The two first named wagons are old timers, well known all over the country as of superior build and material and giving long satisfactory service. The Weber wagon has been manufactured 64 years. Many a farmer is able to testify that his Weber lasted him all the years of his active farm life. And as many more farmers are using the first Columbus wagons manufactured. These are standard high grade wagons, and there can be no possible mistake in purchasing them.

The New Bettendorf is the all steel gear wagon, practically unbreakable. It is the wagon for all climates and a guarantee against breakdowns and repairs in all kinds of heavy work.

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There is no better place to begin than with the International agent in your town. Go and see and talk wagon to him. He will supply you with catalogs and give you all needed information. Or write direct to the Home Office.

International Harvester Company of America, Chicago, U. S. A.
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Farm Notes

Storage House for Sweet Potatoes

TO BUILD a sweet-potato storage house or dry kiln that will hold two thousand bushels, mark off a foundation twenty-two by thirty-eight feet extending east and west. Then mark off a one-foot space all around this on the inside, and build a concrete wall two feet high and one foot thick, with an even, level surface to lay the sill on. Now cut off eight feet at the east end and build a concrete wall one foot thick across from side to side, the same height as the outside wall. This makes the inside area twenty by thirty-six feet, with the one-foot cross wall, leaving the larger space twenty by twenty-eight feet, and the small space twenty by seven feet.

In the center of the east-end space dig a cellar six feet deep, five feet wide and ten feet long, leaving a five-foot shelf on each side. This cellar is to be used for a fire box, where you place a stove to produce heat for the house. Cement the entire bottom, sides and top surface of the ground in the seven-by-twenty area.

At the center of this ten-foot cellar there should be a hole for a stovepipe through the partition wall, about twelve inches below the top of the wall; also at a distance of about five feet on each side of this stovepipe hole there should be a six-inch tile set in the partition wall, with the end of the tile on the fire side about six inches below the top of the wall. The tile should slope upward, so that on the opposite side of the partition its mouth will be even with the top of the wall. In the east end of the fire box, opposite the stovepipe hole, set a six-inch tile in the bottom of the end wall, level with the bottom of the stove, letting it extend through to the outside edge of the wall, where it will connect with another six-inch tile standing upright just outside the wall. This will furnish a current of cold air into the fire box, which will aid in driving the hot air underneath the floor of the storage house.

Fill the twenty-by-twenty-eight area with dirt to within three inches of the top of the wall, pounding it down with a maul during the process of filling. Then dig a trench lengthwise through the center from the stovepipe hole to the west end of the area, and lay a line of eight-inch tile so that the top will be three inches below the level of the top of the wall. Connect the west end of this eight-inch tiling with a brick flue built up inside the wall and extending about two or three feet above the roof.

It would be well, when laying the eight-inch tile, to let the hole extend through the west-end wall, so that if at some future time the tile should become choked up with soot and ashes, it could be swabbed out, then a plug put in the hole to close it air tight.

Cover the beaten dirt in the twenty-by-twenty-eight area with gravel or finely broken stone to a depth of two inches when well beaten down. Then cover the entire surface with cement even with the top of the wall, leaving open the mouths of the tiles on either side of the stovepipe. Now this makes a rat-proof foundation that will never be troubled with dampness or freezing.

How to Build the Frame

For the framing of this building use good, sound two-by-four stuff, placing one string around the top of the wall even with its outside edge and another string even with its inside edge. Fasten the two strings firmly together at the corners of the building, and here and there tie them together by means of four-inch blocks.

Place a series of two by four studs, eight feet nine inches long, in an upright position on each sill, and toenail them to the sills. Before placing the studding, locate the door three feet wide in the clear, and the windows, about two feet wide and six feet high. There should be four windows on each side—two in the west end and one in the east end. The door should be in the east end, near the south side. After placing the studding, nail on a two-by-four piece for a plate. Now take two-by-six joists twenty-two feet long and nail them to the studs, just beneath the plate, so that you can ceil to them on the under side.

Ten foot lumber placed upright may be used for boxing on the outside.

Place some two-by-four pieces lengthwise between the studding where you want to nail the boxing; divide the height, and insert the first railing three feet above the sill and the second railing three feet above that, so that you can nail the boxing at two places in the middle and at each end.

Before putting on the boxing, take heavy felt paper or tarred roofing, and nail it to the outside of the studding. After the outside is boxed up, get some sound, dry sawdust and fill in the wall as you ceil up the inside.

Be very careful to beat and pack the sawdust firmly as you ceil up the wall. You now have a solid twelve-inch wall of sawdust commencing on the concrete wall and extending up to the plate. In order to have the sawdust dry, it is advisable to haul it fresh from the mill and put it in a shed where it will not get wet and where you can stir it so that it will season well. I find that the dryer the sawdust, the better.

Make the House Frost Proof

Having the walls finished, put on a good shingle roof with a fairly steep pitch. Then ceil under the joists with good flooring, and fill in the loft with sawdust until the joists are covered one or two inches. Compact this sawdust with that of the walls. This makes a frost-proof house. The top half of the inside door should be of glass; then, by leaving the outside door open, plenty of light will be admitted to the small room, which is to be used as a barreling room.

Lay down two-by-six sleepers two feet apart and make a tight floor in the small room. And make a trap door to step downstairs to the fire box.

Lay two-by-six sleepers lengthwise of the large room, leaving a three-foot aisle on the south side, which will be all concrete floor for walking upon. Place a floor of boards running crosswise upon the sleepers. The six-inch tile previously mentioned allows the hot air to circulate underneath all bins of potatoes and rise up through them, drying them underneath as well as on top, thus preventing the potatoes from rotting in the bottom of the bin.

Set up a row of studding directly over the partition wall, and ceil up on the east side of this row of studding and make a tight partition between the two rooms, leaving room at the south end of this partition for a doorway to the aisle. Then set other rows of studding six feet apart, the width of the bins. This arrangement makes the bins sixteen and one half feet long, eight and one half feet high and six feet wide. Board up the sides and north ends of the bins with one-by-four strips. Also similar strips six feet long should be provided for the front ends, to be put in when needed. These are held in place by a slide nailed up the side of the studding.

Place all strips one inch apart, to allow circulation of the heat all around and through the bins. Have a six-inch ventilator over the center of each bin and one over the small room.

These ventilators should extend up through the ceiling and six inches above the sawdust. Have a window door in each end of the gable, and a ladder on the outside, if necessary to go into the loft.

To properly build this storage house it should be begun early in the season, so as to have it in shape and ready to receive the crop. R. B. RUSHING.

Agricultural News-Notes

The officers of the United States Treasury now admit that Grange banks are a success. These banks are organized on the same plan as other national banks. They are mainly in the twenty-five-thousand-dollar class. During the eight years since they were first organized they have accumulated a surplus averaging about twenty per cent, which is an indication of their stability.

Too little attention has been paid in this country to the importance of sulphate of ammonia as a source of supply of nitrogen. Heretofore the main reliance has been on the nitrat of soda. A large peat bog near Carlough, County Antrim, north Ireland, is about to be utilized in the production of sulphate of ammonia and valuable by-products. Extensive works are now in process of construction.

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This School has a reputation for making good—its students have made good because the instruction in every branch is practical and thorough—no fluff, but business from the first lesson to the last. Each department is in the hands of men who have spent years in the work they teach. That means everything to students. Write today for free catalog—it lists other courses that make young men and women more valuable. State age and say which course you wish to study.

THE WENTWELL RY. CO. SCHOOL.
Box 150, Freeport, Ill.



Lightning Portable Wagon and Stock Scale



All above ground. Steel frame, only 8 inches high. Otton bearings. Tool steel bearing. Compound beam. M. I. curved and durable. Write for catalog and price.

KANSAS CITY HAY PRESS CO.,
124 Mill Street Kansas City, Mo.

Poultry Raising

Sorting Out the Birds to Keep Over

WITH some the hardest and most difficult work for the year is selecting and separating the young and old stock that is to be kept over, and it is about as important as anything, too. Sometimes we are surprised to see how many real good birds we have; again, we are disappointed when we come to sort them out. All chickens that were hatched reasonably early—say in April or the first part of May—should be sufficiently developed by the first of October to tell whether we want them any longer or not. If they are inclined to be of the "runt" order, right then is the time to prepare them for market. Hens, unless valuable as breeders, that do not show signs of molting before this time should go along with the rest, for a hen that has not got her new coat of feathers pretty well on by the first of October is surely going to get pinched with the cold a little later on, and will not lay until spring.

In sorting the flock over, among the pullets and roosters there will be some doubtful ones, some that you do not really want to let go then, yet they are not what you want to keep. If you have a place for such, keep them for a few weeks. It's a common mistake to sort out more than we are justified in keeping over for breeding purposes. It's these inferior birds that are put in the breeding pens each year that keep the quality of the flock down. Above all, do not place any of these doubtful specimens in with your best birds when mating up your breeding pens, but keep them by themselves.

VINCENT M. COUCH.

Gapes in Chickens

THE following questions have been often asked and answered in one way or another:

Why do chickens have the gapes?

Why do they get the gapes more in wet weather than in dry weather?

Why do little chickens get the gapes while the large ones and the old fowls do not?

Why do chickens in one city lot get the gapes while those on the other side of the fence do not?

Why does one chicken get the gapes while others in the same brood go free?

Our grandmothers, and others who were

worm will grow to be as large in the earth in warm weather as it will in the wind-pipe of the chick, and if the chick should pick it up, as it will, and swallow it, it will go into the mill and be ground with the rest of the food, and do the chick no harm.

When our chickens die with the gapes we bury them in the yard, and while we lose the chick we save the gapeworm for another crop. There is no practical cure for the gapes—that is, no cure that does not take too much time. We can draw out the worm with a feather or horse-hair or confine the chicks and fumigate them with brimstone until they sneeze and throw out some of the worms, but these take too much time and are followed by poor results.

There are two good ways to prevent the gapes. If you have only a small lot and are troubled with the gapes, keep your chicks on a floor and feed them no worms until they are eight weeks old, and then it will be safe to turn them out on the ground. If you are on a farm, and have more room, move them to a place where there is no broken ground and where chickens have never been cooped, and they will not be likely to have the gapes. Gapeworms are not often found in such numbers as to do much harm where chickens have not been kept to encourage their growth.

Chickens have the gapes often in one city lot, while those over the fence on either side of them do not; and on a farm those in the yard on one side of the house will have the gapes while those on the other side of the house do not.

It has been argued by some that the gapes were inherited from the parent bird and shipped from one place to another in the eggs; but the gapes is not a disease, and the gapeworm is largely a creature of location. The trouble is an individual one, and one chick will not get it from another. J. W. NICHOLS.

Two Costly Chicks

A FARMER was telling me the other day of two costly chicks he has down at the farm.

"We sent away last March and bought a sitting of White Wyandotte eggs. They cost us three dollars and we were anticipating a fine brood of chicks. They were pretty well packed, it seemed to me, so far as that was concerned; but it was a pretty cold time when they came. The

careful about such high-priced eggs, should we not? They never should be chilled. They should be carried carefully from place to place, not jolted over rough roads. It makes a lot of difference. E. L. VINCENT.

Cleaning the Troughs

TROUGHs that have tops arranged so as to prevent poultry from fouling the water are better than tin fountains under certain conditions. It is difficult to scour the interior of fountains, but troughs can be more easily managed. Troughs are sometimes found to be slimy, and the tin or earthenware fountains, if they are examined, will present a similar condition.

It is an easy undertaking to clean wooden troughs by taking an old broom, brushing them well, washing with boiling soapsuds, and rinsing with clear water. As the water trough is the source of spreading disease, such utensils cannot receive too much attention. WM. H. UNDERWOOD.

Fattening the Turkeys

TURKEYS intended for the Thanksgiving trade should be allowed a limited grain ration a few weeks before their insect food is destroyed by frosts, and by the time the insects are gone entirely have them on a full feed ration. They must be kept steadily growing, and by the middle of October should be fed at least twice a day. The morning meal may consist of cooked vegetables thickened with bran, and ground corn. Wheat and corn will be best for the evening meal. If milk is plentiful, it may be used for mixing the ingredients of the morning meal.

After the first of November the turkeys may be forced, feeding from three to four meals a day, or all that they will accept. Vary their food as much as possible; this will induce them to eat more, and thus fatten more rapidly. Alternate their grain food with mash, and feed some kind of animal food at least twice a week. Insects will now be gone, and they will need this. A little buckwheat and barley and some oats will help to vary the wheat and corn. They should have a good supply of sharp grit and charcoal to aid digestion. Furnish plenty of milk or water for drinking.

Do not confine them in small yards if



Partial View of the Eagle City Poultry Farm, Clark County, Ohio

not our grandmothers, have told us that when we had a great deal of rain, and the little chickens got their feet wet, they had the gapes. It did rain, and the chickens did get their feet wet, and they did have the gapes, and the gapes was a result of wet weather, but not a direct one.

When we wish to go fishing we turn the water onto a spot in the garden that is not in use, and let it run, and by so doing drive the large angleworm to the surface of the ground, and our heavy spring rains do the same thing.

The gapeworm is a small red worm that is a parasite of the large angleworm, and the old hen and the large chickens pick up the large worm that has been driven to the surface by the water, and swallow it, parasite and all together, and get no harm from it. But the little chick a few days old swallows the worm, and the gapeworm gets into the windpipe, where it will grow to be from three fourths of an inch to an inch in length, and close the windpipe, and finally kill the chick. The

wind blew cold and the roads were rough. I rather think those rough roads had something to do with the future of those eggs. They had to go about nine miles in a heavy wagon. We set them in the best place we had, and kept the old hen at it faithfully. The result was two chicks out of the lot! We were a bit disappointed, of course; but we have done the best we could for those two. They are nice ones—one a rooster, one a pullet. It may be—"

Well, there is hope for you! Three dollars for a pair of chicks and still looking hopefully into the future. And why not? Great things have come from a smaller beginning than that. Suppose those two come to maturity. Suppose they are given a place to keep house all by themselves. Suppose a sitting of nice White Wyandotte eggs can be saved and these are hatched out. Can you not see the coming of something worth while from the three-dollar investment?

But after all, we should be a bit more

possible to avoid it. They will fatten much quicker and better if allowed their natural desire for freedom, and they will roam very little when fed all they will eat.

As fat turkeys are apt to contract bumble foot by roosting on high perches, the roosts should receive some attention. Two feet from the ground is a convenient height, and they should be from two to three feet apart. W. F. P.

Feather Tips

The old idea that close, shut-up houses are best is fast passing away. Poultry must have fresh air to be healthy, and healthy hens are the only ones that bring in the money.

If you want to make a miserable failure of poultry, give your ambition full swing at the start, when you have not the experience to match it. You will do it all right; but take my word for it, the best and most satisfactory way is to begin slowly, work up, and win. E. L. V.



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Guarantee of Bank Deposits

BEFORE the time of the Civil War it was the custom of state banks to issue notes that were used as currency. There was a period when "wildcat" banking was common, and the world of trade was flooded with notes either worthless or subject to a heavy discount. In those palmy days for money brokers there were published frequent editions of books called bank-note detectors, to enable merchants and bankers to identify good, discounted and worthless state bank notes. It was then unsafe to attempt to do business without a detector for handy reference. However, one by one the several states passed through periods of disastrous financial experience and were perfecting a system of banking laws under which their state bank notes became good and circulated far and wide. The note holder was finally made comparatively secure, wherever he might be.

Under the necessities of the Civil War the federal government devised a system of national bank currency, the one still in use, although it is not well adapted to modern needs, and has really outlived its usefulness. To provide a ready market for government bonds and to make a clear field of circulation for national bank notes Congress placed a tax of ten per cent on notes issued by state banks, thereby taxing them out of existence. Now, one of the most admirable features of the national-bank system is that all notes issued are secured by deposits of government bonds in the Treasury of the United States. No one ever lost a dollar by holding a note of a national bank that failed. The federal government is the custodian of the bonds put up by each bank to secure its own circulation, and it has provided a perfect plan for the prompt redemption and retirement of the notes of national banks that fail, without any loss whatever to those who may happen to hold the notes at the time of the failure. In fact, the note of the poorest national bank in the country is just as good as that of the best.

One of the strongest features of the security plan for national bank notes is that "Every tub stands on its own bottom." When a national bank desires to increase its note circulation it buys sufficient government bonds and puts them up as security for the increased circulation. It has nothing to do with the note circulation of any other bank. It is independent and responsible for its own, as it should be. There is no good reason why a sound bank should be responsible in any way whatever for the notes of an unsound bank. To make it so would be to put a premium on reckless, speculative and imprudent banking.

The time has come in our financial history when bank deposits should be just as amply secured as bank notes. There can hardly be any difference of opinion about this. The depositor has just as much right to be secured as the note holder. And when the day comes, as it surely will, that every depositor is safely secured, then it will be a great day for banking; the hoards will be poured into the banks until there will be hardly a dollar left in a stocking anywhere in the country.

Coming to the critical point in the subject, however, we may expect to find a wide difference of opinion in regard to what may be the best plan for the guarantee of bank deposits. Discussion and debate will turn on plans proposed rather than on the subject itself.

In considering plans there is one main principle to be kept steadily in view: "Let every tub stand on its own bottom." Let every bank be individually responsible for the security of its depositors as it is now for the security of its own notes. That principle has been demonstrated by long experience in banking to be absolutely sound. Every plan or scheme of guarantee that involves making honest, prudent banks responsible in any way for the losses of reckless, dishonest banks is to be justly regarded with suspicion. Any plan that would make a sound institution pay losses in an unsound institution, over whose business operations it has no control whatever, is unjust. Furthermore, it would put a premium on reckless, unscrupulous banking, the very thing we want to do away with. Better adopt the Chinese method of protecting depositors which has been marvelously successful for a long time—behead all defaulting bankers. Guarantee of bank

deposits ought to come, and is sure to come, but let it come as an advance instead of a retrograde movement toward wildcat banking.

Alaska Wheat

It would be interesting to know how many of the daily newspapers, weeklies, magazines and farm papers that published the original syndicate Alaska wheat story have published the following press despatch sent out from Washington under date of September 5th:

"An agent sent by the Department of Agriculture to Idaho, to investigate the present status of the so-called Alaska wheat, said to yield over two hundred bushels to the acre, to-day made the following statement by wire:

"Alaska yielding twenty-five bushels per acre. Badly mixed. Grain inferior. Quality soft and white. Ordinary wheat yielding fully as much. Best varieties more."

"An analysis recently made by the Department of Agriculture shows that Alaska wheat contains only a little more than nine per cent of protein, while soft winter wheats average ten per cent, hard winter wheats twelve per cent and hard spring wheats twelve and one half per cent."

Now, how many of the papers that published the wild story of Alaska wheat and gave away tens of thousands of dollars of free advertising to the promoters of this short-lived fake have retracted it and set their readers right on the subject? Neatly inserted in the article were the name and post-office address of the so-called originator, and the credulous who swallowed the bait and wrote to him about his "wonderful new discovery" received an illustrated circular containing the same cuts that appeared in the "Saturday Evening Post" and offering the wheat at twenty dollars a bushel.

Contrast them with the reliable farm papers that promptly exposed this arrant humbug as soon as it came under their notice and protected their readers.

It is well that the Department of Agriculture took a hand in the work of exposure, for its name, with that of one of the experiment stations, was being misused in connection with Alaska wheat. The brief despatch from its investigator has effectually disposed of the lying claims made about the yield and quality of Alaska, the masquerade name of an old variety called Miracle, or Seven-headed wheat.

As soon as the wild and wonderful story appeared in various publications, Prof. Edwin E. Elliott of the Washington Agricultural Experiment Station made a personal investigation of this so-called Alaska wheat and reported the results in the "Spokesman-Review." After giving the botanical classification of wheats under eight groups and naming some of the marked characteristics of Alaska, he says that it does not belong to any of the groups of wheat in which are included all the true wheats, but to the group of Emmers, used only for stock food. "When it is recalled," he says, "that nowhere are Emmers considered valuable for milling purposes, and have never gained favor as stock foods among the farmers of America, we may well question the value of this wonderful new wheat of fairy tale origin."

Speaking of the wheats in the Emmer group, Professor Elliott says:

"There are a number of varieties which are well known and distinct, and although cultivated for one hundred years, have never proved of superior value. These are known by such names as Miracle, Egyptian, Wonderful, Hundredfold and Seven-headed. Most of these passing under these names are identical. We have grown some of them at the Washington State College Experiment Station for the last ten years, and when compared with standard varieties growing side by side they have proved to be of poor yielding capacity and low milling value."

"Several Palouse farmers have told me that they grew the Seven-headed variety extensively twenty years ago and found that it yielded no better than other common varieties."

Referring to his visits to the growing fields of Alaska he says:

"The wheat was studied while growing and ripening in the field and a large selection of heads taken for closer study in the laboratory."

It may be remarked that these tracts of wheat were badly mixed with other varieties, among which were found Little Club, Winter Fife, Red Russian and Wolf's Hybrid. Fully twenty-five per cent of the growing wheat was not 'Alaska,' and any one purchasing such for seed would have a sorry mixture. I also examined two other varieties grown by farmers in this vicinity and claimed to be new discoveries. Placed side by side it is impossible to distinguish the samples from the three fields apart and they are apparently of common origin.

"The plants of this variety are inclined to grow tall and have good foliage. By nature it is a spring wheat, but under favorable winter conditions it may, like many other spring varieties, succeed when sown in the fall. It stools sparingly and will not occupy the ground as will Little Club or Red Russian. The heads are large, since they are composed of a cluster of smaller heads springing from a common stem, and as they ripen, their weight causes the stems to droop heavily. In fact, the very size of the heads is a most serious objection to the variety, as it cannot stand erect, and in spite of a fairly stiff straw is sure to lodge badly."

"Years ago the famous scientist, Sir John Lawes, said that 'if man should leave the earth wheat would follow him in three years.' It is a plant that cannot endure without cultivation and is never found growing wild, even in the balmy climate of Alaska. In all the history of the world's wheat the highest recorded yields barely exceed one hundred bushels, and the claims of the promoters of 'Alaska' of two hundred and twenty-two bushels an acre are little short of preposterous. The fields I examined would not exceed thirty-five, although I have no doubt that better results could have been secured. The claims that it will grade No. 1 are based only on a laboratory test and the millers are yet to be heard from. Scores of Poulard and Durum varieties will show equally as good gluten tests."

"The wise farmer will wait. Three years from now the 'Alaska wheat' will be only a memory."

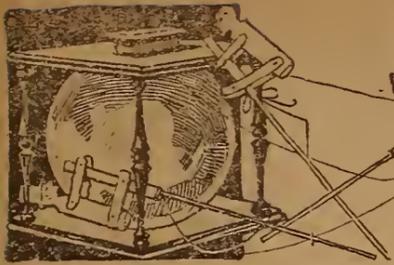
The Commission on Rural Social Life

The President has appointed an able commission to investigate the conditions of rural social life. We may all well wait for their report on the subject, and then carefully study their conclusions and recommendations, instead of attempting to anticipate them.

The subject is not a new one at all to any one connected directly with agricultural interests, but it does seem to be new to press correspondents, magazine hack writers and editors of city dailies. For the next few weeks it will be amusing to read what they have to say on the subject. Some of them have started out by talking recklessly about the "uplift" of the farmers in the same patronizing manner they do about improving the social conditions in the city slums. Betraying a lack of knowledge about rural life and sympathy for anything in it, they seem to imagine that the farmers of this country and their families form a downtrodden mass of forlorn humanity. They do not know that in many rural communities all over this broad land rural life is cleaner, better and happier than it is among the denizens of Fifth Avenue mansions. Let not what they say disturb us in the least. They know no better.

There are, however, serious matters for the commission to consider in their work of systematic investigation. They will go direct to the people concerned and learn from them the actual conditions, the advantages and the disadvantages of rural life and get suggestions for its betterment. The commission undertakes its work with a correct conception of its importance. The future salvation of the republic actually depends upon the rural life of its people.

FARM AND FIRESIDE would like to hear from its readers on the subject. "What can be done for the betterment of life in the open country?" We would like to have brief letters, not from dissatisfied, grumbling pessimists, who find fault with conditions wherever they are, but from readers who have been reasonably successful in life, and can speak fairly and frankly about the advantages of rural life and give sound advice about its betterment. We care more to hear about the real drawbacks than about the poetry of life in the country.



Politics

By Alfred Henry Lewis



FROM the Buckeye county of Huron comes a word from Gustav Probst, Esq., whom I strongly suspect to be of German lineage. Herr Probst, with a pardonable view of prying into election chances for November, asks divers pointed questions.

Mr. N. P. Willis—whom I love without knowing why, unless it be that he was so profuse a contributor to the "McGuffey Readers," upon which learned volumes I received much of my educational bringing up in Lake County—once remarked in type that for any one to send letter-questions to a writer, expecting reply, was about as hopeful an enterprise as calling around of an evening, after his labors for the day were done, and inviting a letter carrier to go out for a walk.

While I am not wholly of the Willis feeling concerning letters, at least I'm very willing to answer them if I may only print my replies—and be paid for them—as part of the day's work. I am of the opinion that it wouldn't be possible to respond with anything like fulness to Herr Probst's queries, and hope at the same time to keep peace in the family. Wherefore he must permit me to decline. He doesn't lose much. I haven't traveled around enough lately to gage accurately a chance of politics. I have visited headquarters of both parties, it is true, but to merely glance in at the respective headquarters tells one very little. Were Herr Probst to go with me to call upon the Democrat chiefs at the Hoffman House, New York City, he would encounter great activity and bustle. Were he then to cross Madison Square, he would find the Hitchcocks and the Sheldons, of the Republican management very strong, but very still. They say nothing, these latter, but they give forth an atmosphere of greatest confidence.

This difference between the two headquarters, the difference between noise and silence, might remind one of the old story of the rivers Tweed and Till. I quote from memory, wherefore I trust no learned Theban will take the painful trouble of correcting me by mail.

Said Tweed to Till,
"What maks ye rin sae still?"
Said Till to Tweed,
"For a' ye rin wi' speed
"An' I fin slaw,
"While ye droon aye mon
"I droon twa."

And this—begging Herr Probst's pardon—is as far as I care to go in answering his letter.

* * *

There is one argument, however, which the politicians are tossing from stump to stump which I feel like taking up. It is the "panic argument," and the efforts being made to charge the business storm of last October, on the ground swells of which we are still arock, to this party policy or to that party policy. There is no good sense in these assumptions. They illustrate what I meant when I said in print not long ago that politics—campaign politics—was the art of arousing the ignorance of mankind.

Men are politicians before they are citizens, and belong to a party before they belong to the country. This narrowness continues even after the man has become the people's officer. However high the place, he is still for a party interest in preference to a public interest, more eager to put his political opponents in a hole than help the nation out of one.

On this very question of panic versus prosperity I recall an afternoon in the Senate when the St. Louis Exposition Bill was up. Consider now the public breadth and depth with which our reverend seniors grappled with their hour. Argument ranged far and wide, and as I have said, party welfare rather than public welfare was the thing important—that and the particular fad of the one speaking. Mr. Gorman of Maryland said that the prosperity of the country lay wrapped in the St. Louis Exposition. Mr. Lodge of Massachusetts insisted that prosperity depended upon enlarging the navy. Mr. Foraker of Ohio explained that we already had prosperity, and that it was because of Republican rule. Also, he declared that the panic of 1893 was due to a congressional ascendancy of the Democracy. Mr. Patterson of Colorado thought a single gold standard had much to do with that panic. Mr. Bailey of Texas believed that the panic of 1893 was the flower of what seeds of commercial evil the Republicans had planted during the Harrison régime. Mr. Morgan of Alabama held that prosperity was contingent on an Isthmian Canal. Mr. Gorman of Maryland, on second thought, was confident that a revision of the tariff schedules would unlatch the door to the advent of a partial prosperity at least. Mr. Beveridge of Indiana doubted this. Mr. Dubois of Idaho was inclined to the silver theory of Mr. Patterson, and considered that gold had been a source of evil in 1893. Mr. Allison of Iowa made a point against putting swindles through the Senate in the guise of riders upon honest bills, and cited a rule. Mr. Pettus of Alabama made affirmation that every senator in the chamber had voted fifteen times both ways upon that very point, fixing his position in each instance by his interest for or against the particular swindle then at bay. You might have thought from the way they verhally scattered that the Senate was a shotgun.

While nothing of moment escaped the lips of any, still there was everywhere evidenced the condition against which I complain. None of our senators was an American; he was a Democrat or a Republican.

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

Not one was a statesman, all were politicians. What difference subsisted between them was the difference between horned owls and cat owls, and lay mainly in the noises they variously made. One would have thought, too, from their talk that the country was an invention not overstrong, and existed only by their Atlas-like support or through the mercy of their forbearance.

Such gentry of pinched views, whether in or out of office, should widen themselves to the discovery that the ship of state was launched from the yards of the Almighty and not from those of men. They should learn that Destiny is on the bridge and Providence at the wheel; that patriotism controls in the engine room while the furnace is stoked, not with partizan legislation, but with the hearts and hopes of men.

* * *

Our friends of the Senate on that wrangling occasion spoke of prosperity and panics as though they were within the Senate's keeping, to be brought into existence by this measure or destroyed by that one. The bicker was solely as to which side should have credit for prosperity's coming, or be held guilty of the crime of its disappearance. It was as though one had peered into the hold of a liner, and attended with his ear the session of sixty starboard and thirty larboard rats. When the ship sailed smoothly, the starboard rats said that the successful smoothness was the fruit of their wisdom. This the larboard rats bitterly denied. Going to some occasion when the ship had tossed in a storm, the larboard rats joyfully charged such disaster to the evil ignorance of the starboard rats. Our senators discussed panic and prosperity, as though they were ever the simple results of their own and their party's action. Some day they will attempt to take the tides by their tails, and control them in their ebb and flow. Canute, who ordered the sea to approach no nearer, should have waited and come to the Senate. Canute lived before his time.

* * *

There are questions one would like to ask such logicians as some of our senators. What is prosperity? Is it *price* or is it *production*? If price, then a family is as prosperous when it dines on two pounds of beef at twenty cents a pound as when it dines on four pounds of beef at ten cents a pound.

Doesn't prosperity mean abundant production? And doesn't it live nowhere save in the shops and the mills and the mines and the fields? And what—if that be true—can the Senate do to help or hurt it beyond the little stimulation of a bond issue or a money system or a tariff bill?—a stimulation which, when compared with the whole volume of production, would mean no more than a pint of whisky at a barn raising!

Prosperity, like a river, is never the creature of law. Congress may wing dam it, and dredge it, and riprap it, and throw a bridge across, but it will never add one drop of water to that river.

True, by favor of law, a monopoly may be allowed to drink more than its share. So it be honest, however, the maleffect of this drinking in the end is slight. A monopoly cannot destroy, or sequester permanently, its riches. Every gallon it gulps is bound to find its way back to the river again. Instead of getting it to-day, you get it a week from to-day; the monopoly has but robbed you of its use for seven days.

Don't mistake me. What is here written is upon the assumption that the monopoly, while a hog, is still an honest hog, guilty only of a hog appetite. When the monopoly takes to bribing legislatures, controlling congresses, appointing its puppets to the wool sack, and picking out presidents, it is another business—a black business. It has ceased to be a monopoly in the simple hoggish, honest light in which it has been considered, and become a criminal. Its status is the dark status of any other criminal, while the threat of its villainies is multiplied over and over because of its size and strength.

The hog, having pushed through the fence into the honest fields of government, is laying them waste. Also, in that criminal case it must have what corrective and punitive treatment matches its offenses, and that, too, whatever its size, or any smell of the "respectable" that clings around the names which make up its very respectable management. I repeat, an honest monopoly, however hoggishly greedy or blind, could work no peculiar or lasting injury, whether special to individuals or general to mankind.

* * *

Going back a step: Now and then I wonder what "statesmen" aim at, and whether they seek to fool themselves or fool the public. What in the past has politics had to do with prosperity in either its advent or its flight? What has tariff or finance had to do with it? Hasn't prosperity come and gone as carelessly when one party was in control as when the other

was in control? Hasn't it come and gone when we had double standard, and when we had single standard, when we had high tariff, and when we had low? Don't take a coincidence for a cause and effect. Don't, as Carlyle says, view the world from the parish belfry. You can do to a country with a law what you can do to a man with a pin; you can prick him, draw a drop of blood, mayhap, and that is about the terrifying limit of your power. Prosperity means production, not price. It cannot mean price, for what is loss to one man is gain to another. A shift of riches might be brought about between individuals, but the community as a whole could be neither set forward nor backward by the lifting or lowering of a price.

This will be challenged—quarrelled with—beaten over the head. Good! I may be wrong; often I am. You may be right. In any case, the exercise will do you good. I repeat, none the less, that the late panic was a false panic. There was great production; there was great prosperity. The so-called panic was a crime—as much so as though those who induced it had set torch to a church.

* * *

That crime—that panic—indubitably had its cause. But the cause wasn't politics, the criminals weren't the parties. The panic had its source in the criminal avarice of men—private men, public men, democratic men, republican men, to be sure; but for this panic and its provocation always and only men.

Overcapitalization—the gold-brick game in stocks and bonds—caused the panic. And as for any politics involved, that overcapitalization, gold-brick, stocks-and-bonds game had been as much winked at and tacitly encouraged by one party as by the other. It flourished under one, it flourished under the other, and as many Benedicts and Whitneys and Ryans as Morgans and Carnegies and Harrimans had grown ignobly rich by "watering" stocks.

Because of the panic, and what hard and narrow times have followed it like the tail of a kite, we have all had opportunity to read and hear a deal about "business" and "prosperity" as well as politics. Indeed, I was told no later than to-day by a radiant Wall-Streeter, speaking of "business" and "prosperity," that "times were picking up." Which was as though some sheep-slaying wolf had come to me and told me "times were picking up."

Speaking only for myself, the terms "business" and "prosperity" in such a mouth both irritate and alarm me. It aids me, too, in what I am trying to say. I distrust that "prosperity" whereof my wolf of Wall Street sings.

To recur: The trouble with the times is this. The age is rabid of greed. Folk speak of "prosperity," but of late it has been the prosperity of drunkenness—the prosperity that speculates and doesn't earn. Our money maniacs create companies as confidence men create gold bricks. They do it with the one felon purpose of selling their worthless stocks and bonds to the credulous and the ignorant. Enterprises which might honestly support a respectable volume of stocks and bonds are "watered" to twentyfold their value. Twenty millions of stocks and bonds are issued where one million would have been the mark of the company's dividend and interest-producing power, and those millions of "watered" securities are flung upon the unsuspecting market.

The banks have been—and are—gorged with these "securities." Billions of credit—bonds and stocks—were reared on a foundation of business that might have supported millions. And what is credit but a wolf's mouth waiting to be filled? What should have been the sure and natural upcome? What would be the result if you and I and all of us, for every dollar of property we possess, gave our note for twenty dollars? We would pull down trouble on our crooked empty heads, even as we would a pan of milk from a top shelf.

So with those money maniacs and their "watered" gold-brick companies. They gave bonds and wrote notes for twentyfold what they were worth. And each went trying to unload his worthless paper on the balance of mankind. Wherefore, among other criminal things, we had this recent panic, with its lying and cheating and swindling and robbing and trailing of respected names in the mire.

And at the base of that panic trouble lay, as I have said, not politics, but greed—dull, insensate greed!—a Ryan-Morgan-Rockefeller greed that seized without honesty or even reflection, and craved beyond power to enjoy!

What was at the bottom of the greed?

Here as snobs and fools we all must take our share of blame. For years, religiously, educationally, we have been teaching that money was and is the single victory in life. Folk were exalted for the possession of money. These gold noblemen were made objects of envy. Everybody struggled to get into their yellow caste—the caste of the millionaire. It couldn't be done by prudent accumulation; no honest profit would serve. The one chance was to speculate—to gamble—to swindle. And so the world took to swindling, with the foul panic results we have witnessed.

Panic! Business! Prosperity! If every man worked and no man gambled, if every dollar were earned and never a dollar won in speculation, we should always have business, always have prosperity, and that without reference to either politics or law. Commonly, too, we should have honesty in office. And we would never have a panic.



Fair Exchange---No Robbery

By Martha Cobb Sanford

"No, it won't do at all, Annette," complained Madeline, wrinkling up her pretty forehead, as she surveyed the arrangement of her coiffure in the triple mirror. "You've dressed it more becomingly hundreds of times—and tonight, when I want to look especially charming—"

"Very well, mademoiselle," assented the patient maid, for the third time taking out the pins and shaking out the long coil of soft, lustrous gold. "Shall we try this way, perhaps?"

"Yes, that is much better," Madeline agreed enthusiastically. "That makes me look quite—quite queenly. You really are a wonder when you try. If ever I win a husband, you'll be half to blame, Annette."

"Perhaps he is already won, mademoiselle?" suggested the maid archly.

Madeline blushed, smiled mysteriously, and then assumed a very serious and dignified expression.

"And is it the handsome dark one, mademoiselle?" Annette asked demurely a few minutes later, as she curled a fetching little puff over her finger.

"If it were," answered Madeline, momentarily off her guard, "should I not be going to the dance to-night with—Mercy, Annette," she broke off suddenly, at the sound of an automobile whirring up the drive. "It can't be time to start yet. Why, I'm only half dressed. Look out of the window, quick, and see who it is."

"It is the red car, mademoiselle," announced Annette from between the curtains. "Ah, I had so hoped it was not the little blond man, mademoiselle," she added feelingly, as she returned to finish Madeline's toilet.

"Oh, you goose!" laughed Madeline. "It is not anybody. Here, give that a little twist. Now do I look captivating?"

"So adorable!" exclaimed Annette. "But that it should be the little blond man, mademoiselle; I did so hope—"

"My cloak, quick, Annette. And never let me hear you refer to Mr. Van Bergen again as the—"

"No, mademoiselle."

"Annette, lend me your ring, quick. I've just thought of something. It will be such fun! Wait up for me."

"Yes, yes, mademoiselle," assented Annette excitedly, watching her mistress down the stairs and then rushing back to the window to see her step into the big red car.

"Yes, I'm awfully late, I know, Mr. Van Bergen," Annette overheard Madeline say. "But Annette insisted on doing my hair over three times. You know how exasperating that is—or perhaps you don't," she added, with a teasing little laugh that delighted Annette's mischief-loving heart, for Mr. Van Bergen she knew was a trifle bald. "But now let's make up for it—let's go like the wind. I told Mrs. Wilder we'd call for her by nine o'clock, and it must be at least half-past."

To Richard Van Bergen, middle aged, wealthy and autocratic, there was but one will on earth superior to his own—and that was pretty Madeline Moore's. She had but to indicate the way, set the pace, and he followed.

And so, regardless of anything save Madeline's wish to "go like the wind," the huge red car sped on for a time recklessly. But at the girl's sudden command to stop, as they were spinning through a suburban thoroughfare, Van Bergen brought the big throbbing car to an almost dangerously abrupt standstill, and waited for her explanation.

"Do you suppose we've broken the speed law?" Madeline asked nervously. "I thought I saw a policeman beckoning to us to stop."

Van Bergen was too dumbfounded to act. He stared at Madeline helplessly.

"Of course we've broken it," he finally managed to say with some show of civility. "And now we're going to get arrested for it."

The situation was very discouraging, the speed limit having been exceeded too obviously for any attempt at denial. To his intense mortification, Van Bergen had to submit to their proceeding to the police station, where, after an embarrassed search through his pockets, he was further humiliated by finding that he had only a small sum in change to offer as bail.

"We are on our way to the Country Club," he explained. "I'm a member,

you know. Here's my card. That'll be all right, won't it?"

Unfortunately it wouldn't. Bail was insisted upon.

In a burst of inspiration, Madeline pulled off her left glove, and drew a solitaire from her finger.

The ring was accepted, and the red car allowed to continue its journey.

"How very fortunate I happened to be wearing the ring, wasn't it?" Madeline commented.

"Very," replied her companion coldly. "Congratulations are in order, I suppose."

"I should say they were," laughed Madeline. "We had a horribly narrow escape, didn't we? Please don't mention it to Mrs. Wilder. She'd be sure to ask so many questions. You don't think I'll have any difficulty getting the ring back again, do you?"

Van Bergen calmed Madeline's fears on that ground. He would reclaim it, he assured her.

They had reached Mrs. Wilder's and there was no further opportunity to discuss the situation.

As Van Bergen did not appear in the

"Allow me, then," replied Van Bergen suavely, whereupon he rehearsed the story of their hold-up. "And now," he added dramatically, "the police have just telephoned me that they have discovered the diamond to be paste. They suggested that I tell the name of the jeweler where I bought the ring, so that they might help me hunt down the fakir. I promised to send them the interested party," he finished, looking at Brooks with insolent significance.

"I don't know what you're driving at, Van Bergen," answered Brooks spiritedly, "but I should like to speak with you in private."

By this time the group had begun to attract attention, and Madeline, deciding that it would be better to appear indifferent to the situation, was soon dancing again, apparently as light hearted as ever. At the first opportunity, however, she tried to find Vernon, but she could discover neither him nor Van Bergen. She was exceedingly distressed. That the two men disliked each other was only natural. It had always rather amused her. It was only in a spirit of fun that she had let Van Bergen bring her to the dance,

how much the bail was. The magistrate named an absurdly large sum. Brooks didn't have the amount with him. He asked that the bail be reduced—the magistrate refused. "Then take the ring back again," he said. "You accepted it in the first place," and he flung it down on the sergeant's desk and started to walk out. "Here, hold that man," the magistrate called out; "this isn't the same ring." Brooks protested. The magistrate had him searched, and the fake ring was found in his pocket. Well, the magistrate put two and two together—you see, the policeman reported that you had offered your engagement ring in place of bail, and apparently in good faith, although the diamond proved to be paste. Then along comes Brooks, who says in the first place that he never gave you a ring, isn't engaged to you and all that, but wishes to put up bail just the same and walks off with the paste diamond. When he finds he can't do that, he tries to throw the police off the scent by keeping the paste stone, and handing back the genuine one, which he had stolen in the first place—"

"Oh!" came in a sharp little cry from Madeline. "How dare you!"

"I am presenting the theory of the police, Miss Moore. Of course, I—"

"Why didn't you say something, then? Why didn't you set the matter right?" demanded Madeline, her voice trembling with indignation.

"What could I say? I knew nothing. Brooks asked that you be sent for. Here we are."

When Van Bergen had conducted her into the magistrate's presence, Madeline looked around bewildered a moment, and then catching sight of Vernon, rushed toward him, smiling radiantly.

"I can explain everything," she said to him in a low tone. "That is, about my ring. Only I don't want every one to hear. Can't we be alone?"

Vernon's face lighted up joyfully, and he turned to the magistrate.

"What Miss Moore has to say," he said, "concerns only you and me. She asks that no one else be present."

And the room was ordered cleared. Then Madeline blushing made her confession.

"You see," she ended naively, "I didn't count on getting 'held up'—I just wanted to fool somebody—and that wasn't a police official."

"The explanation is entirely satisfactory," the magistrate announced, "and I regret that circumstances forced us to hold Mr. Brooks until some light could be thrown on the matter. We shall still be obliged to demand bail, Miss Moore, for the appearance of Mr. Van Bergen in court to-morrow to answer the charge of exceeding the speed limit."

"You still have both rings," Brooks suggested, his eyes twinkling.

"One will be sufficient," the official replied, smiling at Brooks understandingly. "I return the lady's solitaire."

Madeline, very much embarrassed, tucked it into her glove, and shyly asked if everything was all right and if they might go.

"But how did you happen to have a solitaire in your pocket, Vernon?" she asked suddenly, when they were on their way home in Vernon's green Panhard, which he had telephoned his chauffeur to bring from the club. "Why didn't the magistrate make you explain about that?"

"I think he understood when he saw you, dear."

"Vernon!" exclaimed Madeline. "It wasn't—oh, was it really—"

But she couldn't say the words, so Vernon said them for her.

"Yes, dearest, it was for you. I had hoped you'd let me give it to you tonight—that is, before you—"

She put her hand over his mouth and he kissed it.

"I think that officer was mean," she said tearfully, "to keep the ring when he knew."

"Where's the little fake one?" Vernon asked, laughing. "Let me put that on just for to-night, sweetheart."

Madeline drew off her glove and gave the ring to him shyly.

"After all," she said, as he slipped it on her finger, "so long as the love is real, nothing else matters, does it?"

Vernon's answer was to hold her close in his arms while he whispered sweet endearments and kissed her till she begged for mercy.



"And remember, I am not interested in any particular man at all"

ball room in time for the first dance, Madeline gave it to Vernon Brooks.

"This is awfully generous of you, Madeline," he said, smiling with very genuine surprise and pleasure. "When I found I was too late in asking to bring you, I thought for a moment I wouldn't come at all, but—"

"Oh, never mind saying things, Vernon. Let's just dance and dance. Do I look well to-night?"

"I'll tell you as we dance," he answered, swinging her off into the rhythmic whirl about them.

"Awfully sorry to interrupt you two," they heard some one calling after them suddenly.

"Oh, I gave you up as lost, Mr. Van Bergen," Madeline laughed over her shoulder. She had no intention of stopping.

"But I must speak to you—you and Mr. Brooks both," urged Van Bergen, following them breathlessly. "It's about the ring."

At that Madeline did stop, flushed and nervous.

"I haven't told Mr. Brooks," she said pointedly.

anyway. Of course she had rather have come with Vernon—but Vernon mustn't get to feeling too sure of her. And just out of fun, too, she had borrowed Annette's solitaire, so she could tease Vernon a bit, and afterward laugh at him!

A step behind her startled her.

"Pardon me, Miss Moore," Van Bergen said ceremoniously, "I fear I intrude. Mr. Brooks is at the police station—is held, in fact, on rather suspicious grounds, and requests that you come to him immediately. I am at your service."

"What has happened?" she ventured at length, once they were in the car again.

"Oh, nothing very much, perhaps. Brooks imagined I accused him of presenting you with a fake solitaire, and after we'd thrashed that out, said it wasn't anybody's business anyway who'd given you a solitaire, nor what kind of a solitaire it was, he was going straight to the station and redeem it for you. Of course I went with him. When we got there, Brooks asked to see the ring. He examined it pretty minutely. 'That's genuine,' he said. 'You fellows are geese.' Then he pocketed it and asked

Our Private Line

By Chelsea Curtis Fraser

IT WAS a hot afternoon, one of those still, oppressive days so common on the Western prairies, when everything seems dead and not a breath of air is stirring. I was sitting in the little ticket office of the railroad station at which I had recently been appointed agent. From the window I could see the hot air rising from the sunburned buffalo grass, giving to the lonely ranch buildings an unstable, wavering appearance, as though they might at any moment flicker into atmosphere themselves.

Presently out of the silence came the beat of a horse's hoofs. The sound ceased at the platform, but a moment later it was followed by a queer pegging noise that came over the planks and into the waiting room. Looking up, I saw a sun-tanned boy about thirteen years old. His face was freckled, his nose was short and stubby, but his brown eyes were bright and pleasant, and he greeted me with a good-natured smile. His right leg below the knee was missing and he hugged a pair of crutches under his arms.

His name was Charley Harris, he said; he had come for a package that had been sent by express to his father, Colonel Harris, whose ranch buildings were about a mile south of the track. He turned the order over to me, I handed him the parcel, and then instead of going on, as I had expected him to, he looked curiously and steadily in at my ticking telegraph instrument. Altogether he had such a friendly, healthy and interested air about him that I invited him inside for a closer inspection of the sounder and relay.

His eyes brightened. "I'd like to learn about those things if you don't mind," he said. "The other agent was cross, and I was afraid to ask him."

Having nothing else to do, I explained to the boy the working of the instruments and tried to give him some idea how a message was sent and received. He listened attentively and appeared to comprehend quite well. Before he went I wrote out the characters of the Morse telegraphic alphabet for him, and then after a little chat, during which I learned he had lost his leg during an Indian raid several years before, he left. I was surprised to see how thoroughly at home he was on his pony. With his crutches slung behind him by straps like those of a cavalryman's carbine, he swung nimbly into the saddle and galloped off without the least apparent inconvenience.

One afternoon, about a week later, he dropped in again, this time with the information that he had mastered the telegraphic alphabet, and was able to sound it on the table knife and fork that I had advised him to use for practise. To his great delight, I permitted him to try my instrument. I was really astonished at the progress the boy had made.

Not long after this, Colonel Harris himself stopped at the station on his way to town. He was a brisk, bluff, genial sort of man, and thanked me heartily for the trifle I had done to please his son. "Charley's lonely out here," said he. "The lad can't play with the other boys much—what few there are of 'em—on account of his leg. He's just hankered for something t' take up his attention, an' I'm glad he's sort of took to you an' this telegraphy business. His mother's dead, you know."

The colonel wished to pay me to continue with Charley's lessons, but I shook my head, declaring his cheerful company was sufficient compensation.

Well, the lad was an apt pupil. At the end of a month he could send and receive a message well. All he lacked was speed, but I knew that would come to him with practise. He got it into his head that it would be a good idea for us to rig up a private line from the ranch to the station. I approved, and Colonel Harris had me order the necessary instruments, batteries, wire, brackets and insulators from Chicago. Under my direction, the cowboys of the ranch strung the wire from Charley's room down the side of the house and along the ranch fence posts, into the little nook in the freight room that I had fitted up for my comfort with a table, couch and shelf of books. In this cozy corner of mine I could easily hear through the thin partition that separated the freight room from the ticket office any call that might set the company's sounder clicking, and there I often sat in slack hours, reading, writing, or receiving and answering the friendly messages that Charley soon became quite expert in sending over our private wire.

One night, about the middle of October,

we had a terrific thunder and wind storm, with a blinding rush of rain and hail. It came up after the east-bound passenger train had left, and less than an hour before the west-bound train was due. Just as the storm began I was aroused by some one pounding on the waiting-room door, which I kept locked while I slept, and supposing it to be a passenger for the western train, I went around and threw open the door.

As I did so, five men filed in. They were a rough-looking set, all wearing yellow "slickers" turned up about their necks, but what troubled me most was the sight of their faces—that is, as much of their faces as I could see, for only ugly bleared eyes were visible beneath the slouch hats. Handkerchiefs completely hid the lower parts of their faces.

I wheeled about and started for my office. But I was not quick enough. A gruff order from one of the strangers, and I was seized by ready hands, overpowered, tied hand and foot with small rope, and thrown into the freight room. The plan of the men was plain. They meant to signal the train with my lantern if it showed no signs of stopping, surprise the crew, and rob the express safe and the passengers. I recollected, too, that this train was to carry a large amount of money from the Chicago offices of the Little Horse Mining Company to the mine further west, there to pay off the miners their monthly wages.

Utterly helpless as I was, I struggled hard with my bonds, but it seemed useless. They had tied me well. At length I had made my wrists so sore and raw, in twisting them this way and that, that any more movement of them made me cry out with pain.

All at once, with a surge of hope, I remembered there was a new scythe blade over in one corner. It had come by express a few days before, and the burlap wrapping was torn loose, I distinctly remembered, in one place. I rolled over and over in the darkness. At length, to my joy, I had reached the blade and sawed in two the thong about my wrists. A moment later I released my feet, and stretched my cramped limbs—a free man.

But what now? My heart sank. True enough—what now? The freight-room door was locked, the keys were in my office, and the five ruffians blocked egress in that direction.

As I debated, there came a tiny spark of fire through the darkness. At the sight of it my spirits rose with a happy thought. It was the instrument on my end of our private telegraph line, and the lightning outside had slightly affected the current and caused the spark.

Stepping noiselessly across to the instrument, I nervously made Charley's "call." Would he be awake and hear it at that time of night?

"CH, CH, CH," I ticked.

Presently came an answer. "I-I; CH." It was Charley! He had been awakened by the storm, he said; his father and some of the hands had gone out to round up some stampeded cattle, and had left him alone with the housekeeper.

"Can you ride your pony over to the cut right away, and signal the west-bound train to stop?" I asked. "Take a lantern. Quick! No time to lose. Tell conductor five masked men here at station waiting to rob his train."

"Sure," answered Charley. "O. K. I'm off!"

The sounder stopped ticking, and I lay down in the darkness in the spot the robbers had left me, awaiting developments. It seemed hours, but it was really within thirty minutes after that I heard the screech of a locomotive whistle in the distance. One of my assailants came to the door and took a hasty look at my hazy figure on the floor, then I heard them rushing out on the platform. Rising quickly, I stole to the waiting-room window and looked out just in time to see the express come to a stop and the ruffians boarding it with drawn pistols.

But they met a surprise. Warned by brave, crippled Charley, who was on board, the crew and passengers were ready, and the robbers were trapped and made prisoners.

When the passengers heard the story they wanted to get up a purse for Charley, who would not have it, though. He said his father had lots of money, and besides he had done nothing very much. They gave him three rousing cheers then, and before long, the railroad company sent him a check just as handsome as the one the express company sent to me.

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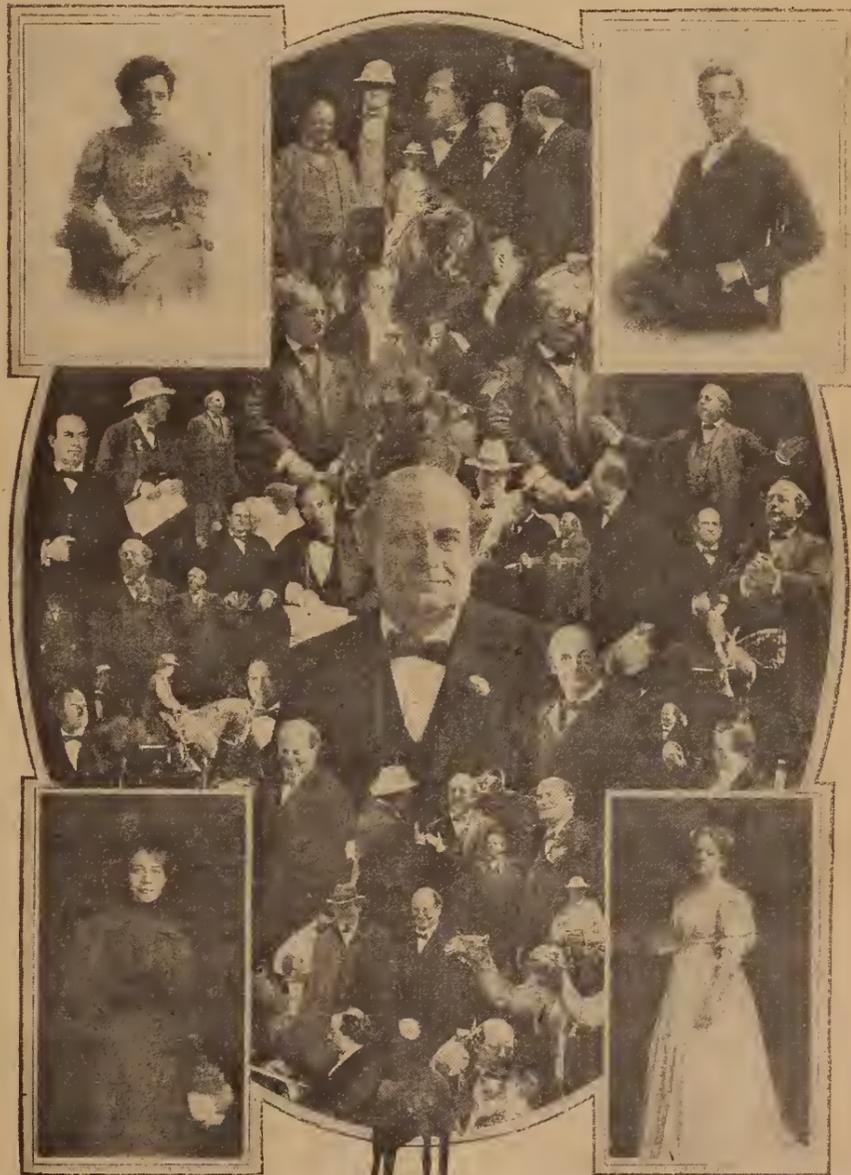
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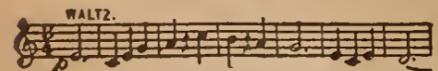
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The Household Department



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GRAPE JELLY—Wash the grapes, stem them, add just enough water to prevent them from burning, then boil until soft in a granite or porcelain-lined preserving kettle. Strain through a jelly bag without squeezing, measure the juice, and let it boil rapidly twenty minutes. Allow one pint of best granulated sugar to each pint of juice, let it get very hot in the oven, skim the grape juice thoroughly, draw the kettle to the side of the range, and add the sugar. Stir until it is thoroughly dissolved, then return it to the fire, let it boil rapidly one minute, then remove from the fire, and turn into glasses. The old plan was to boil the juice about ten minutes, then add the sugar and let it boil another ten minutes.

GRAPE PIE—Line the pie plate with good paste, and fill it with one cupful of grapes thoroughly beaten with one cupful of sugar and one egg. Sprinkle with about one teaspoonful of flour and some little bits of butter, cover with a top crust, brush over with a little sweet milk, and bake until delicately browned.

GRAPE JUICE—Stem and wash the grapes, put them into the preserving kettle, and crush them until sufficient juice has been pressed out to prevent them from burning. Let them boil until soft, then strain through a jelly bag. For each ten pounds of grapes that have been used add one and one half pounds of sugar; let it come to a boil, skim thoroughly, and seal at once in quart or pint bottles. If corks are used, put them in firmly and tightly, and tie down over them a piece of cotton batting. This also must be tightly secured.

Uses for Onions

IF THE voice is hoarse or rough, try eating raw onions every day. Sprinkle them with a little salt and masticate them thoroughly. The unpleasant odor left on the breath may be overcome by chewing a clove, a coffee berry or a little parsley. Spanish and Italian singers make free use of this homely vegetable, being well aware of its remarkable efficacy in improving the tone, clearness and smoothness of their voices.

A rather different use for onions is in cleaning and brightening gilt picture frames. The frames should have every particle of dust removed with a soft cloth and then be washed with some tepid water in which a little soap powder has been dissolved, using a soft sponge of medium size. Wipe them dry with a soft, clean cloth, and brush them with the onion liquor. To prepare this, cut or bruise half a pound of onions, and boil them in one pint of water, with just enough flowers of sulphur added to make it a good golden yellow. When the onions are soft, strain off the liquor, and allow it to cool. Then brush it thoroughly over the gilt frames. If carefully done they will look like new ones.



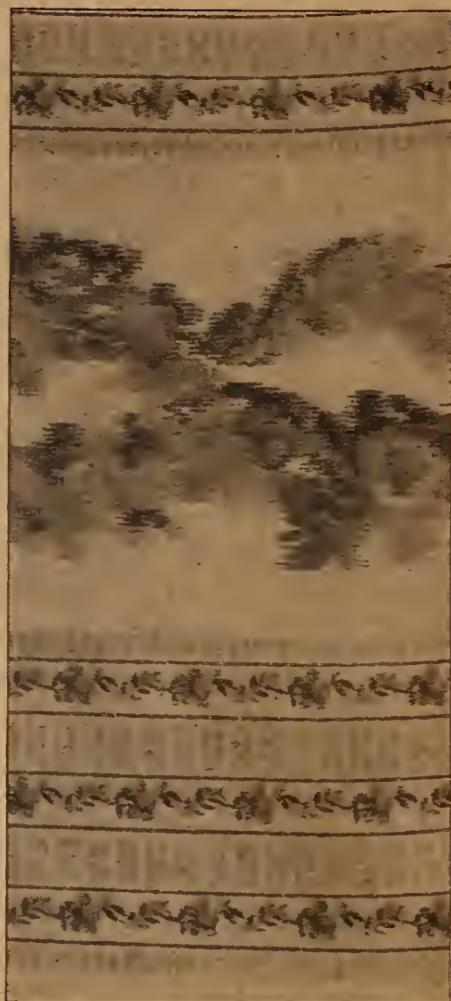
Coarse Fish Net for Curtains

Kitchen Aprons

EXCELLENT large white aprons for use in the kitchen and about the household may be made from old nightgowns that have worn out at the sleeves and got thin and torn at the back. Cut the nightgown off just below the sleeves, slit it up the back, hem each side, and gather into a belt or binding. They will wear for a long time and are big and roomy, spreading well around the sides of the figure where an apron is needed so much. They wash easily, and may be boiled and kept snowy white. The skirt part of old worn-out wrappers may be utilized in the same way.

New Draperies

THE housewife who intends to purchase new draperies this season will find ever so many effective designs in art cretonne, figured swiss and net from which to make a selection. Indeed, it is not an easy task to decide upon any one material, because they are all so lovely.



Blue and White Cretonne With Pink Rose Design

The art cretonnes are particularly attractive. They come in a large variety of striped designs showing many different colorings. The one illustrated here is a white ground having broad bands of rose wreaths that alternate with fine narrow bands of tiny buds and blue bars. The material is a yard wide and costs twenty-eight cents a yard. The same design is shown in lavender and green colorings.

In many instances the wall papers are purchased to match the hangings, and prominent firms are able to supply the papers with exactly the same designs as are shown in samples of cretonnes sent to them for that purpose.

A new material for hangings is lambs' wool—really a ribbed cretonne with a fleece back. It is particularly attractive in the green and white colorings, and also in Delft blue and white or copper and white. While this material was intended originally for curtains and draperies, it is especially good for washable pillow slips. It is thirty inches wide and costs forty-five cents a yard.

There is always something new in net curtains sold by the yard. This season the novel idea is the heavy fish-net design. The mesh is very thick and coarse but effective. Some of the more expensive nets are made with large, raised dots at regular intervals. A sample of this style is shown here. It is forty-eight inches wide, and costs fifty-five cents a yard.

About the House

It is easier to drop an egg well if you drop it into a saucer first, and from that into the water.

It is well to keep an oyster shell or clam shell on the kitchen table to scrape the bottoms of kettles.

In cleaning garments with gasoline, put blotting paper underneath, so as not to leave a mark where you stop.

If any article has been scorched when ironing, lay it where the bright sunshine will fall directly upon it, and the scorched part will be entirely removed.

If you are bothered with English sparrows nesting on your window sills, make a small cloth bag and fill it with cayenne pepper, and tack it on the sill.

A loaf of bread which has become dry can be made nearly as nice as when fresh baked by plunging it into cold water, then placing it in a hot oven for a few minutes.

If your pantry or kitchen floor is cold, and you are compelled to stand for any length of time while cooking or ironing, it is well to spread several thicknesses of newspaper on the floor for a mat.

To Wash Colored Fabrics

IF COLORED fabrics are washed in flour starch they will not fade. Make a thin starch and wash the garment, using no soap. Rinse in clean starch, and dry in the shade. This will be found a most satisfactory method.

Camphor for Mice

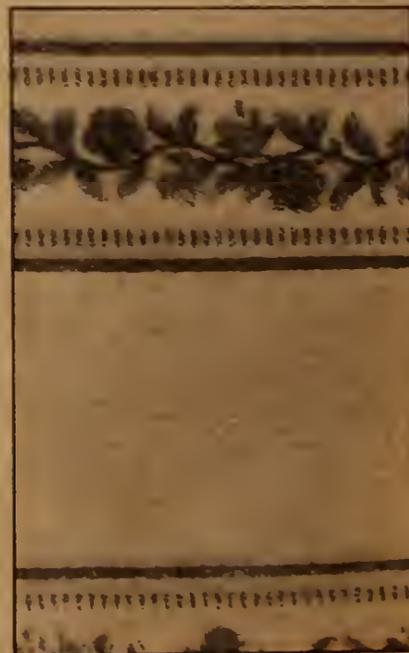
EVERY one knows that lumps of camphor scattered through the pantries and cellars will drive off the pest of tiny red ants that sometimes, and without apparent cause, infest places where food is placed. It is now known that mice and rats also have an aversion to camphor and will not go where it is. A lump of it placed at the mouth of rat and mice holes, while waiting for the carpenter, is sure to keep the mice away. If one is in the habit of placing table cloths in hamper to wait for washing day, a lump of camphor in a cheese-cloth bag tied to the hamper will also prevent the mice from coming.

Lemons for Cleaning

A CUT lemon rubbed over the bread and a meat board, and then rinsed thoroughly in cold water, will keep their surfaces unusually white.

A Sewing Suggestion

THE woman who has to make dresses and blouses for a family of small children will find the following suggestion very helpful. Cut out three or four dresses or blouses at once, and after sewing all straight seams, such as under arms, sleeves and skirt, put the ruffler attachment on the machine and shirr all the sleeves, skirts, tops and bottoms of waists and blouses. You will then have the work half done and can finish the garments at odd moments.



Ribbed Cretonne With Fleece Back

Some Practical Fashions



No. 583—Room Gown
Sizes 34, 36, 38 and 40 inch bust measures.



No. 875—Kimono With Yoke
(Long or Short)
Sizes 32, 36 and 40 inch bust measures.



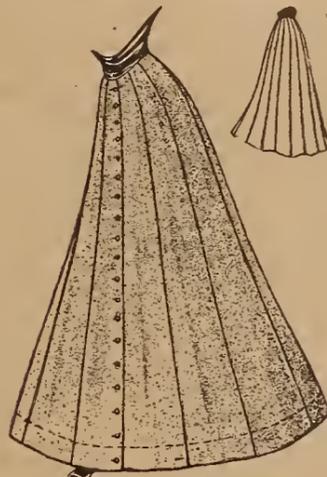
No. 800—Tailor-Made Single-Breasted Coat
Sizes 34, 36, 38, 40 and 42 inch bust measures.



No. 826—Corset Cover With Peplum
Sizes 32, 34, 36 and 38 inch bust measures.



No. 1182—Waistcoat Shirt Waist
Sizes 32, 34, 36, 38 and 40 inch bust measures.



No. 939—Thirteen-Gored Skirt
Sizes 24, 26, 28 and 30 inch waist measures.



No. 852—Seven-Gored Skirt
Sizes 24, 26, 28 and 30 inch waist measures.



No. 1183—Shirt Waist With Plain Sleeves
Sizes 34, 36, 38, 40 and 42 inch bust measures.



No. 1196—Reefer With Shawl Collar
Sizes 6, 8, 10 and 12 years.



No. 1185—Plaited Shirt Waist
Sizes 32, 34, 36, 38 and 40 inch bust measures.

Fall Catalogue of Madison Square Patterns

Our new Fall Catalogue cannot help but be invaluable to the woman who makes her own clothes. We will send it to your address for four cents in stamps. Order patterns and catalogue from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

The Price of Each Pattern is 10 Cents

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

Our Latest Liberal Offer

We will give any two of these patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern, for only 30 cents.

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Young Folks' Department

Cousin Sally's Letter

DEAR BOYS AND GIRLS:—
At last your Cousin Sally is really settled in this busy, bustling, wonderful place called New York. And how she does love it! What heaps of interesting things she is going to have to tell you all about a little later on.

But to begin with, I want to tell you about my New York home. It's the dearest little apartment, and it's up so high that I almost feel that I am living up close to the stars. Imagine any one living on the tenth floor—ten whole stories up from the street. To me the most beautiful part of it all is that my little apartment overlooks the Hudson River, and that this evening, as I sit at my desk writing to you, I can see the big boats with their many twinkling lights going up the river, and I have such a fine view, too, of the beautiful Palisades.

But no more about myself. Here's a bit of news especially for you. It's so good that I can't keep it any longer. We are going to have a Post Card Exchange in FARM AND FIRESIDE, and you are all invited to join. Write to Cousin Sally and tell her if you would like to exchange post cards with some of our cousins. Be sure to put your name and address very clearly on your letter. I will publish these names on our own page in FARM AND FIRESIDE, so that the boys and girls who wish to exchange cards may get in touch with each other.

I hope you are all going to try for an album. Write the very best story you can. Write it in ink and as distinctly as possible.

I wish to thank the following boys and girls for their interesting letters, and am only sorry that I have not the time to write to each one of them personally:

Lucinda Palmer, Florence Thompson, Ethel Lewis, Alta Brooks, Charlie R. Morris, Margaret V. Huffine, Nettie Weidman, Elda Smith, Ima L. Hahn, Nora L. Guear, Klyd Webb, Rachel Johnson, Gladys Almond, Royelia Field Watkins, Artie B. Zook, Edythe V. Parsons, Garnette Bower, Marguerite Girard, Muriel D. Pratt, Marie G. Stever, Catherine May Roth, Florence Roth, Mary Beason, Grover C. Worley, Edna Taylor, Bessie Lammiman, Mildred Hobson, Leila Cox, Helen Burrill, Lucile SchAAF.

Even if Cousin Sally does live in New York, where there never seems to be any real night, she has brought her country ways with her, and just at present she is getting very sleepy. So here's her love to you and all the best wishes in the world.

Affectionately,
COUSIN SALLY.

Prize-Story Contest

FOR the four best stories written by the boys and girls of FARM AND FIRESIDE on the subject "A Narrow Escape," we will give prizes of *Post Card Albums*.

This contest is for boys and girls under seventeen years of age. All stories should be *not* more than three hundred words in length, written on one side of the page, and signed with the writer's name, age and address. They must be sent to Cousin Sally, care of FARM AND FIRESIDE, 11 East 24th Street, New York City, not later than October 20th.

The Beetle's Fairy Tale



IS THIS a really-true story?" said the moth.
"That is impossible," said the brown beetle tartly. "Have you ever known me to tell an untruth?"
"No," said the moth. "I didn't mean to make you—"

"Well, then, hold your tongue, my dear," said the beetle. "I mean, shut your wings."

So the gray moth shut her wings meekly and settled herself to listen.

"Once upon a time," began the beetle. "There, that's the way I like best to have a story begin," said one of the little beetles, cuddling itself.

"Once upon a time a large and fluffy snowflake, a very proud snowflake, came floating down through the air. 'When I get to the earth,' said she, 'I will tell those stupid people down there fine tales of the sky.' 'Whither away,' said the wind; but the little snowflake did not care to reply, she was too proud. 'Tut,' said the wind; 'if the Old Enchanter gets hold of her she will not be so proud.'"

"The little snowflake floated down close to a tall bush and settled softly at its feet.

"'Good-morrow,' said the bush. But the little snowflake was still too proud to reply.

"'Dear, dear!' murmured the bush. 'If the Old Enchanter gets hold of her she will not be so proud.'"

"The snowflake lay there, proud of her own whiteness and glisten, and would not reply either to the wind or the bush or the grasses—or the snowbirds.

"'Dear, dear,' muttered a fluffy brown snowbird; 'if the Old Enchanter gets hold of her she will not be so proud.'"

"Now, having half heard so many of them say the same thing, the snowflake began to take notice of what was said.

"'Tut,' said she, glistening proudly; 'who is this Old Enchanter? I have never heard that the earth was fairyland or inhabited by enchanters. I don't know, I'm sure, why people of the sky should care at all about them.'"

"Just then there was a great white light, and the Old Enchanter stood in the heavens looking down.

"'Why are you proud, my child?' he said gravely. 'Have you not learned that all things on earth are but brothers and sisters?'"

"'That may be,' said the snowflake, 'but, you see, I am from heaven. Cannot you see that by the whiteness and glisten of me? The earth seems to me a very lowly place. I wouldn't have come down to it but that I wanted to see it. As to anything on the earth, unless perhaps wandering snowflakes like myself, being either brother or sister to me, I beg to decline the honor.'"

"Then the Old Enchanter frowned grayly. 'Have a care,' said he, 'lest you become so proud that I must render you lowly.'"

"'Neither I nor my kin are lowly,' said the snowflake. 'We are accustomed to the skies. The things of the earth are neither my brothers nor sisters, nor do I wish them to be.'"

"Then the Old Enchanter's face became very white and terrible, but the little snowflake stared back boldly at him. Then a strange thing happened. The snowflake felt herself grow faint and slip together and change; all her whiteness and glisten left her, and she sank to the earth.

"'Oh!' said she, alarmed, 'was ever a snowflake in such a plight?'"

"'But you are not a snowflake,' said the Old Enchanter; 'you are only a common drop of rain. Go into the earth, as I bid you, and learn something about lowly things.'"

"Then the snowflake felt herself slipping down and down past tiny bits of earth and in among all the lowly things. She passed by a sleeping beetle ('that beetle was my great-great-grandfather,' said the brown beetle; 'he had a way of

talking in his sleep'), and she ran past tiny worms and insects and other humble things hidden away, over the roots of tiny grasses and little plants. Oh, the strange, dark way on which she went! She was weary and worn and afraid of the dark; so afraid! By and by she grew so faint and tired that she could not remember anything more.

"When she awakened there was a curious soft murmur everywhere about her; it was still dark, but everywhere near her things were moving slowly, slowly. The sleeping beetle was no more to be seen, but she could hear him moving in his sleep. The grasses she could not see, either, but she could hear them growing—busy, so busy. She herself was in a strange place, shut in. Was it a tower? What was it? She did not know. She sighed wearily. 'Ah, what a strange experience for a snowflake,' she said; but at the sound of her voice there went up soft, derisive laughter everywhere around.

"'You are not a snowflake now,' cried a hundred tiny voices; 'you are just a bit of sap.'"

"'What is that?' said the snowflake.

"'Climb and find out,' grumbled my great-great-grandfather.

"'Climb and find out!' Ah, that was the sad part of it. Ahead of the snowflake was a long upward way, toilsome and dim. Would she ever get to the top of it?"

"'Climb,' cried the chorus of voices; 'it is what we are all doing.'"

"'I am climbing the best I can,' said the snowflake almost humbly.

"Sometimes the way seemed so long, and sometimes it seemed as though something from above drew her and helped her. Then she would take courage again, but oh, the way was long! As she climbed and climbed slowly, very slowly, the place got slightly less dark, and outside, though she could see nothing, she could hear the song of birds. Beside her many like herself climbed, too.

"'Courage, sister,' said they. It was the first time she had realized that she was as lowly now as any of them, and she wept softly to herself.

"'When shall we be at the top?' said she.

"'When the Old Enchanter sees fit,' said they.

"'What shall we find when we reach there?'"

"'That is impossible to tell,' said they, wishing to test her, for they saw that she did not know whither she was bound. 'Perhaps a narcissus, or a violet, or a rose, or a common dockweed, or rank grasses, or evil-smelling thing, just as the Old Enchanter chooses.'"

"So then the little snowflake began to pray to the Old Enchanter.

"'Oh, I pray thee that I and these my brothers and sisters may find something fair at the end of our journey; that we may be clothed in beauty, not in ugliness; that we may find ourselves in worthy, and not unworthy, places.'"

"Then the Old Enchanter saw that her pride was turned now into a wish to live in a beautiful and worthy way, and he smiled, and outside the dimness the snowflake could hear the birds sing low and glad.

"On and on she climbed, helping a brother or a sister where she could. Then at last she reached, with those nearest to her, a wonderful dim room. Its sides were soft as silk.

"'It seems as though it must be something fair that we will find,' said she.

"'Oh, one cannot tell,' said another. 'This is the room where the bud sleeps, and the buds of the commonest weeds, even, sleep in soft and silky rooms.' So the snowflake waited and prayed, and waited and prayed to be fair, and she always ended her prayer in this way: 'Make them fair, also, these brothers and sisters,' for she had learned love as well as humility.

"Then she grew so weary with praying and longing that she became unconscious again, even as she had before.

"When she awakened she looked

down at herself, startled. Oh, the exquisite dazzling whiteness around her! Above her the Old Enchanter with a smile looked down at her. All about her was the most delicious odor, so that it seemed a very dreamland of odors in which she slept. Then she fell to praying, only now they were prayers of thanksgiving.

"'Oh, great Enchanter,' said she, 'I am thankful, so thankful, to find beauty and whiteness and fairness again, to be once more a snowflake. Never more will I be proud, for I have seen and known the humble things—oh, I have seen and known them!'"

"The Old Enchanter did not speak, but just then a little child came by and put her soft cheeks close to where the snowflake lay.

"'Mother, mother,' said she, 'see this rose! How sweet it smells.'"

"'Yes,' said the woman, gently laying her hand on the soft petals; 'and see, my darling, is it not just as white and fair as the snow?'"

The beetle finished speaking. There was a pause, in which the little beetle sighed with delight, for he dearly loved to be told tales.

"'Did you say,' said the moth, unfolding her gentle wings, 'that the beetle you know was your great-great-grandfather?'"

"'Yes,' said the beetle brownly, 'that he was, and he told this true tale to my great-grandfather, and he in turn again to my grandfather, and my grandfather has often and again, in the long snowy nights, told it to me, as I have told it to you, word for word.'"

Faithful Ophelia May

OPHELIA is a very small, very black little girl. When she was nine years old her father sent her away to a boarding school in the sunny South where she lives.

Her black skin covers a heart as white and pure as a little girl's heart can be; but at school she was lonely, and so homesick! She longed for her little speckled chicken. It seemed to her that she could have stood everything if she could have had her dear pet—her little speckled chicken.

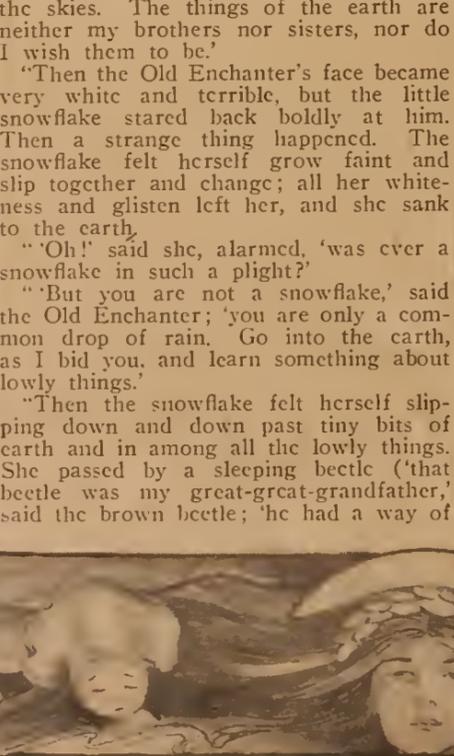
One evening there was an entertainment at the school, and she was in it. She was going to recite. Before the entertainment began, all the little girls on the program met except Ophelia May. Where was she? Not in her room, nor the dining room, nor any place about the house. She had not been to supper, the girls said. They began to search for her, and at last some one said, "She was so homesick; maybe she has started for home."

Suddenly George Smith, who does all the outdoor work about the place, said, "Here she is."

By the corner of the house, close up to the gray stone, lay Ophelia May, tear stained, dirty and sound asleep, with a speckled chicken in her arms, and around its neck—one of her very best red hair ribbons.

After that she was allowed to feed the chickens, and grew to be very happy and contented.

BESSIE HANNAH,
Oxford, Ohio.



From the Joke Makers

What Milly Did

A YOUNG woman prominent in Washington society was much perturbed recently while entertaining some callers to hear her little sister, aged nine, rush downstairs in a particularly noisy manner.

Excusing herself for a moment, the elder sister went into the hall to reprove the one responsible for the unseemly conduct.

"Mildred," said she, "you came downstairs with so much noise that you could

The Missing Parrot

"THAT was a wonderful parrot you had. What has become of him?"
"He's away on a lecture tour."—Chesterton Todd.

MAMA—"Good gracious, Georgia! What is the matter with Freddie Jones? Is the child having a fit?"

GEORGIA—"No, mama. You know Freddie stutters, and we bet he couldn't say 'altitudinously' before Bobbie ran twice around the block."—Puck.



Pleasant Prospect for the Pony

Tommy—"Oh, papa, couldn't we stop and invite Reginald and Marguerite and Georgie Simmons to come with us?"

be heard throughout the house. Suppose, now, you go back and come down properly."

Mildred retired to the upper part of the house, and her sister rejoined the callers.

In a few moments Mildred came into the reception room. "You didn't hear me come down that time!" she exclaimed triumphantly.

"No, we did not, Mildred," answered the elder sister kindly. "I must say that this time you came downstairs like a lady."

"Yes, indeed," responded Mildred in a tone betokening much satisfaction with her performance. "I slid down the banister."

Like Father

"I DON'T want my hair brushed over my forehead any longer," declared Harold. "I want a crack in it like father's."

Explains

"WHY does the professor have all of those letters tacked onto his name?"
"That shows that he got there by degrees."—Nashville American.

MARSHALL FIELD 3RD, the grandson of the late dry-goods magnate, according to a story now going the rounds, bids fair to become a very cautious business man when he grows up. Approaching an old lady in a Lakewood hotel, he said:

"Can you crack nuts?"
"No, dear," the old lady replied. "I lost all my teeth ages ago."

"Then," requested Master Field, extending two hands full of pecans, "please hold these while I go and get some more."

Got What They Wanted

A GOOD old Georgia brother, who had decided to leave an unremunerative charge, finding it impossible to collect his salary, said in his farewell sermon:

"I have little more to add, dear brethren, save this: You were all in favor of free salvation, and the manner in which you have treated me proves that you have got it!"—Atlanta Constitution.

A Question

"ARE you a native of this town?" asked a traveler of a man living in a sleepy little town far up in the mountains of North Carolina.

"Am I what?"

"Are you a native of this town?"

"A what?"

"I asked if you are a native of this town."

At that moment the man's wife, tall and sallow and gaunt, appeared at the open door of the cabin, and taking a cob pipe from between her teeth, said acridly:

"Ain't you got no sense, Jim? He means wuz you livin' here when you wuz born, or wuz you born before you begun livin' here. Now answer him."—J. L. Harbour.

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My guide, sent free, shows which is the right chimney for each lamp.

MACBETH, Pittsburgh.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

20 American Girls

This set of beautiful Souvenir Post Cards is considered the most popular set of post cards ever issued. They represent, in color, the most beautiful type of womanhood—the American Girl. Twenty different views of her, each fit for framing. Some of the types are: The Country Girl (alone worth the entire set), the City Girl, Western, Southern and Eastern Girl, and other types.

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MY SPECIAL OFFER

For 10 cents I will send you UP-TO-DATE FARMING for three months, and one complete set of American Girl Souvenir Post Cards. If you take advantage of this offer within 10 days, I will also include your name as a member of the Post Card Exchange, and send you a list of collectors from all over the United States who want to exchange cards.

UP-TO-DATE FARMING is a great semi-monthly devoted to farm life.

Remember, twenty Souvenir Post Cards (American Girl Series), a membership to the Post Card Exchange, and a three months' subscription to UP-TO-DATE FARMING for 10 cents (stamps or silver).

Garrett Wall, Dept. F.

UP-TO-DATE FARMING
Indianapolis, Ind.

Don't buy a stove or range until you first see

How Much You Save by getting

"A Kalamazoo Direct to You"

TRADE MARK REGISTERED

I Promise You:



Wm. Thompson, Vice Pres. and Gen. Mgr.

That you save more money, and at the same time get a better stove or range for the money, when you buy a Kalamazoo, than you can get anywhere else in the world. That's my promise, and here's my hand on it! Will you give me a chance to prove to you that I will do what I say?

In the past six years we have sold Kalamazoo stoves and ranges to thousands of readers of this journal—saving them \$5, \$8, \$10, and as high as \$30 and \$35 on a single purchase. But, that doesn't do you any good, unless you let me quote you prices and show you what we can do for you. Isn't it to your interest, then, to get our prices and catalogue? When you buy, you want the best stove or range you can find, and you want to buy it as economically as possible. You want to make every dollar count. Let me show you how. Write for our our catalogue and prices, and then compare the Kalamazoo, in both quality and prices with the best stoves and ranges you can find sold at retail. That's all we ask—just a simple comparison. And it's to your interest to make it.

Freight Pre-paid

How You Save Money

You deal directly with the manufacturers. You buy at actual factory prices. You save all dealers', jobbers' and middlemen's profits.

You buy from one of the largest, most modern, best equipped stove foundries in the world—making nothing but the highest grade stoves and ranges, and you get all the advantages which come from manufacturing in large quantities.

You not only save from 20% to 40% in first cost, but you also save in cost of operation, in repairs and in durability.

You do not only save money, but you get a stove or range of extra quality.

You have no freight to pay. We send you the Kalamazoo freight prepaid.

You get a stove or range of the latest design, with all the latest improvements, which will last as long as any you can find anywhere, and you save one-quarter or one-third in the price.

You wouldn't think of buying land or hogs or steers or feed-stuff, without first finding out what the market price is. Why then buy a stove or range without finding out the manufacturers' prices? Let me show you the difference between the factory price and the retail price. Use the coupon, or

How You Run No Risk

You buy on a 360 days' approval test, and I promise now, in black and white, to return to you every cent you pay if you do not find your purchase in every way exactly as represented. You buy from an established company, with more individual customers than any other stove company in existence.

We doubtless can send you names of many satisfied users of the Kalamazoo right in your own country—people who have not only saved money, but have also secured a stove or range of extra quality. We pay the freight—you don't have to take even that risk.

Your banker can easily find out about our reliability, and you know that the editor of this paper would not print our advertisements, year after year, if we were not perfectly trustworthy. If you appreciate the advantage of economy in buying, you will at least let me quote you prices.



Kalamazoo Stove Co. Kalamazoo, Mich.

Please send me Catalogue No. 183, and quote me factory prices, freight prepaid.

Send Postal for Catalogue No. 183

You can save enough on one purchase, to pay for a good share of your season's fuel—to pay your taxes—to get a new gown or a new suit. If you save only \$5, or \$10, I'm sure you can find some good use for the money or you keep in your own pocket.

The Kalamazoo line is complete, embracing stoves and ranges for all domestic purposes, including more than 300 styles and sizes of

- Coal and Wood Ranges
- Gas Stoves and Ranges
- Gas Heaters
- Coal and Wood Cook Stoves
- Hotel Ranges
- Open Franklin Heaters
- Base Burners
- Coal and Wood Heaters
- Shop Stoves, etc.

Get our prices and see what you save.

William Thompson, Vice-Pres. and Gen. Mgr.
Kalamazoo Stove Co., Kalamazoo, Mich.

360 Days Approval Test

You are invited to visit us

We Pay the Freight



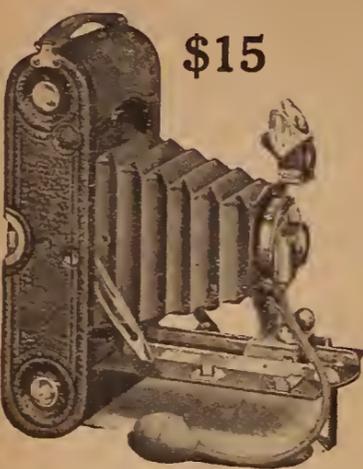
All Kalamazoo stoves and ranges are equipped with patent thermometer which makes baking and roasting easy.

Name.....

P. O.....

State.....

Anybody can Kodak.



\$15

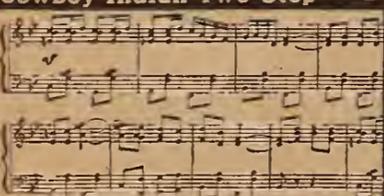
1^A Folding Pocket Kodak, Special.

There has never before been so much quality put into so small a camera—in lens and shutter and mechanical precision it is right. Makes the popular 2 1/2 x 4 1/4 pictures, the camera itself measuring but 2 x 3 3/4 x 8 inches. Fitted with Rapid Rectilinear lenses having a speed of f.8. and the reliable F. P. K. Automatic Shutter. It fills every requirement of those who demand a perfect combination of convenience and efficiency. Price \$15.00.

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Catalog free at dealers or by mail.

Wild West 10c
Cowboy-Indian Two-Step



Try these bars on your piano, then send 10c for the entire piece, or 10c for ANY OF THE FOLLOWING 50c SHEET MUSIC: Star of the West (Very Fine)—Soldier's Dream, Descriptive March—Western Flyer March and Two-Step—Moonlight on the River, Reverie—Lingo Race March (With much vim)—Dancing Shadows (Very beautiful)—Fairy Barque (The)—St. Paul Waltz (easy)—Under the Flag of Victory March—Music of the Union (Am. Medley)—Mocking Bird (Mack)—Barn Dance (Great Hit)—Patriotic Medley (National Airs)—Christian Endeavor March—Sacred Song Medley (Very beautiful)—Old Black Joe (Variations)—Moon Kisses (Three-Step)—Jesus, Lover of My Soul (Vocal)—In Joy Triumphant Praise the Lord (Vocal)—Ave Marie (Millard) (Vocal)—Abide with Me (Vocal Duet)—Where the Ivy Leaves Grow Close Beside the Door (Vocal).

Our large free catalog contains over a thousand others just as good as 10c. All the old favorites everybody loves—all the new ones being played and sung everywhere. New, Popular, Standard and Classic Sheet Music—full size, best paper, clear, handsome printing—10c per copy. Title page in two and three colors.

10c FOR BEST 50c Sheet Music

GIVEN To anyone buying one or more of the above pieces, who will send in addition the names and addresses of ten persons who play or sing, we will send an additional piece, without charge. Names of music teachers are particularly requested. Always give street address when sending names of musical friends. Write plainly.

McKINLEY MUSIC CO.
72 Patton Bldg., Chicago 117 5th Ave., New York

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Just to introduce our wonderful Sweater values, we will send, prepaid on receipt of \$1., this heavy Oxford Grey Coat Sweater, in the very latest style, exactly like cut. (Only one Sweater sent to the same name and address.) This Sweater is identical to those sold at the stores for \$2.50 and more, and is the greatest Sweater value ever offered to the public. Write plainly and give chest measurement. Send your order to-day.

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50% Cash Commission

A permanent position, no experience or capital required. Only spare time needed. Pleasant work looking after our interests. Write to-day to

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Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and \$1.00 at Druggists.

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2941 Hidden Name, Friendship, Silk Fringe Envelope and all other kinds of CARDS and Premium Articles. Sample Album of Finest Cards and Richest Premium List, all for a 2-cent stamp. OHIO CARD COMPANY, CADIZ, OHIO.

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No two alike. In colors and gold; worth 5c each or money refunded. 2 pkgs. 50c; 15 pkgs. \$1.00.
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\$90 A MONTH, \$60 Expense Allowance at start. To put out Merchandise & Grocery Catalogs. Mail order house. American Home Supply Co., Desk 10D, Chicago, Ill.

Things Worth Knowing

First American Glass

THE first American glass factory was erected in the town of Temple, New Hampshire. Washington, in his diary, speaks of glass being made in New Haven, Connecticut, in the year 1789.

One would suppose by the language he uses that he considers it a new and quite extraordinary affair. It was nine years previous to this and during the very war whose issue first enabled the country to commence its own manufacturing, that Robert Hewes, of Boston, began to carry out the project which he had long conceived, but had hitherto found impracticable, if not impossible, under English rule—that of making glass in America for America.

In 1780 Mr. Hewes selected a site for his factory secure from the British forces (his glassblowers were Hessians and Waldeckers—soldiers who had deserted from the British army), and he must have had an eye for the beautiful in Nature. He chose a spot on the north slope of Kidder Mountain, near its base. To the north-west Mount Monadnock rears his granite crown, standing like a giant sentinel; to the north, and running east, are the Temple Mountains, bold and precipitous; to the east a beautiful valley holds in its embrace the towns of Wilton, Milford and Nashua, while to the northeast Joe English Hill and the Uncanernucks Mountains conceal the city of Manchester.

The place is now reached by a two-mile walk over an old road, long a stranger to travel other than by grazing cows and Nature-loving tourists. The stone work about the ovens and the foundations of the building are all that now remain to remind us that here was another example of the American people's struggle for independence.—Crockery and Glass Journal.

Facts About India

INDIA is rapidly becoming the most "distressful country in the world." At the end of the last century the plague was introduced from Hongkong, and since then an average of about three fourths of a million people have died from it every year, while famine has become so much of an annual event that it has ceased to excite great interest in the mother country.

There are certain fixtures in India which rarely vary, and among them famine has its abiding place. The famine figures are appalling. A million and a half persons are in receipt of state relief owing to the shortage of grain.

Suffering has been the lot of the Hindu for centuries past. Before the Pax Britannica was established in the land constant wars swept the country from end to end. Avalanche after avalanche of invaders came down from the Khaibar

Pass. Thuggism, infanticide and suttee reigned without check. British rule has put an end to the sword, it has tried in vain by common-sense enactments to stop the plague—in vain striving to break down the barriers of caste.

It refuses to let the starving die, but the population increases rapidly, too rapidly for the country that has got to hold it. Immense strides in irrigation have been accomplished; six million acres in the Punjab were irrigated in one year. But still the increase in population goes on, and other countries are, with reason, shutting their gates in the face of India. The problem is gigantic and every year adds to its appalling growth. However, in spite of all these conditions, India is a wonderful country, with its bewildering diversity of people, its gorgeous palaces and its beautiful temples and mosques.

Those Great Crops of Ours

WALTER J. BALLARD, of Los Angeles, California, recently sent the following optimistic statistics in regard to the crops of the United States to the New York "Sun."

The United States annually produces more corn than all other countries of the world combined—2,927,000,000 out of 3,888,000,000 bushels.

The United States annually produces more wheat than any other country in the world—634,000,000 out of 3,108,000,000 bushels.

The United States annually exports more wheat flour than all the other countries of the world combined—15,000,000 out of 26,000,000 bushels.

The United States annually exports more wheat, including wheat flour, than any other country in the world—146,000,000 out of 646,000,000 bushels.

The United States annually produces more oats than any other country in the world—754,000,000 out of 3,582,000,000 bushels.

The United States is the third largest annual producer of barley in the world, 153,000,000 bushels—only 7,000,000 bushels less than Germany, with Russia leading.

The United States annually produces more cotton than all the other countries of the world—13,000,000 out of 20,000,000 bales; and also exports more cotton than does all the rest of the world—9,000,000 out of 13,000,000 bales.

The United States annually exports more cotton-seed oil than all the other countries of the world combined—42,000,000 out of 52,000,000 gallons.

The United States annually produces more tobacco than any other country in the world—690,000,000 out of 2,201,000,000 pounds.

The United States annually exports more oil cake and oil-cake meal than any other country in the world—2,063,000,000 out of 4,913,000,000 pounds.

The United States annually exports more rosin than all the other countries of the world—717,000,000 out of 846,000,000 pounds.

The United States annually exports more spirits of turpentine than all the other countries of the world—16,000,000 out of 24,000,000 gallons.

Among our other great crops may be mentioned:

Potatoes, bushels.....	308,038,000
Hay, value.....	\$743,000,000
Rice, pounds.....	529,400,000
Beets, tons.....	3,767,871
Beet sugar, manufactured, pounds.....	927,256,430
Cane sugar, long tons.....	1,532,954
California fruits, flowers, wines, brandies and vegetables.....	\$ 75,000,000

Drying Fruit by Sun's Heat

D RYING fruit by natural or sun's heat is the latest scientific method. This method has been installed in various fruit-yielding districts, especially at San Jose, California, with great success.

As many as twenty-five thousand trays of prunes are spread out to be dried in the open air at one time. The fruit must be stirred at intervals, in order that the sun's rays reach every portion of it. Santa Clara County, in which San Jose is located, yields every year more than one hundred and forty million pounds of dried fruits, more than seventy-five per cent of which is sun dried. The great bulk of this consists of prunes, peaches, apricots and pears. After the drying process the fruit is steamed properly, to bring back its natural taste.

Windmill Irrigates a Farm

THE wings of the windmill are made from pieces of a tin box and nailed to the wooden arms. As the wings are turned by the force of the wind they raise and lower a piston rod, which pumps water from the well to which the windmill is attached. By means of this water a small farm has been located in a part of western Nebraska where the country is so dry that no other water is available to moisten the land. In this way the farmer depends upon the winds which sweep over the prairie for his water supply.—Technical World.

The World's Onion Seed

DOWN in Santa Clara Valley, California, in the low lands, the world's onion seeds are produced. The produce is not used for eating purposes, inasmuch as the onions are allowed to grow until they are too old for such use. Nearly ten thousand acres of land are used in the culture of the product. A certain young man near the city of San Jose has under way a process whereby the stalks can be made into paper, such as wood pulp has been for some years past. About two thousand flatcars of stalks are produced each year.

The Talented Blind

A SHORT time ago the Baroness von Kramnickfeld (née Miriam Gardner, an English woman) died in Bucharest. This lady, who was one of the Queen of Rumania's personal friends, was writing a poem one day when a mist suddenly spread over her eyes, and she thus became in her fiftieth year totally blind. In spite of her advanced age, however, the Baroness attended an English school to learn the alphabet and the use of the typewriter, and in the end triumphed over her affliction to the extent of being able to make her own clothes and hats without any aid whatever.

Thousands of sightless beings owe a debt of gratitude to Dr. F. J. Campbell, the blind principal of the Royal Normal College for the Blind at Norwood, who lost his sight in his fourth year. While at play a thorn ran into his eye, and by the carelessness of a doctor he lost the sight of both eyes. Nevertheless he became a splendid musician and ultimately established the Royal Normal College for those similarly afflicted as himself. At this college pupils may learn how to earn a livelihood and enjoy life in spite of the dark world in which they live. Doctor Campbell himself not only indulges in rowing, riding and cycling, but is such a skilful and ardent mountaineer that Professor Tyndall once said to him in Switzerland, "Look here, Campbell, are you really blind or only a humbug?"—New York Sun.



A Huge California Pumpkin—Large Enough to House a Calf, the Size of Which is Otherwise Shown by the Dog Sitting on Top

Little Home-Made Gifts

By Evelyn Parsons



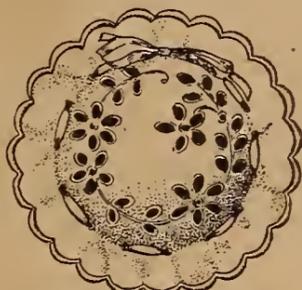
No. 26—Eye-Glass Polisher

ALMOST every woman at some time of the year has a few little gifts to prepare, and for her benefit Miss Parsons has designed these attractive little novelties, which are easily made and most inexpensive. Useful things are perhaps the most acceptable, but we shall show them in such dainty forms that they will be quite as ornamental as they will be useful.

First we offer a little eye-glass polisher. Two chamois pieces are enclosed in covers of colored linen embroidered with white. The linen comes in two colors—pink and lavender. There is nothing so nice as chamois to polish glass, and any one who wears eye glasses will find this a most useful little article.

Linen napkin rings are nice things for a housekeeper to have at hand to use for guests. They look very pretty on the table. When laundered they should be slightly starched, so that they will hold their shape. They are made of two thicknesses of linen. First embroider the flower decoration, then baste the linen and lining together and work the buttonholed edge through the two. They are fastened with a tiny pearl button and a loop made at the end of the scallop.

The favorite pincushion is one with covers of linen that are laced together with ribbon run through eyelets. It is such an easy matter to take the cushion



No. 28—Pincushion

About Upholstered Furniture

TO CLEAN upholstered furniture, cover the material with a towel and whip with a rattan. Wash all visible wood in tepid soapsuds, dry it very quickly, then rub hard with a flannel and a few drops of kerosene. This is for walnut, cherry and oak in any finish. Mahogany merely needs to be wiped with a damp cloth, then rubbed with clean flannel. Brush the upholstered parts very hard, then wipe them quickly with a cloth wrung dry out of clear, hot water. Follow this with a clean white flannel dipped in alcohol. As soon as the flannel shows dirt, wash it clean in tepid water; otherwise the alcohol will dissolve the dirt and deposit it in streaks upon the surface of the fabric.

Clean out tuftings with a little swab of cotton wool tied on the end of a

stout skewer and wet with alcohol. Clear alcohol lightly used will not mark the most delicate brocades, but the swab must not be wet enough to trickle under pressure. Clear the intricacies of carved wood with the same sort of swabs, but take especial pains not to have them too wet.

How to Clean Curtains

PIN a sheet on the carpet, then over the sheet scatter dry Indian meal and borax mixed in the proportion of one cupful of meal to one teaspoonful of powdered borax. Over the sheet pin a curtain, and over the curtain scatter more of the mixture; then another curtain, then more mixture, until all the curtains are pinned down and all strewn with the meal and borax. Now pull out all the pins, and roll up in a compact roll, so that the sheet shall cover all. Lay this roll away to season for two or three weeks, then shake out the curtains.

When laundering lace curtains, if a creamy shade is desired, add clear, strong coffee to the starch.

To Wash Cane-Seated Chairs

WASH cane-seated chairs with a solution of oxalic acid—one teaspoonful of the acid to one quart of water is about the right proportion. Scrub hard with a stiff brush, rinse immediately with clear water, to prevent the action of the acid on the cane, and the color will be restored and the seat tightened.

To Cleanse a Shawl or Hood

ONE good way to clean a white woolen shawl is the following: Brush all the dust out, spread the shawl on the table, and sprinkle over it a quantity of finely ground starch (rice or potato, not wheat). Then fold the shawl into a



No. 29—Bag for Odds and Ends

square, powdering liberally between the folds. It should be put away for several hours, then opened and dusted.

White Angora hoods for little girls may be cleaned with flour. Rub it thoroughly into the hood, and shake out.

To renew velvet, cover the face of a flatiron with a wet cloth; hold the wrong side of the velvet next to the cloth until thoroughly steamed, then brush the pile with a soft brush.



No. 27—Napkin Ring

apart for laundering when made after this model. The one here shown is made of a fine white linen with flower design in eyelet work. If one prefers, the design may be carried out in solid work. The scalloped edge is buttonholed.

One can always make use of a bag for odds and ends. It will be nice to hang at the side of the bureau to put hair pins in, or it may be used for a hair receiver. This bag recommends itself by a wire ring which is sewed in the beading, so that the hand may be readily slipped in. It has a circular base. It is made of light brown linen embroidered with old blue and old rose in very delicate tints; the rings are in rose. Use three threads of the cotton for a needleful.

Price List

No. 26—Eye-Glass Polisher. Stamped on pink or lavender linen with chamois inner pieces, 15 cents; thread, 5 cents.

No. 27—Napkin Ring. Stamped on white linen, 15 cents; thread, 5 cents.

No. 28—Pincushion. Linen covers, 30 cents; cushion, 12 cents; thread, 10 cents.

No. 29—Bag for Odds and Ends. Stamped on brown linen, 25 cents; thread and ring, 20 cents.

NOTE—Order Miss Parsons embroidery patterns by number from the Embroidery Department, Farm and Fireside, Springfield, Ohio. Remit by money order, currency or stamps.



UMC

CLUB SHOT SHELLS FOR FUR AND FEATHERS

New Club shells are good. Nitro Clubs are better. The first are loaded with black powder and do the work but the second have smokeless powder, are steel lined and give much less recoil, noise and smoke. Both are "game getters" and their boxes bear the red ball U. M. C. trade mark. Look for it.

Game Laws of U. S. and Canada Free.

THE UNION METALLIC CARTRIDGE CO., Bridgeport, Conn.

Agency, 313 Broadway, New York, N. Y.



NITRO CLUB SMOKELESS POWDER



NEW CLUB BLACK POWDER



\$10.95 for this large handsome steel range

without high closet or reservoir. With high warming closet and reservoir, just as shown in cut, \$17.35. Reservoir is porcelain lined. Heavy cast top with 6 full size cooking holes. Large square oven, regular 2-16 size. A wonderful baker. Body is made of cold rolled steel, top and all castings of best pig iron. Grate; improved duplex, burns wood or coal. Nickel band on front of main top; brackets and tea shelves on closet; band and ornament on reservoir, oven door, etc. Highly polished, making it an ornament in any home.

OUR TERMS

are the most liberal ever made. We will ship you any range or stove, guaranteed to be perfect in construction and material; we guarantee it to reach you in perfect condition. You can if you do not find it exactly as represented and perfectly satisfactory in every way, the biggest bargain in a stove you ever saw or heard of, equal to stoves that retail for double our price, you can return it to us and we will pay freight both ways.

WRITE TODAY for our free Stove Catalog No. 5108. 150 styles to select from, explains our terms fully; tells you liberal terms and lowest prices ever made. A postal card will bring it to you.

\$2.95 for this Oak Heater



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MARVIN SMITH CO. CHICAGO, ILL.

Enjoy The Fruit of Your Labor

Get an orchard or farm of your own in Washington along the new line to the Pacific Coast, where TODAY there are great opportunities for all who are in earnest. Apples, peaches, plums, apricots and all small fruits grow well and bring excellent returns. Last year hundreds of Washington orchards brought from \$500 to \$600 per acre. Wheat averaged 25 bushels per acre. Other crops also did well. Oats, rye, barley, alfalfa and timothy hay are also produced in abundance. Convenient markets are assured by the PACIFIC COAST EXTENSION of the

Chicago, Milwaukee & St. Paul Railway

Unirrigated lands there now sell at \$15 to \$50 per acre. Irrigated fruit or farming lands at \$100 per acre and upwards. Those interested in truck-farming, poultry-raising, mercantile and professional lines will also find unusual opportunities along the new line in Washington.

Send or call for new Washington Folder, free on request.

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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.

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SOMETHING WORTH WHILE
DIRECT TO YOU

or to any point in the country on your order, with holly berry label with Merry Christmas and your name.

THIS BOX COSTS \$7.50, and contains **DRIED FRUIT**, 25 pounds, fine quality, put up in 2 pound cartons; Figs, Prunes, Peaches, Apricots, Pears, Muscatel, seedless and seeded Raisins. **CANNED FRUIT**, 12 cans, put up in heavy cane syrup. Peaches, Apricots, Pears, Plums and Grapes. **NUTS**, 8 pounds, Almonds and Walnuts. **ORANGE-SAGE HONEY**, 1/2 gallon. All guaranteed first-class and this year's crop.

We Pay the Freight

Our Reference: First National Bank,
Colton, California.

TWO OF OUR REGULAR ASSORTMENTS

50 pounds, Dried Fruit, 6 kinds, packed in 2 pound cartons, \$6.00 box.

Canned Fruit Assortment—Fancy fruit, put up in heavy cane syrup, 24 cans, 5 kinds, \$4.75.

Combination—50 pounds Dried Fruit, 24 cans Canned Fruit, all for \$10.50.

WE PAY THE FREIGHT

Write for price list and full particulars of all assortments; also **THREE COLORED SOUVENIR POST CARDS FREE.**

CALIFORNIA FRUIT PRODUCTS CO.

Avenue H, COLTON, CALIFORNIA

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Kansas City, Mexico & Orient Railroad

IRRIGABLE LANDS IN THE
FAMOUS PECOS VALLEY—
PECOS COUNTY, TEXAS.

NO HOMESTEAD OR RESIDENCE
REQUIREMENTS

The second allotment of these lands are now open for entry at \$35 per acre, including perpetual water-right and proportionate ownership of the immense irrigation works now under construction, which when completed and water appropriated become the property of land purchasers.

The "Orient" road is spending immense sums to develop these lands and you are now offered a rare and exceptional opportunity to secure 40 or more acres of the finest irrigable land in the United States at ahead-of-the-railroad prices, that in a few short months when the "Orient" road is completed to this district, will be worth from \$100 to \$500 per acre.

Over 800 miles of the "Orient" is now built and in operation between Kansas City and the Pacific Coast of Mexico and the gaps are being rapidly closed up. Fortunes await those who secure a rich irrigable farm now at the present low prices.

These lands are being sold direct to purchasers—no agents, no commissions—at \$35 per acre, terms one-fifth cash balance in four years. No homestead or residence requirements. Filings can be made without leaving your home. Only a limited acreage may be entered at \$35 per acre, so write today for Free booklets and maps. Address

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Kansas City, Mexico & Orient Railroad
KANSAS CITY, MISSOURI

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about your boy's company when he is chumming with



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USE **"MENDETS"**

A PATENT PATCH

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Sunday Reading

To the Downhearted

And let us not be weary in well doing: for in due season we shall reap, if we faint not.—Galatians vi, 9.

"Don't give up the ship!" was the dying injunction of Captain Lawrence on one of the stormiest days in our national life. That cry has been ringing in our ears for a couple of generations, and when the emergency is on us and our energies are taxed to their utmost those words make our hearts beat with renewed vigor.

Don't give up the ship! You may be walking along a thorny path, and if you were a mere animal you would lie down and die rather than meet its difficulties. But you are more than an animal. There is eternal fire in your veins. You can conquer discouragements, for there is nothing in life that can overcome your soul. When you are in the depths and your eyes are brimmed with tears you shall hear the overture of the angels and gather strength as you listen.

Don't give up the ship! Life has its hardships; one meets them at every turn; but put your whole heart into your work, and at sundown you shall be glad and content. The Father has a long memory, and in some future day you will find that He has not forgotten you nor your humble duties nobly done.

There are dark hours for all of us. Rich and poor alike, literate and illiterate, the so-called high and low, have at times an armful of sorrows. No one is exempt from the general fate, though it sometimes seems as though there were favorites of fortune. The rule, however, is inexorable in its application. Trials are manifold, but a strong heart need not succumb.

If this life were all, we could not bear these griefs and disappointments. It would hardly be worth our while to bear

them. But with eternity before us, with a new environment awaiting us, with innumerable opportunities beckoning us onward, let us be brave, bearing our burdens with the calm fortitude of a noble character, resigned to the inevitable and making the best possible use of it.

Walk with dignity the path marked out. Clean of heart and hand, with a soul above reproach, take your life as an imprisoned archangel would take it, and make a ladder of it, down which the dear ones may come to bring you messages of love and peace.

It seems to me that that is the new Gospel, or rather the new and true interpretation of the old Gospel. That is what Jesus did, and in a far-off way we can follow His example.

Whatever your circumstances, God lives and is with you.

You cannot be disheartened as long as your faith in Him abides.

The strong man is not the world's man, but God's man.

To-day is short, but to-morrow will be long, and it is better to so live that your regrets will be short and your joy long than that your pleasures shall be short and your regrets long.

Don't give up the ship!—George H. Hepworth.

The Sabbath Day

THAT the sabbath should be a day of rest is conceded by all. When God said, "Remember the Sabbath day," He did not add, "and rest on that day." Yet we will all agree, I think, that He meant it as a day of rest. But rest is not its primary object. God with his infinite vision, foresaw the great fact that mortal man would become so engrossed in the mere business of earning his bread and butter and a few paltry dollars that he

would have no time for soul growth; that in his mad rush after gain, the inner, better self of the man would shrivel and die; hence the setting apart of this day not merely as a rest day, but as a holy day. Now, holy means "set apart for worship," and worship means "a pure and loving adoration."

The farmer who saves all the little odd jobs—mending harness and tools, washing buggies, etc.—until Sunday is throwing away an opportunity to become a better man, a stronger man for good in the community in which he lives. The farmer who lies around all day Sunday in his work clothes, who goes off fishing or to attend a baseball game, is doing more than this. He is deteriorating. Remember this, and set a good example before your children.

It is good for one to attend church on the Sabbath. He hears good thoughts which elevate his mind above workaday matters. As a machine will do better work when given a period of rest at certain intervals, so will a man better perform his daily duties if he confines those duties to six days.

A selfish dictating to others is a poor way in which to spend the Lord's day.

Men should remember that there is something more to life than merely earning bread and butter, getting rich or acquiring knowledge. There is a soul growth, a largeness of heart and a brotherliness toward all mankind that it is the privilege of each and every one to enjoy if they will but open their hearts' doors to the thought of the best things.

God says that man in his greed would not of himself take time for these best things, and so in His infinite wisdom He has, by His own command, set aside this one day in seven, and given to man that blessed boon—the Sabbath.

PEARLE WHITE McCOWAN.

Perfect Faith

PERFECT faith is as rare as perfect love. In distress the first thing that wavers is faith. It may be that the trouble which brings us low is the result of our own imprudence. "We have done that which we ought not to have done, or left undone that which we ought to have done"—in the solemn language of the general confession which we recite so blithely every morning, and the consequences are the natural, perhaps the inevitable, results of our sins of omission or commission. In homely phrase, Providence is said to watch over children and fools. Perhaps the consequences of our failures to be or not to be are warded off. God is long suffering. He gives us all many chances. We trifle with life and destiny, and perhaps with a certain degree of impunity for a certain period, but by and by there comes a time when the trifle must assume his responsibilities; when "he who has danced must pay the fiddler." Then our belief, our faith, our hope, all make ready for flight. The endeavor of life is to believe; the highest function of life is to trust; the end of life is to hope. God is very loving and pitiful. Yes, even though in our sorrow we cannot realize it. The living Christ above us never sleeps. He seems to be silent when things go awry. But He tolerates the question, and sooner or later He answers it.

Confidence and trust and hope—these are easy when our ways lie through pleasant paths, but confidence and trust and hope are empty words unless they can be bestowed and felt and entertained when, though God is in His heaven, all seems wrong with the world. For this is the gracious promise of the past, no less vital when it was uttered than it is to-day: "Thou shalt keep them in the secret of thy presence from the strife of tongues."—Extracts from Rev. Cyrus T. Brady's sermon in Christian Herald.

Don't Make Enemies

ENEMIES are the most uncomfortable things you will ever run across. They'll always be in your way, tripping you up and digging you in the back, like rocking chairs in a dark hall.

This injunction is for boys and young men especially. There's not another boy or young man in the neighborhood but will be in a position some time to do you a great favor or a great injury.

Decide what it is your duty to do, do it, and never regret anything that comes in its train.—Maltbie Davenport Babcock.



The "Sistine Madonna"

The "Sistine Madonna" was the last and greatest of Raphael's forty Madonnas. It stands on the altar-like structure in the Royal Gallery of Dresden. It is considered by many critics to be the greatest painting in the world. The Madonna is painted as if enclosed by green velvet curtains which have been drawn aside, letting the golden light of the picture blaze upon the one who looks; then upon a little ledge below, looking out from the heavens, are two little cherubs—known to all the world. Raphael is said to have found his models for these little angels in the street, leaning wistfully upon the ledge of a baker's window looking at the good things to eat, which were within. Raphael took them, put wings to them, placed them at the feet of Mary, and made two little images which have brought smiles and tears to a multitude of people. The "Sistine Madonna" hangs alone in a room in the Dresden Gallery.

Miss Gould's Dressmaking Lesson



How the Cuff is Attached to the Sleeve

THE woman who has an idea that a tailored shirt waist is easier to make than a fancy blouse is very much mistaken. Just because it is plain, there are many little points in a tailored waist that require special attention.

For every-day wear shirt-waist costumes of woolen fabrics will be in vogue this season, and plain tailored waists of heavy wash materials will be worn with coat-and-skirt suits.

The new satin shirt waists, too, are very plain, so a few suggestions

on the making and finishing of these waists will no doubt be of great assistance to the home dressmaker.

The Shirt-Waist Sleeve

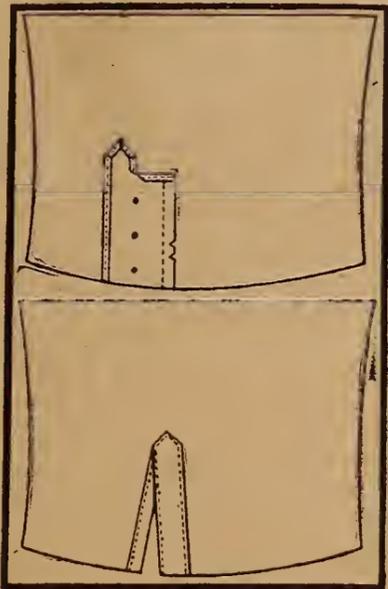
The regulation shirt sleeves in all the Madison Square Shirt-Waist Patterns are provided with upper and under laps, and the sleeves are slashed for the opening. The most important part of a tailored waist, and the most difficult one, too, is the sleeve. The first step is to finish the slashed opening with the laps. Crease the under lap in the center and join to the under edge of the opening as notched. Then join the upper lap to the opposite side of the opening by notches. Be sure to have this seam come on the right side of the sleeve. Now turn in the edges of the upper lap three eighths of an inch, and baste all around. Then fold the lap on line of large round perforations and stitch flatly to position on the sleeve. Two illustrations are given of the lower part of the sleeve. One shows how the upper lap is first joined to the

position and stitch all around the edge. One illustration shows how the sleeve is arranged on the cuff just before the upper and side edges of the cuff have been stitched to position.

The Collar and the Neckband

The neckband, collar and collarband of a tailored waist are cut double, and the two thicknesses should really be cut out at the same time, in order that they may be cut on the same grain of the material.

In wash waists these parts are interlined with one or more thicknesses of linen, according to the individual taste



How to Adjust the Sleeve Laps

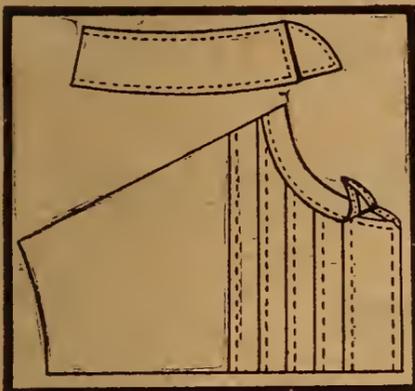
for soft or stiff collars and cuffs. In cloth shirt waists, and silk ones, too, a very fine quality of tailors' canvas should be used for interlining collars and cuffs.

The neck edge of the waist is slipped in between the inner and outer neckband in just the same manner as the sleeve is placed between the two parts of the cuff. One illustration shows just how this work is done. Special attention and study should be given to the drawings on this page. They should be of just as much assistance as the lesson.

How to Adjust the Belt

The waistline in all Madison Square Patterns is indicated by a line of square perforations. The shirt waist should be gathered along this line, between the double square perforations. Arrange the belt on the under side of the waist along the line of square perforations. Match the centers of the waist and belt, back and front, and bring the large round perforations in the belt to the under-arm seams. Pin securely at each of these points. Pin the plain part of the waist (back and front), from the under-arm seams to the double square perforations, smoothly to the belt. Then draw up the gathers to fit the remaining space. Distribute the fulness evenly and pin securely. Use plenty of pins in arranging this fulness on the belt.

After the belt has been pinned to the waist in this manner, try on the waist to see if the fulness has been arranged in a becoming manner. Sometimes it will make a stout figure look more slender if all of the gathers are drawn closer to the center, back and front. In this case there will be a plainer effect under the arms.



The Separate Collar. Also the Way to Join the Neckband to Neck

opening. The other shows how this lap is folded over and stitched to position. You can also see how the under lap looks when it is properly adjusted.

Now gather the sleeve at the lower edge between double crosses. The cuff is cut double and should be finished at the lower edge—that is, the two portions should be joined along the lower edge. The upper and side edges should remain open. Slip the sleeve between the upper and under cuff, arrange the fulness in the sleeve to the under side of the cuff as notched, and baste firmly to position. Then baste the upper side of the cuff to



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Farm Notes

Opportunities in Western Canada

By Forrest Crissey

CANADA has more to offer in the way of agricultural possibilities than has any one of the older countries. Her splendid prairie provinces, Manitoba, Saskatchewan and Alberta, were so long misrepresented in regard to climate and soil by those interested in preventing settlement, that it is only within the last quarter of a century that people in any considerable numbers have gone in there, and although each year sees an increasing host marching Canada-Westward, still the acres are so vast that the government can hold out as great opportunities as ever—greater, in fact, for year by year hundreds of new miles of railroad gridiron the country, opening vast acres of comfortable and profitable farming. The railroads have been the pioneers that have gone into the so-called wilderness and shown the farm land lying latent there, the Canadian Pacific first, then the Canadian Northern, and now the government's new transcontinental line, the Grand Trunk Pacific, is taking its unbending way through still other territory, marvelously rich, and where it goes young men eager for a fair chance in the open, and older people weary with the rush and discouragements of city life, are following.

During the last fifteen years a great influx of people has increased the population of these provinces from 219,305 in 1891 to 893,351 in 1907. Yet the map published by the government showing the parts of the country that have been taken up looks like a skeletonized leaf, with the railroads for veins. Between the railroads, with their fringe of population, there are great tracts of unoccupied lands especially in the new provinces of Saskatchewan and Alberta. Southern Manitoba has been pretty thoroughly covered with rails, and consequently is well settled, but the other provinces have thousands of acres of government land left, and the railroads are making them accessible as fast as human power can accomplish it.

During 1907 the Canadian Pacific built five hundred and seventy miles of new road. The branch from the main line northwestward through Strassburg was continued past the upper end of Last Mountain Lake through Saskatoon, and is now rapidly growing toward Wetaskiwin, where it will join the Calgary-Edmonton line. Another branch was started from Moose Jaw to pass through the Goose Lake region, where there is a large and rich colony of American farmers, to join the Calgary-Edmonton line at Lacombe, roughly paralleling the other new line, and with it, and the main line, giving the Canadian Pacific three distinct routes across the great wheat lands of central Saskatchewan and Alberta. Within a few years, doubtless, these three lines will be connected by numerous branches, so that more and more land will be available for the land hungry. For the men who have tried city life and are ready to go back to the farm, and for the sons of farmers who find themselves in an agricultural district which is too crowded to afford them land, or where the price of land is so high as to be prohibitive to a young man, each year will see new tracts made available in that rich wheat country where the farmers are raising the record crops of the world.

But one road is not to be allowed to monopolize the carrying trade for this region. The Canadian Northern, which was the first in the field of the North

Saskatchewan Valley, is not letting its advantage slip from its grasp. Last year this company completed two hundred and twenty-five miles of new lines, the most important being the line from Winnipeg through Brandon into Regina, which gives the Canadian Northern three routes from Winnipeg to Prince Albert on the North Saskatchewan. The same company also finished the grading on the new Hudson Bay route as far as the Pas, and are now laying the rails preparatory to continuing the construction to Fort Churchill on the Bay. Two hundred and seventy miles of this line will be a colonization road passing through good agricultural land, and the settling will be in charge of Colonel A. D. Davidson, the man who started the "American Invasion" into Canada. Along this link in the shortest "round the world" routes there is good land, cheap, and plenty of it. Here the farmer's son, who has toiled in the dark and dirty city, and by patient care has saved a few hundred dollars, can buy for himself a farm as large as, and more productive than, his father's; and rest assured that his children at least will not be forced into the city by lack of land.

Now a third road is invading the prairies. The Grand Trunk Pacific, the new national transcontinental, has men of all sorts, from locating engineers to track layers, scattered along the three thousand miles of the route from Moncton to Prince Rupert. The greater part of the actual construction work has been done on the prairies, where five hundred and sixty miles of main line were finished in 1907.

Picked Up Around the Farm

Clean up around the back of the house as well as in front. It will add greatly to the appearance of everything.

Don't you feel better and your stock look better since you built that silo? I think every one can answer "yes."

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U. S. Department of Agriculture
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Vol. XXXII. No. 2

Springfield, Ohio, October 25, 1908

Terms (1 Year, 24 Numbers, 25 Cents
5 Years, 120 Numbers, \$1.00)

A North Carolina "Corn Special" Spreading the Gospel of Good Farming

WHEN the officials of a state, college and railroad decide that it is best to inaugurate a new departure for the express purpose of teaching better methods of growing a certain kind of cereal, there must be a good and sufficient reason therefor, and when the president of the Raleigh Agricultural College said, "North Carolina raises less corn than any other corn-producing state," he no doubt expressed the motive which prompted these officials to fit up a train with an exhibit of what could be produced, together with a competent corps of lecturers to invade a certain portion of the state. Regarding this particular section, the government in its soil-survey report says: "Corn has been one of the leading crops ever since the settlement of the country. The total production, however, has never been very large." The object of the trip was to induce the farmers of that section to increase the products of their corn fields, therefore the "Corn Special," the first train of its kind that ever traversed the iron rails of North Carolina.

These men knew full well that with a favorable climate, a rich, alluvial soil and with the generally favorable conditions that prevail in the section of the state to be visited, the farmers of that section were not producing as much as they should, and that North Carolina ought not to be so far behind her sister states in the matter of corn production, especially when there were such large areas equally as well adapted to growing corn as the prairie soils of the West. Therefore it was but natural, having the best interests of the state, as well as the farmers, at heart, that they should take steps to enlighten the tillers of the soil, and that the best method of so doing was by means of practical demonstrations carried to their very doors by men thoroughly competent to do the work.

They knew that it was not the fault of the climate nor of the soil that the state average was low, for they had, in the course of their many experiments, by a system of rotative farming, repeatedly been able to produce as large a yield as other favorable corn-growing localities, proving beyond a doubt that the farmers themselves were at fault, either in the matter of seed selection, soil preparation, cultural methods, or all of them, rather than that the soil was incapable of producing a crop. Many of the farmers in North Carolina are still practising the methods used in ante-bellum days, when slaves did the work, and it was to induce these men to make a change for the better that the expedition, if it may be so called, was planned and carried out. They believed that by practical talks by practical men, with practical demonstrations, these farmers could be made to see the error of their ways and eventually be persuaded to correct them.

Through the Coast Country

The territory visited was the eastern portion of the state called the "Coast Country," or the "Coastal Plain," beginning at Moyock, on the Virginia line, and extending some one hundred and fifty miles southward as far as the city of

Newbern. The land in this section is somewhat low and is penetrated by numerous arms of the ocean and by wide rivers. The soil is of the alluvial nature, and the Government Bureau of Soils gives the following kinds in the territory mentioned: Norfolk sand, Portsmouth sand, Norfolk sandy loam, Portsmouth sandy loam, Portsmouth clay, Selma clay, Neuse clay and swamp. All of these soils, except possibly the Norfolk sand, are capable of producing good crops of corn. Probably twenty-five per cent of the area is Norfolk sandy loam, a soil that is very susceptible to good treatment and will produce liberal crops of corn. The swamp lands cover large areas and are of a black, peaty nature, which, when properly drained, make excellent corn land.

In this section, according to the twelfth census, forty-six per cent of the farms are operated by owners, or part owners, of whom about one fifth are colored;

third of the farm acreage is under some sort of cultivation.

The Institute Train

The "Corn Special" train consisted of an engine, one baggage car and two day coaches. The baggage car (see illustration) was fitted up with an exhibit of the products of North Carolina farms put up in glass jars and arranged artistically along the sides of the car. In the center of the car, at the farther end, was a full complement of spraying apparatus which was in complete working order. Other glass jars contained samples of soils and fertilizing materials, the whole making a display that was pleasing to the eye and at the same time instructive to a marked degree, whether the observer be a farmer or not. This feature of the outfit deserves more than passing notice, for it shows what pains the men in charge took to prove, by sample, what could be done in the "Old North State."

taneously in each car, the subjects sometimes being the same, at other times differing, according to the desires of the audience.

It will be seen that to equip and send out a train like the one described was quite an expensive undertaking; but in this matter the state was aided very materially by the kindness of the manager of the industrial department of one of the railroads which traverse the section visited. This man placed the train at the disposal of the lecturers for a period of eight days, without cost to the state, and sent out with it a man who is a farmer by birth and present occupation. This man knew the country and piloted the train to about twenty different towns, and at each place a stop of two hours or more was made. One hour was devoted to showing the exhibits and answering questions regarding it, the other hour being taken up with lectures upon various topics.

The Lecturers and Their Subjects

Perhaps the word "Corn Special" may be a little misleading, for while corn was the main topic, there were lectures on other subjects. Several departments of the North Carolina Agricultural and Mechanical Arts College had representatives on the train, among them being Dr. F. L. Stevens, professor of plant diseases; Prof. R. I. Smith, entomologist; Professor Williams, director of the experiment farm; Dr. Tait Butler, veterinarian, besides Mr. A. D. Shamel, of the plant-breeding department of the Department of Agriculture at Washington. Mr. Shamel is a native of Iowa, and practically "grew up" in a corn field. He secured his position with the government by a competitive examination in which qualifications count. It is not only his business to know how to breed up and grow various kinds of farm plants, but to be able, in plain words, to tell how to do it. On this particular trip, however, he made a specific talk on corn growing. By the presence of Mr. Shamel it will be seen that the government was interested in aiding the farmers of the state of North Carolina in securing a better yield of "King Corn," to the extent, at least, of furnishing an expert corn breeder for the entire trip.

The lectures of Mr. Shamel and Mr. Williams were along the same lines, and consisted of explanations by samples of the difference in corn, such as size of cob, length of ear and kernel, compactness, taper of ear and kernel, width and thickness of kernel, maturity, size of germ, etc. They also took up the selection of the seed and testing same for vitality, Mr. Shamel having a testing box with the sprouting grains lying in their respectively numbered squares, showing conclusively which ear to use and which ear not to use for seed, a very convincing argument to the skeptical on the subject of vitality or the germinating qualities of various ears. Preparation of the soil received attention at their hands, as well as improved cultural methods, which were radically different from those in use by many in the audience. Selecting seed in the field as against selection in the crib was advocated,



The "Corn Special" Train at Creswell, North Carolina, Taken March 24, 1908, Showing the Crowd Just After Leaving the Auditorium Cars

nearly ten per cent are operated by cash tenants, who pay a cash rental of from seventy-five cents to two dollars and fifty cents an acre, according to the producing capacity of the land (about one half of these are colored); the remaining forty-four per cent are operated by share tenants, of whom a little more than half are colored (they usually give one third of the crop); a very few farms are operated by managers. The population of the area is about thirty-four to the square mile, about one third of the number being upon farms and about one half of the total population being colored. The average size of the farms is one hundred and seven acres, although there are some from five hundred to two thousand acres in extent. As near as can be learned, about one

The two day coaches were used as auditorium cars, in which were hung many drawings of various kinds, used by the speakers to more forcibly demonstrate some portions of their lectures. There were also samples of corn—not only good specimens, but poor specimens as well—thus showing the difference between what was sometimes raised and what could be raised by proper seed selection. Other paraphernalia, including a seed-testing box, was on exhibition, the whole giving silent evidence that the men in charge knew their business and were fully prepared to convince the most skeptical of their audience by the sense of sight as well as hearing. They probably had in mind the old proverb that "seeing is believing." Lectures were delivered simul-

See Our Special Offers on Page 20

thereby knowing the parent stalk as well as the parent ear. Planting an isolated seed-corn patch was also touched upon, taking the ears that showed the most vitality in the testing box and having the best score to plant it from.

Doctor Stevens talked upon plant diseases; how to detect and prevent them; how they affected plants and how to treat diseased specimens; how smut affected corn, how it was perpetuated and carried over winter. One of Doctor Stevens' lectures, when given in the evening, was a lantern-slide exhibition illustrating a talk on plant diseases. As many as a hundred slides were used, showing healthy plants and the effects of disease, not only in the appearance of the plants, but the yield—a very instructive and interesting lecture.

Professor Smith told of the various insect enemies of the farmer and how they could be subdued by spraying. He gave formulas for making various spraying solutions and emulsions for both fungous and insect pests, and gave specific instructions regarding methods of application. The many enlarged drawings of insect pests were very interesting and served a good purpose in making the talks understood.

How the Gospel Was Received

The writer has taken an active part in local institute work for many years, and living in a state far distant from the scene of action, is in a position to give an unbiased opinion as to the value of the undertaking, both from the standpoint of the farmers of North Carolina and that of the lecturers as well. Not being connected with the train staff in any way, the opportunity to mingle with the crowd was taken advantage of, and notice taken of the manner in which the lectures were received.

Experience has proved to our satisfaction that it is not always the lecture that does the most good in institute work, but the discussion which follows and the questions that are asked regarding the subject. Neither is the speaker who can deliver the most pleasing set speech always the best instructor, but rather the one who, by his experience, is able to satisfactorily answer the various questions that may be asked by intelligent farmers of the locality in which the lecture takes place.

Taking the above as a basis for forming an opinion, there can be no doubt but that the work done by the staff and the value of the exhibits as an uplifting influence were not lost upon the farmers who attended the lectures. Never before has the writer seen more careful attention paid to institute speakers, nor more interest taken in their talks, than by those Southern farmers and their families, who came long distances to learn something of their business and to hear what others had to say about it. It was not to satisfy morbid curiosity alone that they were there, but for the good, solid meat in the kernel. Not only did they question the speakers at the close of their remarks, but after dismissal came forward to more closely examine the samples and drawings used in explanation, taking mental notes, making comparisons and conferring among themselves, as neighbors, as to the value of this or that suggestion or sample, a silent proof that the work of the lecturers was bearing fruit.

By referring to the illustration, a representative North Carolina audience will be seen, and a more intelligent, manly lot of people it has not been the pleasure of the writer to meet. These men, women and children were the representative citizens of their locality, who, by their pleasing manner, fully bore out the oft-repeated statement that the people of the South are the most genteel, the most civil and the most hospitable to be found anywhere.

In conclusion it may be well to say that the farmers of the territory visited have reason to congratulate themselves because of the privileges granted to them by the state, college, railroad and government officials, who took sufficient interest in their welfare to send into their midst the "Corn Special;" and furthermore, that a "Special" could be run in many sections of the country, especially in the sparsely settled districts. There are many sections like the one described, in which those engaged in the pursuit of agriculture are not apparently doing as well as the natural conditions warrant and who could be taught, by example and lecture, to better their conditions and increase their receipts by sending to them a farmers' institute train.

FRANK M. LUTTS.

Farm Conditions—Can They Be Improved?

PRESIDENT ROOSEVELT'S commission for the study of the social and economic problems of country life, having for its object the making of the sanitary, educational and social conditions better, is a move in the right direction and one that will be more and more appreciated as the plans contemplated are put into practical operation and anticipated re-

sults, at least in part, are realized. As the President truly says: "Agriculture is not the whole of country life. The great rural interests are human interests, and good crops are of little value to the farmer unless they open the door to a good kind of life on the farm."

The inquiry of the President has been directed not so much to the farmer's financial condition, soil and crop improvement as to the making of the life of the farm family less solitary, fuller of opportunity, freer from drudgery, more comfortable, happier and more attractive. It is to the attainment of these desirable objects that the commission named by the President was appointed, as well as to ascertain "whether life on the farm can be kept on the highest level, and where it is not already on that level, be so improved, dignified and brightened as to awaken and keep alive the pride and loyalty of the farmer's boys and girls, of the farmer's wife and of the farmer himself"—in fact, awaken in the children born on the farm a desire to live on it, inasmuch as "the permanent greatness of any state must ultimately depend more upon the character of its country population than upon anything else."

In investigating the conditions on the farm, more especially the "farm home," those relating to the health of the farmer's family should receive the first attention and consideration. The unsanitary conditions too often found in and about farm homes and dwellings and in the small villages that have no sewage system, and an abundant supply of pure water, ought to be quickly remedied. All admit that, of all places, the country where the air is pure and sunlight abundant should of necessity be more healthful than in the city. Yet the facts are that, owing to a more careful regard for the laws of sanitation in the large cities and many of the smaller ones, typhoid, diphtheria and similar diseases are really less prevalent in them than in the older settled sections of the country.

Education Instils Love for the Farm

Next in point of importance is the educational feature. It is the one that is destined to exert the most potent force in bringing about the results that are likely to follow from the investigations of the commission recently appointed by the President. Prof. O. J. Kern, superintendent of the Winnebago County Schools in Illinois, says: "The country child is entitled to every whit as good an educational opportunity as that now enjoyed by the most favored city child attending the American public school." Mr. Kern has unbounded faith that the life of the country child can be enriched



Interior of Exhibition Car "Corn Special"

and enlarged. Intelligence is of primary importance on the farm. The farmer, as Macaulay says, "should be the man of parts." There is hope for the coming farmer in the new educational methods which are now being put forward with the view of making the farmer's children lovers of the farm and the "old farm home."

Really what is needed most by the boys and girls on the farm is that they be afforded an even chance; even educational, social, amusement and rest-time advantages, such as boys and girls in the cities now have. The "all work and no play" methods that still prevail on the farm where needless additional acres are being paid for, or the payments on the mortgage or other indebtedness is still uncancelled, must by decreased acreage or other means give way to new ones which are better suited to promote in the minds and hearts of farmer's children a genuine, hearty love for rural pursuits.

WM. M. K.

Why Guarantee Bank Depositors?

FOUR people have ejaculated a number of objections to guaranteeing depositors in banks against loss through the failure of the banks, and a few have jumped upon me with both feet, because, they declare, I am trying to elect Bryan by advocating "a plank in the Democratic platform." Some of these people possibly have no deposits in any bank, and the rest are rabid partisans, without a doubt. One writer declares that he cannot go with me and W. J. B. "shearing moonshine for wool." That expression smacks strongly of the hired spellbinder and the political barnacle. One can hardly blame the man with a soft snap in the shape of a fat office for cudgeling his brains for flip expressions which he imagines will annihilate the opposition by guffawing him off the field, but flip expressions carry no conviction. This man is of the opinion that people generally would rather make the looting of a bank a capital offense than to have laws enacted that would effectually guarantee depositors against loss. I think he is mistaken. Hanging a banker would be mighty poor consolation for the loss of one's savings. For my part, I would much rather have my cash than the life of any banker on earth.

The Guarantee Works No Hardship

Compelling bankers in Oklahoma to put up a fund for the protection of depositors works no hardship on the bankers, but it does get the funds into their banks. Sometimes men whom we regard as among the wisest will make very foolish statements for political effect. For instance, ex-Treasurer Shaw made a political speech at a state convention a short time ago, in which he stated that the fund required to guarantee depositors against loss would be entirely taken out of circulation and would cause a contraction of the currency that would affect business seriously. Now, is not that the acme of silliness? What about the thousandfold greater sum hidden away in private houses and locked up in vaults from fear of loss through the breaking of banks? Then it is stated that such a guarantee fund would encourage reckless speculation by dishonest bankers, and that honest bankers would be forced out of business, and lots more such foolish nonsense. The law does not work that way in Oklahoma. Why should it in any other part of the country? The fact that a large number of bankers are opposed to this law shows that they are not willing to trust each other. And yet they expect depositors to trust them. Such a law will work no

advanced in many years, and it will benefit a larger number of the plain people than anything along this line that has ever been advocated. Its effects will be far reaching and wholly beneficial. Many a time have I heard men say that they would not deposit a penny in anybody's bank, because they had no assurance that they ever would get it out again. As one said only a few days ago: "I prefer to spend my earnings as I go along, then I get whatever benefit comes from my labor. If I put it in a bank, as you advise, how am I to know whether I will ever see a penny of it again? The banker may be honest, and he may not." With a law guaranteeing depositors against loss there could be no such pleas against placing earnings in a bank.

FRED GRUNDY.

More About Carbonaceous Matter in the Soil

I HAVE read the article by A. J. Legg in the September 10th FARM AND FIRESIDE criticizing my article on "Manure and Its Relation to Plants" in the July 10th FARM AND FIRESIDE.

I can assure our correspondent that I am not working under the impression that growing crops depend upon the elements in the soil to afford them the material to build up the structure of their plants.

In my article I say that the food of plants consists first of carbonic acid, or carbon combined with oxygen, and that by this combination carbon is made capable of being taken into the plant vessels or cells. To further explain how plants take their supply of carbon it will be necessary for us to go deeper into the subject.

When the sun shines, the mouths of the leaf open and the carbon dioxide enters the leaf and comes in contact with the green granules. This green matter breaks up the combination of the carbon and oxygen and throws back the oxygen to purify the air and takes the carbon for the use of the plant.

Then in the leaf the food which is brought up from the soil in the soil water taken up by the roots is combined with the carbon, and the living matter uses it for the work of what we call growth. The nitrogen coming up from the soil continually renews the vitality of the living matter, while the carbohydrates from the air are used to construct the framework of the plant. While the bulk of the framework of the plants comes from the atmosphere, the matters that the roots take from the soil are of vital importance.

This brings us down to the matter of carbonaceous manures, or, to speak more plainly, humus or partially decomposed vegetable matter in the soil. Understand, in my article I speak of carbonaceous manures and carbonaceous matter, and not of pure carbon, as our correspondent would assume in his able criticism. Now, as I understand the matter, carbonaceous manures contain plant foods other than carbon, which may or may not be classed as a plant food, and while in a state of decomposition their salts, starch, gum, sugar and extractive matter are dissolved. Carbonic dioxide is formed and penetrates the whole mass. This is combined with the alkalies that are present, and forms carbonates of potash, lime, etc. These carbonates are recognized as plant food and essential elements of manures.

These carbonaceous manures applied to sandy soils make them more retentive. The carbon dioxide and nitrates that it yields are the real agents of the weathering which continually corrodes the soil particles and breaks them down into the finer and more absorbent silicates. Our soils ought to contain carbon dioxide. Where does this come from? It ought to come from carbonaceous matter or humus as it gradually decays. As that gradually decays it forms carbon dioxide, which gives the soil water the ability to dissolve out more than it could without the carbon dioxide. Now, it is very plain that if we have no humus, or practically none, we have no storehouse or reservoir to furnish carbon dioxide to the soil matter.

We further find that without humus the mineral plant foods are less available. With a diminished supply of humus we get a diminished solubility.

While plants do not take their carbon direct from the soil, it is very evident that we must make the soil conditions right before they take their food from the atmosphere, and unless a soil has plenty of humus or carbonaceous matter to make its physical condition right the plant cannot take its food from the atmosphere. A plant cannot take the carbon direct from the air unless the elements from the soil work to stimulate the living matter of the plant.

Mr. Legg quotes from Steele that carbon will absorb twenty times its weight of ammonia. That is just what I was explaining in my article when I advised the use of carbonaceous manures on sandy soils.

W. MILTON KELLY.

Around the Farm

An Interesting Discussion of the Fence Question

Growing Post Timber

FIFTY years ago the post supply could be drawn from the "woods." To-day it is different. The mulberry, from which the most durable posts were cut, has almost disappeared, oak never did last as it should, and to-day does not last as it one time did, while the price of good oak does not justify one in cutting it for posts. Red elm, wild cherry, sassafras and other woods have been used with varying success, so it leaves us to "fall back" on locust, catalpa, Osage orange and mulberry.

For rapid growth and durability the thinking farmer has chosen locust or catalpa, or both. There is probably no farm on which one of these varieties will not grow. Throughout this section the catalpa is less known than the locust, and there are but few trees of the former growing except in the young plantations which have been set recently. The locust has been with us for years; in fact, the trees were brought by the early settlers and set in the dooryards, and where these old homes have long ago crumbled to ruins, now stand some of the finest locust groves, which are quite a source of revenue to their owners. But few farmers are so fortunate as to have locust groves of this kind. Those who haven't must buy them or set out one for themselves. The former plan is hardly possible, for the owner does not wish to dispose of them.

The Soil Requirements

No soil seems too poor for growing locust, hence I think the trees can be most profitably grown on ground that is too poor to grow anything else; at least, that is our experience so far. In 1901 we dug up sprouts from an old locust grove and set them on some very rough, washy ground. The first season they made but little growth, and what they grew the second year the rabbits nipped off the following winter, which was best for them, as they sent up a straight shoot the next spring.

These young trees are now fifteen to twenty feet tall and four inches in diameter one foot from the ground. In one year they will make a fair post, and in three or four years two posts. In 1906 we bought eight hundred seedlings and set on waste land. Some of these are to-day six feet tall and one to one and one half inches in diameter, and are standing on some of the poorest ground on the farm.

In 1907 we set two thousand on similar ground and this spring fifty-two hundred, so we now have something like eight thousand in all. All have been set on ground unfit for cultivation, and most of it was poor, washy hillside.

Catalpas require more fertile ground, and do much better under cultivation for the first three or four years. They, too, should be cut back to the ground after the first season's growth, and one man who has a fine plantation recommends cutting back also after the second season's growth.

In level sections catalpa is no doubt the post timber to grow. As locusts sprout very badly and will work out from the original grove into the cultivated fields, we are careful to set them only where they cannot encroach on our cultivated land. The catalpa, like the ash, sprouts from the stump only, and can safely be planted alongside cultivated fields.

Culture Methods

Catalpa or locust seedlings can be grown in the garden. Catalpa seed should be sown in shallow drills and covered lightly, and cultivated as you would garden truck. When one year old set them in the plantation. Locust seed should be stratified, or, in other words, be buried in a box of screened sand over winter, screened out in the spring, and planted in drills the same as catalpa. If the seeds are left dry over winter they should be placed in a vessel, scalding water poured over them, let stand until cool, the swelled ones planted, and the operation repeated on the rest of them.

With one who is very busy it is probably better to buy the seedlings. Six to twelve inch ones cost about four to five dollars a thousand, and twelve to eighteen inch ones about seven to eight dollars a thousand.

The large size is preferred for setting where no cultivation is given. The Catalpa speciosa is the variety for planting.

So far we know of few, if any, insect enemies of the catalpa in this section. However, the locust is often attacked by

borers, which damage them considerably; but, like the deacon's goat, "they get right up and come again."

Each succeeding crop of posts is the most profitable. A grove cut for posts six years ago has sprouted, until now some of them will make posts. We note that locust roots have nodules on them; thus they are nitrogen gatherers. We also notice that grass grows luxuriantly in the midst of some of the thickest groves.

We have used a square pointed tiling spade altogether for setting the young trees. Thrust it into the ground, give it a shove and pull, and the place for your seedling is ready. Put in the seedling and firm the ground with the foot. The ground should be soft for this work. Prune the seedlings when time affords, then they are ready when planting time comes. We usually set approximately six by eight feet. At this rate an acre will set nine hundred seedlings.

We are of the opinion that posts should be cut in the fall or early winter, and season over winter, for best results.

As to the life of a locust or catalpa post, it would be hard to say. It is known, though, that they will outlast any other wood post, except possibly Osage orange.

Metal and cement posts may have come to stay, but there are many places in which no other post will substitute a good wood post. Anyhow, if they can be cheaply grown on waste land, one can go

On a farm of one hundred acres which is surrounded, has a lane enclosed and is divided into six to eight fields by these rail fences there is likely to be from three to five acres of valuable land rendered useless for cultivation. Nor is this all. Stones are dumped in the fence corners; briars and other shrubbery grow in rich profusion, and thistles, mustard, couch grass and all the rest of them find a veritable citadel from which to extend their raids on the adjoining fields.

The fence for the present and the future is the woven steel-wire fence, the posts from twenty to forty feet apart and with as few wooden appendages as possible. As to the particular style and make, that will depend on the taste and pocket of the person building and the purposes in view.

As in the manufacturing industries of to-day, consolidation cheapens and individualism increases the cost of production, so it is in the cultivation of land. Modern farming methods are gradually dispensing with a large amount of permanent cross fencing between fields, thus making it possible to cultivate the land on a large scale, which can be done much more cheaply and effectively. This makes it possible to use larger implements, thus economizing time and labor. One man with a large gang and three or four horses will do as much or more plowing than two men with two single plows and four horses. It also effects an economy of land. Whereas in the large area there would be but two head



A Group of Locust Trees

out and cut them and put them in at less cost than that of any other good post.

It is said by good authority that the United States is nearing a timber famine. Why not be prepared by having a locust or catalpa plantation coming on?

OMER R. ABRAHAM.

Morgan County, Indiana.

The Fence Question

FENCING is an important detail of farm management. With it is associated to a large extent the labor problem, which bulks so largely in the affairs of the present-day farmer. I am convinced, however, that a careful consideration of the former will go a long way in arriving at a solution of the latter.

One of the most common eyesores to be found throughout the rural districts is the old snake fence. So familiar is it in most districts that it needs no description, and while in most cases it serves a useful purpose, the objections to it are legion. It requires but a glance to see that this system of fencing is wasteful in the extreme.

lands, in the small areas there would be from eight to ten strips of varying width, so tramped as to yield little more than half a crop; and the principle which holds in plowing applies to all tillage operations.

While line fences, lane fences and fences about buildings, garden and orchard must necessarily be of a permanent nature, it is usually unnecessary, and often very undesirable, that they be extended to all parts of the farm. In the rotations which are being more generally practised, any need of an enclosure is supplied by various portable fences, which are easily and quickly placed and can be as conveniently removed when they are no longer required. This style of fence exactly meets the needs of our modern agriculture, and both it and the wire fence are experiencing a well-deserved popularity. The claims of neatness, usefulness and permanency which are made for them are well substantiated, and any farmer who has to purchase fencing should not think of getting any but the best and most modern materials.

J. HUGH MCKENNEY.

About Fences

I AM asked several questions about fencing. The best fencing I know of at the present time is the various forms of woven wire, well stapled to strong posts. It is necessary to put a good barbed wire at the top of any of these woven-wire fences, to prevent horses and cattle from crushing them down. I have seen both cows and horses that would put their heads over a woven-wire fence and crush it down, or bend the wires so badly as to ruin the fence. These fences should go down close to the ground, and if hogs are put in the field there should be a barbed wire, with the barbs very near together, fastened to the posts with the lower strand of the woven fence. If horses are turned into the field it is not safe to put the barbed wire below the woven wire two to four inches, as is often advised, because some horses seem to take delight in getting a fore foot over such a wire and sawing it half off. If it is stapled on with the lower strand of the woven wire it will prevent hogs from raising the fence, and a horse cannot get his foot over it. The top barbed wire should be two or three inches above the woven wire, and the barbs should be near together.

These fences should be drawn tight when they are put up, so that the wires will be straight, but they should not be so tight as to draw the corner posts over. It pays to make a good solid corner for these wire fences, using heavy posts and strong framework. If the corners are well constructed and the fencing drawn moderately tight the fence should stand almost perfect twenty to thirty years. Line posts will need renewing as they rot out, but the wires, if properly galvanized, should be good for almost a lifetime. I would spare no effort to make the corners as strong as possible, for this is the vital point, and on them depends the effectiveness of the fence as well as its durability.

A Means of Strengthening the Wire Fence

In building these fences around a yard, where stock will be rubbing and pressing against them all the time, it will pay to strengthen them by putting two or three barbed wires along them sixteen or eighteen inches apart, and wiring them every two or three feet to the woven fencing. These will prevent stock from rubbing against them very hard, and will keep the fence in good shape many more years. The protecting wire at the top should be well stapled to the posts. A loose wire is dangerous to stock.

As to posts, farmers will have to grow their own. Good fence posts are now so high as to be almost a luxury. The sooner farmers understand that they will have to produce the supply on their own lands, the better for them. Only a small tract of land is required to grow all the posts required on any farm, but some time is required to grow them. A farmer wrote me some time ago that he was dipping his posts in a puddle made of cement and lime. He said he dipped them several times, as deep as they would stand in the ground and about six inches deeper, and this seemed to be protecting them from rot a good deal. Whether this is a good plan or not I am unable to say. The government has been trying many experiments along the line of protecting posts from rot, but have found that the most effective methods are quite costly. The best plan is to grow your own posts.

FRED GRUNDY.

New Saws and Fresh Filings for Farmers

Many a good man has played out at hard work.

Life is real, life is earnest, and farming is its goal.

Some farmers are content with one good crop out of four.

The farmer tickles the earth until it laughs itself into a harvest.

Some men rush into a thing like a blind ox with half a dozen hounds after him.

It is a difficult matter to collect one's living from the world before it is earned.

A man must be educated to be a successful lawyer, teacher, doctor or preacher—and in the twentieth century he must be educated to be a successful farmer. That is the law of our progress.

W. J. B.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Individuality of Dairy Cows

There is as great a difference in dairy cows as there is in men. Some men are great workers, while others are lazy; some cows are good producers, while others are poor producers. Below is given a table showing the yearly records of two cows owned by J. A. Flournoy, of Macon, Georgia:

	Pearl	Daisy
Days in milk.....	365	184
Milk, pounds.....	9,257	3,306
Fat per cent.....	5.0	4.9
Butter pounds.....	544.39	188.59
Value of product.....	\$192.78	\$ 66.16
Cost	\$ 63.59	\$ 40.66
Profit	\$129.19	\$ 25.50
Charges to produce one pound of butter.....	11.66c	21.50c
Charges to produce one hundred pounds of milk	68.50c	\$ 1.23

The profit returned by these two cows was calculated by deducting the total cost of feed for the year from the total value of the milk. It was calculated that the manure and calf offset the labor involved. If one owned ten cows like Pearl he would get a profit in one year of \$1,291.90. If he owned ten cows like Daisy he would receive a profit of \$255. Cows like Daisy are generally owned by men who do not keep a record of what their cows are doing and who do not care for and feed them as they should. Cows like Pearl are generally owned by men who keep records and who are looking toward improvement of their herds. Of course these two cows are owned by the same man, but the writer happens to know that he is a man who gets rid of the unprofitable animals as fast as he discovers them in his herd.

Cows like Pearl not only return the greatest profit directly, but they are more than likely to transmit that good milking trait to their offspring. It is not often that one runs across a better cow than Pearl. She was the best cow reported in Bulletin No. 80 of the Georgia Experiment Station. No one can examine the records of these two cows without understanding the value of keeping none but good cows.—Southern Ruralist.

Shelter for Straw and Manure

ON EVERY well-regulated farm there is provided a supply of straw to bed the animals for comfort and to take up the liquid manure and make it easy to handle and enhance its value. The old method was to put the straw out on a large stack, but that is rapidly passing away, because wet, frozen straw will neither make a comfortable bed nor absorb much liquid.

The few who have their own thrashing outfit can easily adjust the supply to the room to store, but at present nearly every farmer depends upon the large traction thrashing outfit, and all the crops are thrashed in a day or two. This calls for a large straw shed. Inquiries often come regarding the construction of these sheds.

Usually they are to occupy a part of the barn yard, and the basement is to be used as a temporary storage place for manure and a shelter for cattle. This straw and manure shed is apt to cut off the light from the stables if placed broadside in front of the barn. The better way usually is to build a rather narrow shed and give it capacity by making it long and high. Our barns usually face the south; thus the sun strikes the shed on the edge and casts the least shadow. The straw is elevated by the blower or carrier and packs better in a deep than in a shallow space.

The labor of delivering the manure in a long, narrow shed is nothing when the overhead track is used, and every up-to-date farmer uses that. In the end and sides of the shed are windows enough to make the basement light and sunny, making a fine place for the young cattle, or it makes a good watering place for the cows where no other provision is made. No great quantities of manure should be allowed to accumulate, as there is always time to remove it every month or so, and places are never lacking where the manure will pay good interest if put to work.

The hinge door may be used or the track or roller, but the most convenient and best arrangement for manure-shed doors I ever saw was those hung like a sash with weights, and you opened them upward like a window. It costs a little more to construct them thus, but the doors

are safe from the storm and always out of the way. Doors are provided on both sides, so we can easily drive through with the spreader. A building of this kind to shelter straw, manure, cattle and teams and implements in case of a sudden shower will pay a larger interest on the investment than any stocks or bonds in the market to-day.—L. W. Lighty in The National Stockman and Farmer.

Timber for Fence Posts

IN THE planting of forest trees—reforesting, as it has been termed—now fairly begun in the Central West and some other states, the late Rev. J. H. Creighton, of Ohio, was strongly in favor of the Osage orange, considering the lasting property of the timber among other excellences. And it is undoubtedly a valuable forest tree. Its wonderful vitality is evidenced by the way it continues to grow and flourish in hedges after clipping and other operations repressive of the life principle.

Dr. J. A. Warder, of Cincinnati, John C. Teas, of Carthage, Missouri, and E. E. Barney, of Dayton, Ohio, after years of investigation, concluded that the Western catalpa (*Catalpa speciosa*), all things considered, was not surpassed, if equaled, by any other tree for durability in the ground. Specimens of the wood sent us by Mr. Teas fifteen or more years ago, which had been underground for twenty years, showed practically no sign whatever of decay.

Another good wood for posts, etc., is the black or yellow locust. This has been longer before the public than either of the other two above mentioned, and its value is well known. As a tree for planting in upland soil this would probably be preferable to the catalpa, but where the soil is deep and rich and fairly moist the latter would make more rapid growth, as would also the Osage orange.

The planter should be particular in the purchase of his young trees, so as not to get the Eastern catalpa (*Catalpa bignonioides*) instead of the true Western, or, more correctly, Southwestern species. The Eastern species is not of erect growth (as the right one is) and is not nearly so valuable otherwise. And in regard to the black locust, one must not make the mistake of getting the honey locust—a perfect nuisance with its triangular thorns dropping off now and then and sticking in the feet of any animals that come near.

Trees one or two years old are a good size to plant, and fall would be a good time, with rows eight feet apart, and the trees four feet distant in the row, taking out every other tree in the row as soon as large enough for some uses, and giving more room for those left to grow larger.

An important point not to be overlooked is keeping stock out of the grounds. This applies to plantations of young trees of all kinds.—The National Stockman and Farmer.

Varieties of Wheat

THE exposure of the Alaska fake wheat should lead farmers to give a little attention to the groups of wheat that can be grown with profit. Professor Carleton, the wheat specialist of the Department of Agriculture, divides all wheats into eight groups. The first group is our common wheat, whether spring or winter, smooth or bearded, soft or hard. These are all merely varieties of one group, which is the most important of the eight.

The second group is called *Triticum compactum*. *Triticum* being Latin for the generic name of wheat. It is called "compactum" because it has a square head and is locally known as club wheat. It is grown almost exclusively on the Pacific coast, being best adapted to that latitude and longitude. The two best-known varieties are the Red Chaff and Little Club, with the hybrids that have been produced by the experiment stations.

The third group of importance is what is known as *Triticum durum*, or hard wheat, better known as macaroni wheat, because in Europe this variety is used for the purpose of making macaroni. These wheats are very hard and glassy, will grow with less rainfall than either of the above-mentioned varieties, and hence are grown almost exclusively west of the ninety-eighth meridian of west longitude. There are a number of varieties of durum wheat, but none of them are specially adapted to growing east of the Missouri River, or for some distance west of it in this latitude.

The fourth class is the *Triticum turgidum*, known as the Poulard wheats. They have a close resemblance to the durum or macaroni, but the grains are rounder and stiffer and with shorter beards. They are not considered good bread wheats, but are sometimes used in foreign countries for mixing, in order to cheapen the grade.

The fifth class is *Triticum polinicum*, or Polish wheats. These are best known to the people of the United States by being advertised as a freak wheat, going under the names of corn wheat, goose wheat and giant rye. They have no agricultural value.

The remaining three kinds of wheat are grown not for bread, but for stock feed. One is *Triticum spelta*, or the true spelt, which is grown largely in Europe and used for food by the poorer people and to some extent in the United States for stock. The second variety of the stock wheats are the emmers, of which there are a number of varieties, both winter and spring, some of which have very dark-colored chaff and long, dark beards. They stand drought very well, stand up well on good lands, and can be used in the West to advantage, but only as stock feed, and are inferior in this respect both to oats and barley. The last variety is *Triticum monococcum*, or Einkorn, known in Germany and France. It is used only as stock feed.

The late much-advertised Alaska wheat is simply a variety of this Einkorn. Farmers would do well to pay no attention to these novelties in wheat, but confine themselves to the various types of common wheat first mentioned, and in the intermountain states and the Pacific coast to some good variety of club wheat. They should always bear in mind that wheat is never found growing wild. Sir John B. Lawes once stated that if the human race would disappear from the earth wheat would not live three years afterward.—Wallaces' Farmer.

How Decay Can Be Retarded

By Seasoning

THE simplest way of prolonging the life of timber exposed to the attack of wood-destroying fungi is to reduce the moisture content of the wood. The amount of water in green timber varies according to the part of the tree from which the wood is cut. The outer layers of the trunk are composed of sap wood, the cells of which contain large amounts of organic substances which serve excellently as food for the fungi. Moreover, sap wood always contains a large amount of water. It is the portion of the tree, therefore, most susceptible to attacks from fungi. Heart wood, which can usually be distinguished from sap wood by its darker or more reddish color, contains, on the other hand, much less moisture. It is therefore more durable than sap wood. But because its pores are stopped up by gums and resins it dries out much less rapidly than the more porous sap wood. In almost every case as much care should be taken to thoroughly dry out the heart wood as in the case of the moister sap wood.

By piling the timber so as to permit free access of air all around it, the moisture content of timbers of certain sizes can be reduced to about fifteen or eighteen per cent. Of course the climate has a great influence on the rate at which the wood dries out and the total amount of moisture it loses.

The moisture content of air-dry wood can be still further reduced by kiln drying; and this is employed to a considerable extent, but usually for other purposes than increasing the durability of the wood.

The strength of partially seasoned timber, other things being equal, increases as the amount of moisture it contains decreases. Thoroughly seasoned timber of small sizes is sometimes three, or even four, times as strong as the same timber when green. Moreover, during the process of drying out, important but little understood changes take place in the organic contents of the wood cells, by which the wood is not only rendered less attractive to fungi, but is made more permeable, and so better prepared for preservative treatment.

An exterior coating secured by dipping a post in a thin solution of cement or other material that will harden on the post is not an effective protection, because in shrinking or swelling the wood forms cracks, through which decay enters.—Forest Service Circular No. 139.

Alfalfa and Limestone

APPARENTLY alfalfa culture has had a serious setback the past year or two, and there is rather less effort being made to grow it than there was, yet really the cause of alfalfa culture has made more real progress the past year than before in the ten years. The progress has been made by men who have learned the secret of its easy growth in soils once thought to be unsuited to it.

Alfalfa is a curious plant. In some soils, such as one finds in Utah, Colorado, Montana and other semi-arid states, alfalfa is like a weed; it thrives with the least encouragement, spreads, persists, and is immensely profitable. Then in the East there are a few regions where alfalfa seems almost native to the soil, such as parts of the glaciated soils of Ohio, Indiana and northern Illinois and Wisconsin.

Seeing these facts, men urge that alfalfa will grow anywhere if it is sown and inoculated, etc. Then come experiments in other sections in the East, and disastrous failure very often, and men wonder why. Often they have gone to much trouble to manure, fertilize, drain, inoculate, and even then alfalfa has not thriven. Now what's wrong? Here seems to be the secret. In the semi-arid West the soil is very fully charged with lime salts and other alkalies. It is often too full of lime to make other cultivated crops thrive at all. Yet alfalfa there grows almost into a tree. In the glaciated regions of Ohio and westward there are millions of limestone pebbles in the soil, soft limestone pebbles, brought there by ice centuries before you and I were born. Those soils are alkaline. In Onondaga County, New York, the soil is full of pieces of soft limestone, and in parts of Kentucky where alfalfa grows well the soil is filled with shaly limestone fragments. So in Alabama and Mississippi, where alfalfa seems almost native, the soil is made up of soft limestone rock, decayed by the weather into soil. It is very fully charged with lime.

Well, have we not all along taught that alfalfa needed lime? Maybe we have, but we have said "lime" in so mild a manner and so low a voice that we have not been heard.

Give me well-drained soil, either by natural drainage or artificial, and access to a lime heap, and I will make Colorado or Arizona alfalfa in Rhode Island or Connecticut or New Jersey or Maryland. In truth, I have done it already in several of these states. Instance, one farm near Philadelphia. This farm had been well manured, was rich, was drained, yet would not grow alfalfa profitably. After investigation I prescribed lime. Man asked, "What kind of lime?" I replied, "Ground limestone, unburned, if you can get it." He found he could get it cheaply enough, and came again. "How much lime?" "One hundred pounds to the square rod, that is little enough," I replied. The man hesitated at that, and balked just a little; one hundred pounds to the square rod is eight tons to the acre. He put on six tons. He inoculated the soil with other soil from a good alfalfa field. He sowed alfalfa. He got six tons to the acre the next year! And all his neighbors came to see the miracle that had been worked. That lime cost the man about twelve dollars an acre. His six tons of alfalfa hay were worth to him at least one hundred dollars to feed his cows, so it paid him immensely, did it not?

Again, many men who have grown alfalfa with fair success have been troubled with annual grasses and weeds. They have fought these in many ways, usually with partial success. Now we have learned this: Where there is enough lime in the soil the alfalfa will subdue crab grass, and almost any weed; will subdue all grasses except Kentucky blue grass, and that is easily taken out in the spring with a spring-tooth harrow. My letters from the South this summer are filled with cheering illustrations of how easily crab grass, their great bug-aboo, is worsted in alfalfa fields simply by the use of large amounts of lime! That makes the alfalfa too lusty for the crab grass. So keep up the campaign for alfalfa, and tell men to lime, lime again, and then shut their eyes and keep on liming; eight tons of ground or finely crushed limestone to the acre. Two tons of burned lime, three tons of air-slaked lime to the acre. Then phosphorous, manure, good seed.—Charles B. Wing in The Rural New-Yorker.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Lime and Clover

IN ONE of the field tests of the Ohio Experiment Station corn, oats, wheat, clover and timothy have been grown in a five-year rotation since 1894, five tracts of land of three acres each being employed in the test, so that each crop is represented every season. Each tract is subdivided into thirty plots, sixteen feet wide by sixteen and one half rods long, and every third plot is left continuously unfertilized, while different combinations of fertilizing materials or manure are applied to the intervening plots.

Soon after the experiment was begun it was observed that clover was not growing as vigorously as it should, and with the progress of the work this difficulty increased, until the clover crop became almost a failure. In 1900 lime was applied across the west half of one of the tracts, applying lime which had been burnt and then ground, at the rate of one ton to the acre and spreading it across one end of all the plots, fertilized and unfertilized alike. The lime was applied to land that was being prepared for corn, being put on after plowing and worked into the surface with the harrow.

When the clover crop was harvested in 1903 it was found to be much heavier on the limed halves of the plots than on the halves left without liming, as shown below:

TREATMENT	YIELD PER ACRE 1903	
	EAST HALF UNLIMED	WEST HALF LIMED
None	767 lbs.	1,127 lbs.
Acid phosphate	809 lbs.	2,319 lbs.
Acid phosphate and muriate of potash	894 lbs.	2,339 lbs.
Acid phosphate, muriate of potash and nitrate of soda	2,225 lbs.	2,540 lbs.
Barn-yard manure	2,745 lbs.	3,810 lbs.

In 1905 the east half of this tract was limed at the same rate as the west half had been five years before, the west half being left without any additional liming. The effect on the clover harvest of 1908 is shown below:

TREATMENT	YIELD PER ACRE 1908	
	EAST HALF LIMED 1905	WEST HALF NO LIME SINCE 1900
None	2,485 lbs.	1,761 lbs.
Acid phosphate	6,329 lbs.	4,480 lbs.
Acid phosphate and muriate of potash	7,025 lbs.	4,495 lbs.
Acid phosphate, muriate of potash and nitrate of soda	5,333 lbs.	4,608 lbs.
Barn-yard manure	7,111 lbs.	5,689 lbs.

The seasonal conditions in 1908 were more favorable to the growth of clover than in 1903, there having been an abundance of rain during the spring months, and the clover grown on the land limed eight years previously made a fair yield wherever fertilizers or manure were used, but the yield on the more recently limed land was very much greater, the increase for liming being greater in the good crop of 1908 than it had been in the poor crop of 1903.

Attention is especially directed to the following points in the experiment:

1. The liming of 1905 has reversed the relative yields of the two ends of the plots, thus showing that the difference observed has not been due to any natural inequalities of soil.

2. Lime has not taken the place of the complete fertilizer or manure. It has increased the effect of the fertilizers and manure, and these have intensified the effect of the lime. Each has supplemented the other, but neither has done the work of the other.

3. It may seem that lime has made it unnecessary to apply nitrogen in the fertilizer, and so far as the clover crop is concerned, that appears to be true; but the cereal crops preceding the clover have still responded to applications of nitrogen, thus showing that a large part of the effect of lime has been to assist the clover in securing its nitrogen from the air.

The Ohio station's experiments have indicated that the clover receives a greater benefit when the lime is applied a year or two before the clover seed is sown than when applied with the wheat crop which is to be seeded with clover, the reason being, apparently, that the earlier application becomes more thoroughly incorporated with the soil. It is better to lime the wheat crop than not to lime at all; but if the lime is put in with the wheat it should be thoroughly disked or cultivated into the soil, but never plowed under.

So far as the clover crop is concerned, finely ground limestone may be substituted for burnt lime, but it should be used in double the quantity—not less than two tons to the acre.

Lime should never be mixed with fertilizer or manure, but if the lime is thoroughly worked into the surface after plowing there will be no danger of injurious effect on the fertilizer or manure.—Ohio Station Press Bulletin No. 294.

Fertilizer Values

IN ACCORDANCE with the custom adopted and followed in previous years, the following schedule of prices for determining the commercial valuation of a fertilizer is published.

Nitrogen	18 1/2c per pound
Potash soluble in water	5c " "
Available phosphoric acid	5c " "
Total phosphoric acid in bone	4c " "
Insoluble phosphoric acid in fertilizers containing nitrogen	2c " "

In fertilizers containing no nitrogen no value is given to insoluble phosphoric acid. The valuation of a fertilizer is determined as follows: The percentage or pounds per hundred of each ingredient (nitrogen, available phosphoric acid, insoluble phosphoric acid and potash) is multiplied by twenty, giving the number of pounds of each ingredient in a ton. These figures are then multiplied by their respective pound prices.

It should be clearly borne in mind that in publishing these prices the station does not assume to dictate the price at which fertilizers shall be sold. Owing to the fluctuations in prices, differences in cost of delivery at different points, and other

causes, the obtaining of true average market prices is an impossibility. The schedule of prices has been used by the station simply as a means of comparing the value of the fertilizers as guaranteed by the manufacturer with the value of the samples as collected in the open market. Purchasers will often find these prices of use in comparing the relative values of similar brands offered by different manufacturers.

Agricultural Value

The agricultural value of a fertilizer is entirely distinct from the commercial value. The two have no true relation. The agricultural value of a fertilizer is measured by the value of the increase of crop produced by its use, and is naturally variable, depending on many conditions. It is unquestionably true that any fertilizer has a greater agricultural value in some localities than in others, depending of course upon the character of the soil and somewhat upon the crop grown; at the same time, however, the commercial value would be practically the same, regardless of the locality.

Commercial fertilizers should be selected with the view of supplementing the natural resources of the soil and the manures produced upon the farm, consequently the agricultural value of the fertilizer would depend largely upon how wisely this selection was made.

Cost of Commercial Fertilizers

It is probably true that a large percentage of the farmers using commercial fertilizers are largely influenced in their selection of a particular brand by the selling price, without giving due regard to the amount and kinds of plant food it contains. That this is so is evidenced by the large number of low and medium grade fertilizers found on sale throughout the state.

The particular value of a commercial fertilizer is to furnish to the growing crop the necessary elements of plant food—that is, nitrogen, phosphoric acid and potash—which the soil is no longer able to furnish in sufficient quantities. That fertilizer, then, which will supply the

nitrogen, phosphoric acid and potash in available forms at the least cost a pound should be selected. It matters little under what name it is sold.—Michigan Station Bulletin No. 252.

The Time to Plow Sod

WHERE clover, whether common red or mammoth, has been sown alone in the spring of 1907, and a hay crop, or a hay and seed crop, or a hay and pasture crop has been taken this fall, it is desirable to turn under late in the fall, as late as the work can be put off and be sure of having it plowed before the ground freezes up, the reason being that in all probability there will be a thin stand of clover the next year. Besides, it is important to harvest the crop of nitrogen or fertility. The reason why we suggest plowing late is that if plowed early there is a possibility of a waste of fertility before the ground freezes up; not much danger if it is plowed during the month of September, however, as the nitrates will not likely be formed during the fall. It would have been unwise, however, to plow this in July or August.

Where there is timothy with the clover, and the farm requires a hay crop next year, we would let it stand over, as the stand will likely be from two thirds to three fourths timothy and the rest clover. In the case of mammoth this would mean very good hay, better where the land is not too rich than if it were red clover, because mammoth clover and timothy are at their best at the same time, which is not the case with common red.

The reasons why we advise plowing this in the fall rather than in the spring are as follows: Fall plowing will avoid the rush of farm work, which is inevitable if it is delayed until spring. Furthermore, in case the land has been in sod three or four years, it is quite certain to be infested with grubworms, with the various cutworms and possibly wireworms, and where there is much timothy, with the little ground beetle. It is a great advantage to have these pests disturbed in the fall of the year and exposed to frost and birds and polecats, which are fond of this sort of vermin. A third reason is that it is much easier to prepare a proper seed bed on fall-plowed than on spring-plowed sod.

By deferring the plowing as late as possible the farmer can frequently utilize the second crop for pasture; and while this second crop turned under would add to the fertility of the land, the return of the manure to the land will save three fourths of the fertility to the farm and at the same time secure the feed value of the aftermath.—Wallace's Farmer.

Corn Fed or Barley Fed

CORN fed has a meaning when an animal that is intended for human consumption is offered for sale, which cannot be misunderstood. It gives a quality to the meat that is a finishing touch to hogs; where they have run on mast or bechnuts, or fed swill at distilleries, the flesh shows a softness and flabbiness that causes a distinct discount in the market. Bechnuts make a fine-flavored pork, but it is soft and oily and cooks away, and in butchering there is a greater loss and it does not weigh out like the corn-fed hog.

It is claimed that barley-fed hogs are just about equal to corn fed, while the meat has a sweet taste and holds its own in cooking, and lard is very similar to that from hogs fed on corn. Hogs do extremely well when fed barley, and make good gains. It is very good to be mixed with corn in balancing the ration. Quite a few of our good feeders have reported in the office that they use barley extensively with the very best of results, and thought it fully as cheap as corn, if not cheaper, the last two seasons. These parties raised barley and saved paying out money for shorts.—American Swineherd.

Curing Pork

MY METHOD is to smoke the barrel instead of the meat. Invert the barrel over a few live coals, on which place a few corn cobs or any material that you wish to use to smoke the barrel; admit air enough to keep a good smoke, but avoid too much heat, as that would shrink the barrel and cause it to leak. Smoke the barrel for one or two days, then put the meat in the barrel and cover with pickle the same as for dry smoking, and it will be ready to use in a few days.—Farm Journal.

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Fruit Growing---By Samuel B. Green.

Grape Vine Not Bearing

Mrs. M. J. W., Durand, Illinois—You state that on the farm you bought there was a neglected grape vine that your son tied up, that the vine blossomed for you every year, but did not produce any mature fruit, and that the neighbors state that the fruit is a large white grape of good quality. It is my opinion that your grapes are destroyed every year by a disease known as black rot, which attacks the fruit soon after it is formed, and causes it to dry up and decay. If you are sure the fruit does not set at all, then I wish you would write me further in regard to it, for the cause of the trouble is different from what I have assumed it to be.

Grafting Peach Trees

R. H. R., Birch Tree, Missouri—It is unusual to graft peach trees, but I know from experience that they can be grafted, and grafting of them is occasionally practised by nurserymen in order to fill up the rows where the buds have died. The work should be done early in the spring before the buds start. If the scions have started, there is little chance of the work being done successfully.

For directions for plant grafting I would suggest that you get a small treatise on this subject from the Webb Publishing Company, St. Paul, Minnesota. This little book is called "Amateur Fruit Growing," and contains about the information you need in regard to grafting.

Cherry Tree Leaf Slug—Fertilizer for Fruit Farm

L. H., Washington, Indiana—The worm that eats off the surface of the leaves of your cherry trees, that has a dark brown body almost transparent, is what is known as the cherry-leaf slug. It is troublesome on peaches, cherries, roses and other plants. The best remedy is spraying the foliage with white hellebore at the rate of one ounce to a gallon of water, or the plants may be dusted with the white hellebore powder undiluted or mixed with several times its own bulk of cheap flour. Road dust or air-slaked lime dusted on these slimy slugs is also very satisfactory when thoroughly applied. In fact, these insects are so easily destroyed that it is entirely the fault of the grower if they are allowed to do any serious injury.

In regard to your question as to who should pay for the fertilizer in the case of a fruit farm or garden that is rented for a term of years, would say that it is customary to regulate this by the terms of the lease. If nothing is said in regard to the matter, it is assumed that the renter will furnish the manure.

Peaches from Seed

R. R. C., Brandon, Virginia—Peaches may be easily grown from the seeds, or what are otherwise called stones or pits. In doing this it is customary to gather the seed in autumn and to mix it outdoors in sand. If there is only a small number of these peach pits, it is customary to mix them with sand in a box, and bury the box and all outdoors. In the spring of the year they should be looked over separately, and any pits that are not yet cracked should be gently cracked with a hammer before planting. Treated in this way they will all come up that year. If carried over in a dwelling house it will frequently be several years before they come up. Peaches do not come true from seed, but there are a few varieties that come true enough, so that they are often grown in this way for home use.

Red Raspberry Failing

W. J. R., Patchogue, New York—In regard to the Cuthbert raspberry failing, I am inclined to think that your berries are affected with what is known as cane rust, which is a disease that attacks the bark, and causes reddish depressions and patches, which can be seen on the canes in winter. This disease is not especially troublesome until the plants begin to ripen and fruit, when the disease and the fruit together seem to be too much for the canes, and they fail. If you will send me a sample of the canes of your raspberries that have failed, and of those now growing which you look to for a crop next year, I can answer you more definitely in regard to this matter.

We have found that the best way of preventing the spread of this disease was to spray the canes in late autumn, and again in early spring, before growth

starts, with thick Bordeaux mixture; this work must be very thoroughly done, as its object is to keep the spores from spreading. However, in all probability it will not improve your crop of raspberries for next year, since the disease is now in the canes and cannot be destroyed without killing the canes.

Galls on Roses

Mrs. R. H., River Falls, Wisconsin—The rose-bush specimen that you sent is infested with a large round prickly swelling called a gall, and is common to roses. If you cut through it you will see that it is filled with small white maggots. They winter over in these swellings and emerge in the spring to continue their round of life. The best treatment is to gather these galls some time before winter, and burn them; otherwise the trouble is liable to increase. These should be gathered wherever they are found. If there are wild roses in the vicinity, it would be quite a help to destroy the galls on these as well as those on the cultivated sorts. I think they will be especially troublesome for a few years, and then be destroyed by their parasites until they are too few to be seriously injurious.

The Yellow Locust

M. W. N., Farmington, Iowa—The black or yellow locust is a rapid-growing tree in your section, and in good soil makes good post timber as quickly as any tree I know of. There are quite a number of them growing in the forest garden at the Minnesota Experiment Station that are very satisfactory as to growth. The worst trouble with this tree has been its liability to attacks of a borer. This is seldom very bad in solid groves of this tree, or before the tree has reached a size sufficient for ordinary fence posts. The wood is very durable.

The black or yellow locust has no thorns, properly speaking, but a lot of small, short spines. There is a form of this and also a form of the honey locust which has neither spines nor thorns. These are occasionally grown, but I do not know that they are hardy in your section.

Red Spider on Elm

Mrs. F. P., Ames, Iowa—The sample of elm foliage and bark which you sent is infested with a small mite commonly known as red spider. It spins a very thin web on the under side of the leaf, or even on the bark when numerous. This insect is not numerous except in very dry situations, and our dry summer is favorable to it and it especially flourishes. The best way of holding it in check is to spray with water, but in your case I doubt very much if it is worth while to attempt any remedy this year, as the wood and foliage are well matured, and they will do little further damage.

The Rocky Mountain Cherry

C. P., Wellesley, Massachusetts—I have grown this fruit for many years, but do not find it of any special value for sections where currants and plums are easily raised. In western Minnesota, the Dakotas, Montana, northwestern Nebraska, and in other sections where the summers are liable to be especially dry, this fruit can sometimes be grown to good advantage.

In its natural state and as generally grown the fruit is very puckery, although it is of good size and the plants are productive. A few improved varieties have been selected and sent out by name by some of the nurserymen in Minnesota, and by Prof. N. E. Hanson, of Brookings, South Dakota. Little progress, however, has been made in the propagation of these named stocks.

The fruit, in addition to being puckery, is seriously injured in moist seasons by brown rot. I have grown a number of hybrids of this and the Prunus Americana, which give promise of being of much more value, the fruit being largely of about the same season and not so puckery, and generally in the form of a small tree rather than a bush. I make a practise of raising several thousands of these wild cherries each year, and have done so for perhaps ten seasons, but we have never secured a variety that we thought it was worth while to send out to the trade. We have one yellow kind that is interesting as a novelty only. A fruit known as compass cherry is now on the market, and is a hybrid between the Prunus besseyi and Prunus Americana. It is of value for several locations.

Anthracnose on Raspberry

P. L. C., Ypsilanti, Michigan—The blackcap raspberry which you send on is affected with the common raspberry rust, or anthracnose. This is a very common disease, and there are comparatively few raspberries that are free from it. Some varieties, however, are much more subject to its ravages than others. The popular, strong-growing sorts, like Kansas and Nemaha, are quite resistant to it.

In some sections it is thought desirable to spray for its prevention. In this case it is customary to spray the canes in the spring of the year, as soon as they are pruned, with thick Bordeaux mixture—that is, made with half the amount of water that is usually applied. This has the effect of sealing over the infected portions of the cane and preventing the spores from spreading. I do not think much is gained by spraying the raspberry canes in summer, and the new growth on the old canes is quite sensitive to ordinary Bordeaux mixture. In my opinion the selection of the most resistant kinds, and a thorough spraying in spring, and perhaps, in addition, in autumn, is sufficient to hold this disease in check.

When this disease first appears on the canes it comes as irregular swellings, which continue to spread, leaving a dead spot in the middle of each center of infection. Late in the season, after it has run its course, there remain depressed spots or patches, with a purple ring around them.

Planting Locust for Posts

W. O. C., Vanatta, Ohio—The ordinary yellow or black locust makes a good fence post, and is one of the most rapid growing trees we have. The chief objection to it lies in the fact that the young trees are so often badly infested by borers. However, where the trees are grown close together, the borers are seldom so injurious as to trees that are grown in the open, and they are seldom very injurious until the trees have attained size sufficient to use for fence posts. I think it a good tree to use for this purpose in many sections, since the tree is durable and of very rapid growth.

To grow the trees, the seeds should be first scalded, as often recommended in these columns, and sown about the middle of May in rows three feet apart. These seedlings should be dug in autumn, heeled in over winter, and set out where they are to grow the following spring. Treated in this way, they will generally make post timber four or five inches in diameter in seven or eight years.

Currants from Cuttings

C. J., Mount Vernon, Ohio—Currants are easily grown from cuttings. The best time to make up these cuttings is as soon as the leaves are well ripened, say about the tenth of September, but they may be made up at any time during the autumn or even in early spring to good advantage. If made up in autumn, I prefer to plant them out at once, putting them about three inches apart in rows three feet apart if cultivated with a horse, or if hand cultivation is used, eighteen inches to two feet between the rows is sufficient.

Make the cuttings about ten inches long if you have an abundance of wood, but if short of wood, they may be made not over six inches long. Put the cuttings in the ground the full depth, leaving one eye just at the surface of the ground. Be sure that the soil is firm about the lower end of the cutting. If made up in this way in September or early in October the cuttings will have roots on them on the approach of winter, when they should be covered over with a mulch of perhaps three inches of straw or other litter.

If the cuttings are not made up until early winter they may be tied in bunches of about one hundred each and buried at least a foot in depth in the ground. Be sure to take great pains to pack the soil in firmly around them. In the spring of the year they should be planted out as recommended as soon as the ground is well settled. Cuttings made up in autumn are generally well calloused by winter, or if made up in early winter, and stored in the ground where they do not freeze, are generally well calloused by spring. Such cuttings start early in spring and make a better growth than cuttings that are made early in the spring and set out at once, and are much more certain to grow.

Where it is desired to have as many plants as possible, currant cuttings are sometimes made by cutting the wood with just one bud on each piece. These

little pieces are then mixed in layers of sand and stored in boxes, nail kegs or similar packages throughout the winter, and are sown in shallow, broad furrows in the spring and carefully covered with about one inch of fine sandy loam, which is kept moist until they start to grow. This method of making cuttings calls for much carefulness on the part of the propagator.

Setting Trees

THE question is often asked, "When is the best time to plant trees and vines?" After many years' planting in fall and spring my experience proves that fall planting of trees and vines is much the best. The fall planting gets the benefit of the early spring rains. Some years nearly double the growth is made compared with spring-set trees, and a tree seldom dies in dry summer.

Of trees that should be planted in the fall I will name cherries first; next, plum, pear, apple and most all other trees except peach, which should be planted in spring. Blackberries and red raspberries, such as are propagated from suckers and root cuttings like berries, currants, gooseberries and pie plant, all grow much better if planted in fall or during winter when the ground is not frozen. The cap varieties of raspberries and strawberries I prefer to plant early in spring, but I have planted them in fall with fairly good success, by mulching with old half-rotted straw that had no weed seed in it. Anything will do for mulching to keep the freezing and thawing from heaving the plants out.

Fall planting should be done after there is frost enough to kill all the leaves. Trees and vines can be dug, shipped and planted, but if the ground is not ready, or if too dry or too wet for planting, "heel in" until planting. Remember, the nature of roots and plants requires them to be placed in the ground, just as men live on land and fish in water.

Buy your trees in the fall. As soon as they arrive, unpack; if not ready for planting, heel in, cutting the lower strings so the roots can be spread so the dirt can come in contact with all the roots. Keep the top string tied to keep the varieties from getting mixed. It is a vexation to gather fruit if the varieties have been mixed in planting, so you do not know what each variety is. With a little care every tree and vine could be known.

In case the planting has to be delayed until spring, plant as early as possible. Keep the roots from freezing during winter. Plow a deep furrow or dig a trench in which to place the roots. Put so the tops come close to the ground, and cover the roots with dirt from ten to twelve inches. This will make a trench for the next layer of trees, and so on. Then all trash can be thrown over the tops, to keep them fresh and nice and to keep the ground from freezing. In fall planting bank dirt eight or ten inches high around the trees. In spring, as soon as the leaves are out, level the earth from the trees. This answers for the first cultivation. For this work I use a four-prong potato digger, with prongs standing like a hoe. I plant one thousand to two thousand trees a year, and seldom does one fail to grow, and I have much the same success planting vines.—Jacob Faith in Journal of Agriculture.

Horticultural Hints

BLACKBERRIES will not bear well if the soil is manured too heavily. Some soils do not need it.

A six-basket crate for peaches is being used now in Eastern markets, instead of a four-basket crate.

In selecting seed of any kind, the stalk or the vine or the tree upon which it grew needs to be considered as well as the specimen for seed.

Many times, when it is supposed that ants are injuring trees, they are there to feed upon the honey dew secreted by the plant lice. It is the plant lice, and not the ants, that are doing the damage.

Berry testers in the North say that the Joe strawberry surpassed all others as the largest and most beautiful, and lasted longer than any other variety. It is a seedling introduced in New Jersey in 1897.

Fruitmen are getting their variety list gradually narrowed down. Although there are many good sorts, the tendency is to select a few good kinds and push them.

Fruits and vegetables must improve, because tastes are more discriminating and competition stronger. They are improving all the time, and will improve.—Texas Farmer.

Gardening---By T. Greiner

Raising Garden Seeds

A READER asks how he should proceed to raise beet, lettuce, cabbage and similar seeds. There are some seeds that I think the home gardener can grow with advantage, and that I would advise him to grow. Among them are tomato, pepper, beans, salsify, parsnip, squash, pumpkin and perhaps melon, cucumber, sweet corn and similar seeds. There are a lot of seeds which the professional seed grower can produce better and more cheaply than the home grower. Among them are onion, radish, carrot, beet, eggplant, lettuce and others.

The professional usually has better facilities for keeping his stock pure and for getting his seeds in merchantable shape than the home gardener has. But it is not much of a trick, after all, to produce and gather any of the common garden seeds and clean them sufficiently to be in usable condition.

For cleaning beet, carrot, lettuce and some other seeds for the trade some equipment in the shape of sieves, fanning mill, etc., is needed, and is not usually at the command of the average home gardener. If cleaned as the latter can clean them, such seeds could not well be sowed in our garden drills. For producing seeds of root crops, too, we must first grow the vegetables themselves, store them during the winter, and then set them out in the spring in any suitable spot in the garden. When the majority of the seeds on the seed stalks have ripened, they may be stripped off the stalks and cleaned in the best manner the home grower can devise. That is about all that can be said about it.

I like to plant a few parsnips in spring for the purpose of getting the seed, as when buying seed we sometimes get hold of some not strictly fresh, and parsnip seed almost invariably refuses to grow if over a year old. Of ordinary lettuce varieties we had better buy our seed from the seedsman. If we happen to have a particularly choice variety, or one which we are particularly desirous to plant again, it may be advisable to let a few plants stand in the bed and go to seed. When the seed heads are ripe, gather them and get out the seed and clean it the best you may.

If we have only one variety of melon, cucumber, squash, etc., and this variety suits us, then we had better gather the seed from a few selected specimens. If we have a number of sorts together they are liable to get badly mixed, and the better plan would be to depend on the seedsman for our supply of pure seed. Tomato varieties if planted together are also liable to get mixed. I have obtained a very fine early tomato from plants of the Earliana type mixed with others, and am trying to perpetuate it. This means isolating the plants, if necessary by propagation from cuttings, and gathering seed from them.

The home grower, in short, will often find it advisable or necessary to raise seeds from this or that vegetable, especially if by accident or otherwise he has come into possession of a particularly valuable vegetable seed which he may not be able to find in the general market. And for that reason he should know how to raise, gather and clean the seed. He will meet some difficulties, however, in raising seeds of such vegetables as cabbage, cauliflower and Brussels sprouts. For these he must look to the seedsman.

Cleaning Certain Seeds

It is not difficult to gather and clean melon and similar seeds; also onion seeds. Simple washing and drying in the sunshine or in a warm, dry place will do it. I always wash my onion seeds through several waters. The heavy ones settle to the bottom; the light ones, chaff and sticks swim on top, and can be poured off. The balance is turned into a sieve or a muslin bag, the water squeezed out, and the seeds then spread out to dry. It requires only common intelligence to get onto the proper methods of doing all this just right.

There are other seeds, however, notably cucumber and tomato, which are incased in a pulp and are not easily freed from this without previous chance of fermentation. But if you know how to handle such seeds, the task is easy enough. Just scrape the seeds and pulp out of the cucumbers or tomatoes into a vessel, and leave them for a few days to ferment, then turn the fermented mass into a sieve to free it from liquids, and after that clean the seeds by washing. I usually empty them into a tin pail and fill full of

water, then let the water run off from the top, with all the pulp and other lighter impurities, leaving the clean seeds in the bottom. This process is repeated until the seeds are as clean as desired. They are then poured into a sieve or muslin bag, to drain off the water, and spread out in the sunshine or a warm, dry place to dry.

Growing Dahlias

A Rhode Island lady has trouble with her dahlias. A number of her plants are full of buds, but when these are half grown they drop off at the end of the stem. Now, the dahlia is not a rugged flower. In fact, it is quite tender and easily affected by cold and chilly nights, and by lack of food or drink. It must be started up slowly in spring, not planted out until the beginning of the warm season, and then given an abundance of plant food and moisture. It likes warm weather, and if it has all these favorable conditions it will probably give an abundance of bloom and be a delight to the eye.

Sweet Potatoes

"What makes my sweet potatoes turn yellow?" This comes from a New Mexico reader. Why, how can I know! There may be an insect working at the root, or it may be starvation (lack of food or moisture), or it may be a bacterial blight. Try to find the cause in your own patch. If you are unable to discover it, send a plant and description of the symptoms to your own Experiment Station, Agricultural College, New Mexico, for investigation.

The Onion Problem

A subscriber from Muskingum County, Ohio, wants me to help her solve the onion problem. She nearly always makes a failure of raising onions even after she has been trying hard for some years. This last spring she got a lot of White Multiplier bottom sets, but does not know how to handle them.

These onions, I believe, are a white potato onion, and may be handled in the same way as the ordinary yellow potato onion. In the Southern states they are usually planted in the fall. In the North we should plant them in the spring, of course in good, rich, mellow soil, making the rows fourteen to sixteen inches apart, and putting the sets four to six inches apart in the rows. The yellow potato onion is a poor keeper, while the white variety keeps quite well, and in some places is also used for making early green or bunching onions.

I advise our Ohio friend, however, to try the large Spanish onions, Prizetaker and Gibraltar. Sow seed in February or early March under glass, as in boxes (flats) in a sunny window in the house, or on a larger scale on a greenhouse bench, or in a hotbed, etc., and transplant the seedlings when of some size, as early in spring as possible, in a well-prepared bed, and I think she will be able to solve the onion problem for herself, and this rather easily.

For Greens

The Swiss chard has given us a quantity of stuff for greens all right. Undoubtedly there are people who like it. Personally I am not so very fond of beet greens, and the Swiss chard does not appeal much to my fancy. It may be a question of cooking, too. Much good stuff is spoiled by unskilled cooks. But give me dandelions in spring or winter, or spinach! And for wholesomeness, spinach as well as dandelions are hard to improve upon. They beat beets "all hollow." The immense leafage of our Swiss chards will have to serve as cattle food this year.

Lima Beans

I believe in rotation. Yet there are exceptions. Our lima beans are planted on exactly the same spot where we had them last year. The posts for the wires were left standing, and the trellises readjusted just as the year before, and these trellises are now covered with bean vines loaded with well-filled pods. The crop, in fact, seems heavier than it was in 1907. Of course, the ground is very rich, a good, strong loam that has been well manured year after year, and again this last spring before plowing.

In the patch I notice a number of vines that bear strings of especially long pods, each pod filled with five beans. Most of

the other vines have pods with no more than four beans each. The vines with five-seeded pods also seem to be earlier. I used to have limas of that description years ago, I think under the name "Extra Early Jersey Lima." I always try to save my own limas for seed, so I just went through the patch and fastened white strings on the vines that showed the earliest and best-filled pods, and have given orders to all members of the family likely to pick limas for use not to pick pods off the marked plants. Then as the pods on them ripen I shall have them gathered for seed. This insures me better seed for my own use than I can buy, and much cheaper, too.

Coal Ashes

A "Washington woman" is told by neighbors that coal ashes are "no good" for the land. She thinks otherwise. Some of her soil bakes badly after overflow or heavy rains, and she proposes to use her coal ashes to loosen it up. Right she is. Coal ashes may not have much fertilizing value, but they have a desirable mechanical effect.

What will you do with such ashes? You might sift all the coarser particles, especially half-burnt coal, out of it, and then use the finer portions for absorbents in closets, stables, hen houses, etc., but even then they finally get back to the soil. Unless used in this way, the best place for ashes is directly on the land, especially where somewhat hard and stiff.

Cold Frames

THE cold frame is worthy of much wider consideration than it to-day enjoys. It is indispensable to the gardener, it is suited to the needs of the farmer and it is a necessity to the flower lover.

The sash will always have its place in the economy of the gardener. It renders small services to many people, while the forcing house renders large services to a few people. The sash is everybody's helper.

A cold frame is merely a glass-covered garden. A cold frame has no bottom heat, or any heat, in fact, except that which it receives from the sun, otherwise it is like a hotbed.

The sides are of board and the top is made of one or more movable sashes. An ordinary sash covers eighteen square feet of ground space, being about six by three feet in its dimensions. The back of the frame should be higher than the front; a twelve-inch back and ten-inch front may be used. Large sashes can be obtained, but the six-foot size is most convenient. The frame and sash can be home made or the sash can be bought of the seedsman and the frames made by a carpenter.

The cold frame is used in two principal ways—first, as a means of protecting plants from cold during the dormant period, and second, it affords sufficient protection for the growing plants late in the fall or in the early spring.

Many plants perish from the effects of frost. It is only the very hardy plants that can survive through a severe winter even in the best protected cold frames. The ground will freeze solid in the cold frame in winter, but to a less depth than in the open garden.

The function of the cold frame is to ward off cold winds, to keep the ground clear of snow, and in spring and fall to catch and retain the feeble heat of the slanting sunbeams, and thus foster plant growth.

The cold frame can be used as a hotbed by packing good, fresh manure in the bottom of the frame to a depth of twelve or more inches, according to the time it is to be used and the degree of cold the plants are expected to stand.

Cold frames are ordinarily placed near the buildings, and the plants are transplanted into the field when settled weather comes. Sometimes the frames are made directly in the field where the plants are to remain, and the frames, and not the plants, are removed. This way eliminates the arduous task of transplanting.—The Farmer's Guide.

If you pour the potatoes over into a deep bin, do not be surprised if they are bruised so that they rot. Potatoes are tender. Set the crate over in the bin and empty it carefully. Raise the bottom of the potato bins off the floor of the cellar a few inches. But do not use sticks of wood to do this if you can get smooth stones of uniform thickness.—Farm Journal.

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Weaning and Wintering the Colts

THE first question that arises is when or at what age should the colt be weaned? That all depends upon circumstances and conditions. I have weaned colts from three to seven months old. If the mare is idle, and she and the colt are doing nicely, I would not wean until the colt is at least six months old. I have let them run seven months before weaning.

If a mare has arduous work and is in thin flesh I would wean around four months. If the colt, from some cause or other, is not doing well, I would wean at two or three months, and in some exceptional cases it might be necessary to wean still younger; of course, this will be governed by conditions.

I sometimes find that the mare's milk does not seem to agree with the colt, or else she does not give enough to do much good, and in either case I would wean quite young and put on cows' milk. The colt may at first refuse to drink the milk; some do and others drink at first offering. If it refuses to drink the milk, I would shut it away from the water for a day or two, and it will soon learn to drink, and also to relish the milk. I always add a little brown sugar to cows' milk, as the colt will then drink it more readily.

No colt should start into winter thin-in-flesh. If they do they are likely to come out very thin and worth less than when weaned. The first winter determines largely the fate of the colt, so I always aim to have my colts fat and sleek by stabling time. I often have colts low in flesh at weaning time, but always aim to have these same colts in good flesh before real cold weather sets in.

Of course, I see to it that the colt is both a good eater and drinker before I wean it. I aim to have them eating bran and oats at two months old.

I have a little trough for the colt, and tie the mare so she cannot get to the colt's feed. When I get ready to wean, I shut the colt in a clean and roomy box

stall, with plenty of good, clean wheat straw for bedding, and leave it there until weaned. I give the colt at first one quart of new cows' milk, sweetened a little, morning and night. If a road colt, three pints of crushed oats and bran, half and half; if a draft colt, two quarts of the same kind of feed at each feeding. As the colt becomes accustomed to eating grain and drinking milk, I gradually increase the grain allowance, and also the quantity of new milk within ten days to two quarts. I then add to the milk one quart of warm water and a handful each of middlings and oil meal. After two or three weeks I change from new milk to sweet skimmed milk, and make sure that it is sweet and the vessel used is well cleaned. I like a wide-mouthed gallon tin bucket best, as it is easy to keep in proper condition. I gradually increase the oil meal and middlings in the milk until I have two or three handfuls of each for a big, growthy colt.

After six or eight weeks of such feeding your colt will be fat and sleek, and you can then drop the milk and slop and feed a liberal allowance of crushed oats, bran and an ear of corn, shelled, in it now and then for variety, and frequently a handful of oil meal. I have had large, growthy draft colts at one year of age consume from two and one half to three gallons of such food a day.

If a colt is in good condition at weaning time it is not absolutely necessary to use milk, as you can get good results without it; however, by the above method I have increased the weight of thin draft colts one hundred pounds in thirty to forty days after weaning. I have grown colts that weighed from eight hundred to eleven hundred pounds at one year old. I always find that the better the care, the greater the profit.

I often hear men say that they try to get their colts through the winter just as cheaply as possible, and then they will go onto the pasture in the spring and soon regain their loss. I do not find this a profitable way, as they will never be what they would have been if they had been properly cared for at the right time.

After my colts are weaned I aim to keep them out in the pasture during nice weather, but housed from storm and cold. Now is the time to brush the mane over and educate it to stay where you want it. If possible, familiarize the colt with the halter and currycomb; also handle its feet, and by the use of a rasp see to it that the feet are kept level at all times. Keep the toes rather short and the side that wears least rasped down; but do not molest the frog of the foot unless it gets something in it.

After properly wintering the colt, do not turn it out next spring to "live or die." If you do you will stunt its growth; see to it that it gets a little grain each evening. Give it good care the second winter and it will be a horse by the time it is two years old, and ready for work or command a good price.

R. B. RUSHING.

Footprints Which Are Golden

A GOOD many years ago I had met the man and had a little dealing with him. Looking about for a few sheep to buy, I learned that he had one to spare, so I bought it.

Quite by accident I ran across him again the other day at a stable where we had both put our horses in to eat at noon time. Naturally we fell to talking about the sheep deal we had so long ago. From that the conversation went on to the profit there is in sheep; and he told me this story:

"After you were at my farm that time I made quite a dicker in sheep one season. I bought a small flock of sheep in the fall of the year, kept them through the winter, sold the lambs they bore for one hundred and seventy dollars, and then let the sheep go for a few dollars more than I paid for them, which was sixty dollars. Saying nothing about the wool, I had one hundred and seventy dollars cash and my money back from those few sheep. I call that a pretty good deal."

I am inclined to agree with him, and so I think must all who read this article. And it occurs to me to ask this question: "Do you know of any kind of farm stock we can keep or any kind of farm work we can engage in that will bring in more ready money for the work done than sheep?"

You notice that I put in the proviso, "for the work done." I am not sure that I need to use that phrase at all, but I have, lest it should trouble some

who do not know just what care sheep need.

If a farmer has good fences, a farm adapted to the keeping of sheep, and knows how to care for them, it is my opinion that one can make money easier and take more pleasure out of it than be can in any other branch of farming.

No man should ever attempt to keep sheep, however, unless he has his pastures well enclosed. Let sheep once get in a notion of getting out, and they will make life miserable for their owner. I have known them to become so disorderly that they would jump any fence that could be made. Their leg muscles are capable of high development. It may be that this is largely natural, for sheep once were a wild mountain animal, leaping from crag to crag in search of their food. They readily take up that habit again if one sets them a pattern by making the fences low.

The farmer who keeps sheep, too, should have fairly high land. Sheep do not do well on low, wet ground. They delight in well-drained, rather hilly land. There are some diseases to which they are subject if confined where the soil is moist all the time.

And then it is a fact that sheep need careful attention by some one who understands them. Especially is this true in the spring of the year, when the lambs are coming. A little neglect then will cost the farmer dearly. There should be good, warm barns for the ewes and their young lambs, particularly if one wishes to have them come early, and this is most profitable. One farmer told me the other day that he lost most of his lambs because they came too early last spring. That is surely discouraging.

Not every man is adapted to sheep raising. The shepherd instinct is not in us all. Some have no patience, and above all things, the shepherd needs to be patient. He must be satisfied to move slowly, to speak in a moderate tone of voice when where his sheep are, and in many other ways to use the best of self-control. Quick movements are certain to disturb sheep; and a wild sheep never will be a very profitable one.

It is a question with many how to begin with sheep. Reading such stories as that told at the outset of this article, one might be led to conclude that if a man could sell one hundred and seventy dollars' worth of lambs from a few sheep, by doubling the number he might make still more money. But it is with sheep as with any other farm animal one must work gradually. There is no more fatal mistake than to swing in too heavily at the start.

Get a few sheep, the very best you can, and study them. Be on the alert to find out all you can about sheep, their habits and the best methods of feeding and caring for them. In a few years you can keep a few more as you learn better how to deal with them. But few of us can ever handle very large flocks on our small Eastern farms, however, no matter how good hands we are at it. If too many are kept in the same pasture they are apt to get some disease among them that will sweep off a lot of them and bring the discouragement of failure.

The fine part about sheep growing is that they do so much toward bringing the farm up. Their droppings are rich. They are great scavengers of brush and weeds. They leave the farm better than they found it. In all these ways sheep are entitled to be called the farm animal with the golden hoof.

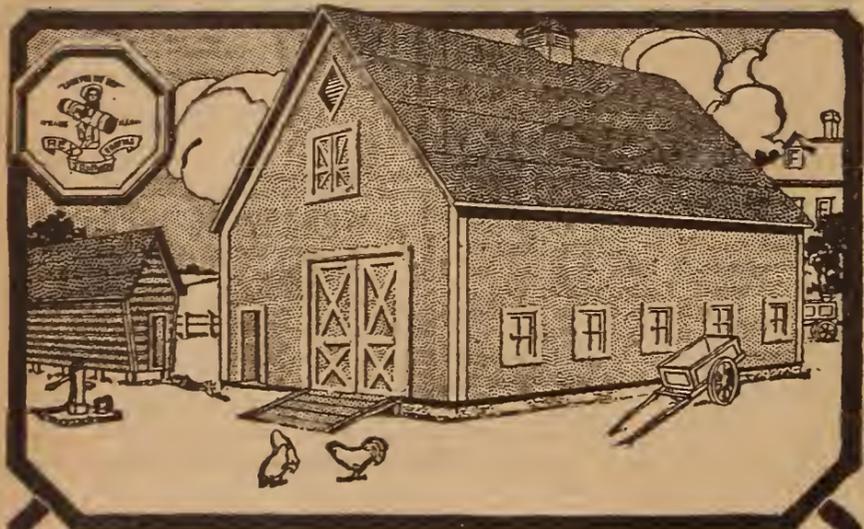
EDGAR L. VINCENT.

Feeding Calf Without Milk

IT is not generally known that a calf can be raised without a scrap of milk. It is a far cry from the city to the farm, but to some one in town, whose favorite cow has an especially fine heifer calf which he would like to raise, this information may prove of value.

A full saucer of wheat middlings should be allowed to two quarts of water. Have the water boiling, and salted to taste. Sift the middlings carefully into the water, stirring constantly the while. Allow it to cook a few minutes, taking care not to burn it. Then put it in a pail, and thin until it is lukewarm. There should be about four quarts of the mixture when ready for the calf. Feed twice a day.

For the first ten days a pint of milk should be added, to give it a milky taste. Give the calf hay or grass to nibble. It will grow and prosper in a way to surprise you. **MRS. H. E. PARTRIDGE.**



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Live Stock and Dairy

Testing Milk on the Farm

A **B**ABCOCK milk tester should be owned by every farmer who keeps a cow and sells butter or milk and cream on a butter-fat basis; yet a relatively small portion of farmers has purchased them. It is partly because they do not understand the operation, thinking it too complex to be performed by those unfamiliar with chemistry and laboratory manipulation; or, as is often true, they do not realize the difference between a high-testing and a low-testing cow.

The meaning of a test is very simple when once understood, and is only a simple problem in percentage, with which most of us are perfectly familiar. When a farmer takes a note for a hundred dollars with interest at six per cent it needs no explanation to make him understand that the six-per-cent interest will bring him six dollars; but this same farmer may be absolutely ignorant of the amount of fat in a hundred pounds of milk testing six per cent. He does not realize that the per-cent test problem is exactly like the per-cent simple-interest problems he used to figure out in the old arithmetics, and is doing now whenever he takes or gives a note.

Know Which Cows Are Valuable

If he had five thousand dollars to put out at interest, and one party offered him five per cent, while another would pay only three per cent, he would know that the five-per-cent offer would bring him two hundred and fifty dollars, just one hundred dollars more than the three-per-cent rate. If he was getting only three per cent, and a friend gave him information that would enable him to place his money at five per cent, this knowledge would be valuable and worth something to him, and he would be willing to pay for the information. Now, then, let us connect the interest problems with the cow-testing problem, using the same amount, both as to the quantity of milk in pounds representing the five thousand dollars, and the same tests corresponding

larger tester for our dairy, and would recommend the purchase of one, this small one is much better than none at all. This one is compact, taking up little room, and can be clamped to any table, bench or even to the box in which it is shipped, and is cheap. Ten minutes will complete the testing, which is accomplished as follows:

The Operation Explained

The operation is no more complex nor difficult than that of doing a churning. The first important point is to get a representative sample of milk to be tested. A cow's milk, from the first drawn to the last strippings, varies from almost no test at all to as high as ten and fifteen per cent; so it is important that an average sample be secured, which may be done by pouring from one pail to another for a few times. Eighteen grams of milk are measured by means of the 17.6 cubic centimeter pipette, and placed in the test bottle. About an equal volume of sulphuric acid is then measured out in the 17.5 cubic centimeter acid measure, and poured into the test bottle containing the milk. The bottle should be held in a slanting position while pouring the acid, so that it will run down the side and collect in the bottom of the bottle under the milk. The acid and milk are then thoroughly mixed by a gentle rotary motion of the bottle. When each bottle has been treated thusly, they are placed in the tester and whirled for five minutes at a speed depending upon the make of the tester, after which each one is filled to the neck with hot water that has been boiled. Whirl for three minutes again, and add more hot water until the fat is all within the graduated portion of the neck of the bottle; whirl the third time for about a minute, and read. This is best done by measuring the fat column by a pair of dividers or compasses. When the space occupied by the fat is obtained, one point of the dividers is placed on the zero mark of the bottle and the other will indicate the test; or the point reached by the bottom of the fat column may be subtracted from the point reached by the extreme upper end. The test should be read while the bottles are yet hot (about one hundred and forty degrees Fahrenheit) and the fat in a liquid state. Detailed instructions for making the test under varying conditions accompany each tester or may be secured from the several experiment stations and agricultural colleges. An excellent book covering all phases of the subject is "Testing Milk and Its Products," by Farrington and Woll of the Wisconsin station.

The neck of test bottles is graduated to hold two cubic centimeters, and as one cubic centimeter of butter fat weighs .9 of a gram, the graduated space holds 1.8 grams, just one tenth (ten per cent) of the total amount of milk (eighteen grams) put into the bottle. If the neck is half full there is one cubic centimeter, weighing .9 of a gram, one twentieth, or five per cent of the total milk. The neck is graduated down to .2 of one per cent.

To estimate the probable amount of butter possible under favorable conditions from a certain quantity of milk, it should be first weighed and a representative sample tested. Suppose, for example, there are three hundred pounds of milk, and the test is found to be 4.6 per cent:

$$300 \times .046 = 13.8 \text{ pounds of pure butter fat.}$$

$$13.8 \times 16\% = 1.2 \text{ churn gain.}$$

$$15.0 \text{ pounds of actual butter.}$$

The amount of fat shown by the tester should be increased by about sixteen per cent, because butter contains in the neighborhood of this amount of moisture, salt and other milk solids, not being over eighty-four or eighty-five per cent pure fat itself. A tester is valuable not only in testing whole milk, but for testing cream, skim milk and buttermilk.

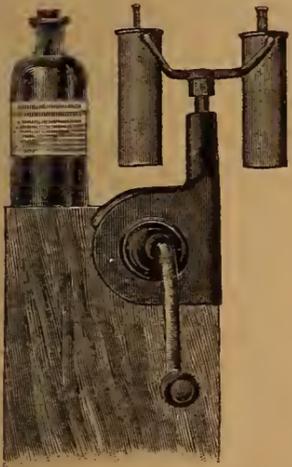
LYNFORD J. HAYNES.

Crisp Live-Stock Notes

The rule in sheep raising is always "dry feet and dry back." Take care of that and the flock will do well. Of course, they must have good feed.

Before buying a horse, see that he is well broken. A horse may be perfect in form and build, sound in wind and limb, and yet be rendered worse than valueless by vicious habits or bad training.

WM. H. UNDERWOOD.



Apparatus for Testing Milk

to the three-per-cent and the five-per-cent rates of interest. Five thousand pounds of milk is not too large an amount to expect from a cow, neither is a five-per-cent test extraordinary nor a three-per-cent test uncommon. The five thousand pounds from the one cow testing five per cent would contain two hundred and fifty pounds of fat, while the same amount from the other cow testing three per cent would contain only one hundred and fifty pounds of butter fat. If thirty cents a pound is received for the butter fat, the high-testing cow will make seventy-five dollars, just thirty dollars more than the three-per-cent cow, whose credit is only forty-five dollars. Isn't information which will enable him to sift out these low-producing cows and replace them by better ones of value and worth something to him, and can he not well afford to pay for it? That is just what a Babcock tester will do, and it won't cost him very much, either.

The complete outfit shown in the illustration can be purchased for from three to five dollars, including tester, a quantity of the acid used, milk pipette and an acid measure. While this is a small outfit, testing only two samples at a time, it does satisfactory work and will answer the purpose of the farmer who has only a few cows. By saving the samples and making several separate tests he can test as many cows as desired. After the tester is bought the samples can be tested for the small fraction of a cent, the only cost being for acid. While we have a



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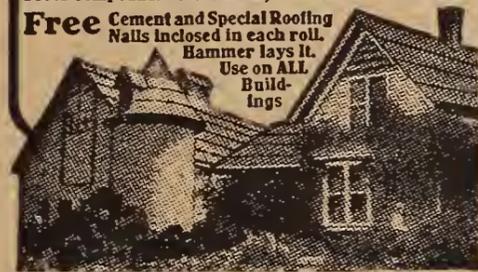
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Farm Notes

What It Costs Not to Have a Farm Boy

THAT old, miserable, complaining story of how much it costs to raise a boy is going the rounds of the press again. It makes me sick to read it. In fact, I have gotten so I do not read it when I can possibly avoid it. It is so unfair, so selfish, so inconsiderate of the feelings of the boys.

How must the boy who reads these stories feel to have it all set down and reckoned up against him—so much for board, so much for clothes, so much for schooling, so much just for the privilege of being a boy and living on earth? Cheering, isn't it? Makes a boy feel as if he were highly appreciated, doesn't it?

When I read these stories I think, "Well, there is another old grout of a man who has forgotten that he ever was a boy, and never has had any of his own to make his life brighter, or if he has, he has made it so uncomfortable for him that he has gone away off West somewhere, just as far as he could get, and never writes home."

I wish we could know what it costs not to have a boy on the farm. If we could reckon up the steps saved by the boys, the value of the thousand and one things done by the boys, and the worth of the happiness these boys bring to the hearts of the farmer folks, I am sure the amount would far outweigh the money paid out for the keeping and the educating of these same farmer lads.

What a way that is, anyhow, to charge up against the boy every cent paid out for the things he eats, wears and otherwise enjoys? A pretty cold-blooded piece of business, make the best of it one may. As if the dollars and cents were worthy to be compared with the richer things of the heart we owe to our boys!

Many times a day, when he is at home, a boy, now getting to be taller than I am, comes and puts his face down into mine. A boy's smile is on his cheek. A boy's happy heart shines out through the eyes which look into my own. A boy's clean lips tell me some cheery thing my heart is glad to know. It is as if a great streak of sunlight had strayed into my room, and when he goes, it seems as if something were missing from the place.

A thousand times a day this boy does something to make my life easier, brighter and better. I am helped in ways I know not of. Steps I must otherwise take are somehow saved by him. Though I scarcely realize it as the days slip by, when I come to think of it, I know that I am coming to lean on this lad of the cheery heart. Money laid over against the heart of this boy? Ah, no! I am so thankful that God has given him to me!

It would cost us more not to have these boys a thousand times over than it does to take care of them. Just figure it up, if you can, and see what the expense would be of hiring the jobs done

by the boys done by some one who only cared for the money you paid them. If you are bound to give everything a money value, even to the sweetest and the best things of life, do it, and then tell us honestly how the account would stand with the boy.

God bless the boys! A good boy has more power to keep this old world running straight than all the money mints ever can make. And we all know it if we would be fair enough to say so.

EDGAR L. VINCENT.

Value of an Implement House

FROM years of experience and observation I have learned that this special part of the farm buildings is neglected more than any other part, while an implement house is necessary if the tools are to last and give good satisfaction. I think the average farmer gets only about one half or two-thirds the value of his tools and machinery just by allowing them to lay out in the field after they are used.

I have seen men buy new plows, take them to the field, plow the field, and leave the plow at the end of the last furrow.

A harrow is used, and after its work is done it is left wherever the job was finished. The corn planter generally receives better treatment, but occasionally it is seen standing in the field long after the planting is done.

The cultivator the farmer evidently does not think so much of as he does his planter, for I have often seen cultivators standing in the field long after the corn was all laid by, and sometimes long after the corn was husked.

The oat seeder is sometimes left out in the field with no better cover than a convenient tree, and the binder, that precious piece of machinery that costs more than any other the average farmer has, and that is of so much importance in the saving of his grain, is left standing where the last bundle fell, until late in the winter, and sometimes until it is wanted to be used again. The disk, mower, hay rake, wagons and all other tools receive the same careless treatment, and what is the result? All the paint and varnish are worn off by the action of the elements, the ironwork rusted, and consequently weakened, and the woodwork rotted.

The next time they are to be used they must be hauled to town, and the blacksmith polishes up the plowshares, the plow shovels, etc., grinding away several years' wear in the process. The wagonmaker puts in the necessary wood repairs—that is, all that seems necessary at the time—and the farmer takes his tools back home and begins his work, possibly several days behind already, on account of waiting for his repairs. The chances are that he will have several breakdowns, giving the wagonmaker more

work and causing more delays and more expense before his tools are in proper shape to do the work that is required of them.

How can this waste of time and money be prevented?

Build a good, substantial tool house, large enough to hold all the tools you have, and build it in a high place, so that no water will run into it, and make the roof and sides tight, to exclude rain and snow. Then, after you have your tool house made, make a practise of putting your tools back again into it.

Do not wait a month, a week or a single day, but clean the tools up as well as you can, grease all bright parts, and put each tool in its place immediately after you are through using it. Then when a rainy day comes, and you can do nothing else, go into your tool house and finish cleaning up the tools that you are done with for the season, tighten up all loose bolts, and if any repairing is necessary, attend to it. If any tool has been used for some time, and the paint is worn off, get some paint of a suitable color—red barn paint is better than none at all—and paint everything but the bright parts.

I have learned from experience that when the above plan is followed, tools will last much longer and give much better service and cause less delay and expense than by the old careless way.

R. B. RUSHING.

Stacking Corn Fodder

WE HAVE in past years lost much fodder in various methods of stacking until adopting the following plan. To successfully stack fodder in ricks or stacks we must have a good supply on hand to properly finish the tops in case of rain storms, hence it is well to shock up several loads in the field, leaving only a day or two of husking lying down to be hauled immediately to the ricks.

While the fodder is damp and in fine condition build a large bottom sufficient to hold the supply of fodder-on hand, by first setting up snugly a number of bundles until the desired bottom is finished. We usually make our rick bottoms in this manner, about ten by twenty or thirty feet in length; then securely bind the tops with twine, and on top of this bunch place layer after layer of bundles, until the stack is finished. Every third or fourth layer at least reverse the bundles, laying the tops outward, not quite so far as the butt ends, which keeps the middle well filled and bulges the rick sufficient to make it settle properly to shed heavy rains or melting snows.

Draw the top in well and secure it with several weights fastened to the ends of binder twine, to prevent the winds blowing the rick open.

We always set our ricks lengthwise with the prevailing winds, and in feeding out commence to the leeward end, keeping the rick opened perpendicular at all times, so that not much of the roughage is exposed at any one time to bleach out and become damaged by the weather. It always pays to stack fodder, if it be only a small round rick built in the above manner.

GEO. W. BROWN.

Preparing Sheds for Winter

IN REPLY to queries about making sheds warmer for winter in the cheapest way, I know of nothing better than the various building or roofing felts, some of which are advertised in FARM AND FIRESIDE. One can make any of his sheds and small buildings out of any old scrap lumber, and cover it with felt, and it will be as warm as a shed made of the best lumber, and will last about as long.

Oak and cottonwood boards will twist and warp under the influence of the weather if exposed to it, but if covered with one of the building felts will remain straight and last a lifetime. We will have to use more of these common, soft woods, like cottonwood, poplar, etc., in building sheds, and we will have to protect the wood from the elements with some kind of cheap covering. If we do this we will still be able to build sheds, and to make them last.

I see that the railroads are covering many of their buildings with these papers or felts. They are using those that are quite heavy and covered with gravel. They say the gravel protects the material and makes it last much longer. Lumber costs money. Make it last as long as possible.

FRED GRUNDY.

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8 Oakwood Av., Troy, N. Y.

Poultry Raising

Notes from a Recent Convention

American Poultry Association

THE poultry fanciers seem to have a fancy for Niagara Falls, and we cannot blame them for this preference. They held their last year's convention in the city of the mighty cataract, came again this year, and selected the same place for their next year's meeting. There are plenty of accommodations to take care of crowds, good halls in which to hold meetings of fair size, but also plenty of sights to divert the attention of the members from the discussions.

Interesting as the subjects of these discussions may be to the members, the crowds at the sessions of this association can hardly ever be held together for many hours at a time. In this respect the proceedings are in notable contrast with those of our state fruit growers' societies, which are characterized by close and spirited discussions and long sessions. Usually the proceedings at the poultry meetings in summer are somewhat tame, owing largely to the fact that in the hubbub and miscellaneous noises from the city streets the greater part of the audience cannot understand what the speakers are saying.

No matter how large and well filled the halls at the meetings of the Western New York Horticultural Society or the State Fruit Growers' Association, the speakers always manage to make themselves heard and to arouse the keenest interest of the listeners. They have the advantage, of course, in the more general interest that is taken in the subjects that are under discussion. The number of persons interested in fancy poultry and the standard of excellence, etc., is comparatively much smaller than that of those interested in fruit growing. Some of the speakers at the poultry fanciers' meetings, however, could easily put a little more ginger into their addresses.

I do not pretend to understand much about fancy points in poultry. I am a practical poultry keeper. I want eggs and meat, and if I could procure these points from the ugliest bird in existence, I would rather keep this ugliest creature than the handsomest bird on earth that would give neither eggs nor meat. Yet if I can get a well-built, symmetrical and handsome fowl that will not only produce practical results, but also please the eye, why should I keep a scarecrow? The fact seems to be established that the utility bird—the hen that lays the eggs and has the meat—is also a well-proportioned, and therefore attractive, creature.

From my own standpoint I was in full sympathy with Mrs. M. M. Allen (Oswego County, New York), who has frequently addressed farmers' institutes on poultry matters, and who gave a talk on "Poultry from the Farmers' Standpoint and a Woman's Experience." Many of those who, forgetting that "fools rush in where angels fear to tread," plunge headlong into the poultry business on a large scale, and into debt for supplies, thinking that it is an easy and safe way of making money, might have profited by her example. Her health became poor, so she turned to poultry keeping to increase her revenue. She began modestly, first with mongrels, but soon changing to pure-bred poultry. Now she wonders why the average farmer still keeps scrubs.

On the beautiful farms of the fertile Mohawk Valley you will find fine pure-bred stock in all lines except in poultry. Nine tenths of the farmers do not keep pure-bred fowls. Better poultry is the great need. Her advice is to keep pure-bred stock and accurate accounts of keeping it. We want to find out the cost of maintaining our flocks. Many flocks run the keeper in debt. We want eggs of uniform size and color; sell eggs for hatching in the season when eggs for food are low, broilers in their season, etc.

Farmers often think it is more expensive to keep pure-bred fowls. In fact, it costs no more to keep them than mongrels, and the income is larger. Mrs. Allen gets as big an income from eighty pure-bred birds as from one hundred mongrels. Expensive buildings are not required.

Keeping pure-bred fowls is like the mumps—contagious. Introduce a pure breed in any neighborhood, and the whole neighborhood will want it. But there is a difference in pure-bred fowls. Often the farmer cannot get what he wants. He does not care to breed for the show room and for fancy points. He wants eggs, and surplus, and money. His idea of the

utility bird is often materially different from that of the fancier. The latter's idea of utility is stock not fit for the show room. The farmer's idea of utility is stock that will lay eggs.

Poultry must be bred to lay eggs. The fancier loses sight of that purpose. A show bird really should have one more requirement—namely, that it be an egg producer. This would greatly help in the upbuilding of the poultry trade. Every sale of birds not fit for the show room, and that are not egg producers, hinders the development of the poultry industry and prevents further sales of pure breeds to farmers. Fanciers should adopt the farmers' idea of utility stock—namely, stock that will produce eggs.

I was also a little bit in sympathy with Professor Graham of the Ontario Experimental Farm, who severely criticized the "American Standard of Perfection." He says there are three hundred boys trained at the Ontario Agricultural College in judging live stock—the constitution, the flesh, its value to the consumer. There are also thirteen millions of poultry on the farms of the Province, all valued for their meat. But nothing is said in "fuss and feathers" (as he calls the standard of excellence), and he cannot tell from that book whether the chick should have any meat, or where it should have it.

White Diarrhea

Quite interesting were the discussions about "White Diarrhea," in which L. H. Baldwin, a lawyer of Ontario, was pitted against Dr. Geo. B. Morse of the United States Department of Agriculture. It may be admitted that the scientist had a little the best of the lawyer in this controversy. Mr. Baldwin looks for the reason why so many chicks in incubators die in the shell, or die after hatching, by white diarrhea (a chalky discharge) in the faulty management or construction of the incubator, and denies that the supposed bacteria are the prime cause.

Doctor Morse speaks of the analogy between the human infant and the chick. In the human infant's first three years the battle is largely against pulmonary and intestinal troubles. This is also the case during the first three weeks of the chick's life. We have the so-called brooder or incubator pneumonia and white diarrhea. We find these diseases both in chicks hatched under hens and hatched in incubators, and in those brooded naturally as well as artificially. White diarrhea, however, is a mis-

nomer, as it is only a symptom. The fact is that there exists an excessive mortality due to what is known as "white diarrhea." This is connected with intestinal derangements. The discharges are white, due to the excretions from the kidneys. Some diarrheas may originate from improper feeding, others from parasites, such as the larger worms, etc. But white diarrhea never occurs without the presence of the little organisms or bacteria which have been known as the cause of the disease for nearly a century, and have long been the subject of investigation, especially in Germany. The cæcum is always found distended and filled with some cheesy matter. The disease is easily transferred from one chick to another, and may be introduced into the embryo chick in the egg from the mother hen.

Doctor Morse recommends two principles of treatment: Prevent the introduction of the bacteria into the chick; and if the disease once has been introduced, get rid of it as quickly as possible. A hen should be thoroughly purged with doses of salts two weeks before setting. It will do no harm to give any hen a good dose of it as often as once a month. A two-per-cent carbolic-acid solution may be injected into the vent. Copperas and lime also dry up these little organisms. Excessive purging, however, must be the main treatment. T. GREINER.

What Ails the Chicks?

A FRIEND writes thus: "Please let me know if there is anything one can do for chickens that have limber neck. I have two that have it at present. They seem to be crazy, and their heads fly around in all shapes. They seem to eat all right. I feed barley dry and cooked, and clabber milk."

Limber neck is most common in the South, although we do find it elsewhere, so that this man, though living in Oregon, may be troubled with it. Some folks think it comes from eating maggots; so it is best to remove the cause the first thing. Then give a few drops of oil of turpentine, say four or five, in a spoonful of water.

But from the symptoms it may be these chicks are afflicted with vertigo. With that the birds seem dizzy. They turn around and around, and sometimes fall to the ground. Most always this comes on when the birds are too fat. Derangement of the digestive apparatus may cause it. It would be a good plan to change the diet for a while, feeding quite freely of cut clover and wheat bran. A dose of castor oil would be a good thing to commence with. This would clear out the system and fit the birds for the lighter rations suggested. E. L. VINCENT.

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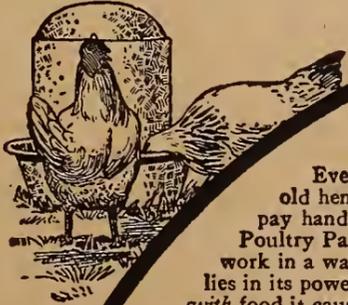
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The Farmer, the Railroader and the Stockholder

WHEN President Roosevelt delivers himself of an opinion on any subject whatsoever, it is doubtless the policy of prudence to keep right still unless you are prepared to cheer until your throat is all raw and tickling. That's the sure way to avoid trouble, for not only is the President likely to take out after the adverse critic and rest not till there's a hide hanging on the fence, but there is more than an even chance that the general public won't stand for it. A man that has a set of teeth milk-white and speckless of even a filling, to the very last wisdom tooth (something you hardly ever see in people of his years), must have unbounded energy, and when he lays on the Big Stick, not even the thickness of a Sunday newspaper doubled and folded and put where it will do the most good can ease the shock very much. The American public, which mostly has trouble with its teeth, and consequently with its digestion, can't help admiring such a man, who hardly knows what it is to feel under the weather. And it cannot help agreeing with him, since no man living is quite so typical of the general public in its way of thinking, perceiving that something is wrong, sincerely anxious to right that wrong, yet not knowing exactly how to go about it. Every chip so far turned over has had a bug under it, and Mr. Roosevelt's remedy is hand picking. That's the notion of the general American public, which may be right or—not. We shall see.

The policy of prudence, no doubt, is to preserve a shut mouth. But how, for pity's sake, are we to fortify ourselves against contagion? How can we help but imitate so alluring and illustrious an example of rushing in where angels fear to tread? Life would be terribly poky if it were always prudent.

* * *

The immediate occasion for the foregoing remarks (erected as a sort of lightning rod) is the recent letter of Mr. Roosevelt to Conrad Kohrs of Montana. It's worth a second looking over. Particularly that part about the railroads, which has a special interest for farmers. No doubt you saw it in the newspapers when it first came out; or, if you didn't, you ought to be ashamed to say so, for it was worth attention. It is worth a second reading. When you come to think of it, that can't be said for many campaign documents.

On the first reading over it certainly does sound fine. Here we are, we people of the United States, a band of brothers (if we only knew it), shippers, farmers, wage workers, business men, stockholders in the railroads—all with the selfsame interests, all with the one aim, all suited clear to the ground by the same policy: "Economy, honesty, intelligence, and fair treatment of all." You could almost sing it to the tune of Dennis, Short Meter:

Our fears, our hopes, our aims are one,
Our conflicts and our cares.

We might differ among ourselves as to our definitions of the words, according to our viewpoint. "Economy" might mean one thing to the farmer, and another thing to the stockholders. "Honesty" is a hard one, and so is "intelligence." I'm intelligent, and so are you, if you agree with me. But if you don't, you're dreadfully thickheaded. And while we all insist upon "fair treatment," there is some minor disagreement as to just what is "fair." But let that pass. We're all a band of brothers, all except a few who really ought to be turned up and smacked good, "the swindlers who profit by stock watering," as the President calls them. As we hear the words we grit our teeth and reach out for the ax.

* * *

It will be impossible here to reprint the entire letter for a second looking over, but there are a few raisins, as it were, that we can pick out of the pudding. He says, for instance, of the railroads: "Their prime purpose is to carry the commodities of the farmer and the business men; . . . they could not be run at

all save for the money paid out in wages to the railroad-employees."

This certainly establishes a bond of brotherhood between the farmer and the railroad man. This undoubtedly can be sung to the tune of Dennis, S.M. The railroads carry the farmer's crops to market and carry back the factory products that the farmer gets in trade for his crops. Narrow it down, and it's a farmer's proposition or it isn't anything. The railroads are to carry crops to market and to bring back the value of the crops in factory products, or they aren't for anything. Surely not as beautifying additions to the landscape, either in themselves or in the advertising sign boards that gather 'round them as bees gather 'round the kitchen windows when fruit is being canned.

But this "prime purpose" cannot be carried out "save for the wages paid out to railroad employees." And that's undeniably true. If it weren't for the pay car, with its envelopes for engineers and firemen, brakemen and conductors, train despatchers and telegraph operators, freight handlers, switchmen, section hands and the like of them, the ragweed would be up to your knees between the rails in a short time. Railroading is exciting, but it is not yet become a popular sport, engaged in for the sport's sake, all hours and all weathers. Also, it is commonly believed that to get good service you must pay good wages, not only because efficient men cannot be had on a large scale for low pay, but also because they won't stay efficient on low pay. When men aren't well nourished, well housed, when they don't have time to relax and enjoy themselves and rest up, they deteriorate; they don't prize a poorly paid job enough to nurse it by attention to what they've got to do. When folks are tired they make mistakes. "All work and no play makes Jack a dull boy," the saying goes, and how dull and dangerous Jack can be is shown by the railroad accidents, which year by year increase in number in America. Year by year in those old countries which have not yet the blessings of a pure democracy they are decreasing. A soldier on the firing line in actual war is quite a good deal safer, less likely to be killed or wounded, than a railroad man. The prime purpose of the railroads is to carry the farmer's crops to market and the value of them back to the farm again, and the railroads cannot be run at all save for the wages paid out to railroad employees, and it is fair to suppose that with better wages to the employees they would be run better.

What the veins and arteries are to the private body, the railroad is to the body politic, and if the body politic is out of kilter, it may be suspected that there's something wrong with the circulation. High freight rates make that circulation sluggish; low wages make it sluggish. It would seem to the plain man that it would be the most important thing of all to make the freight rates just as low as ever they could be made and yet pay wages high enough to get and keep the most efficient men to run them. To the plain man it would seem then that two classes—(1) the farmer and (2) the railroader—should get first consideration.

* * *

But no. The plain man's wrong. First of all, according to Mr. Roosevelt: "The stockholders must receive an ample return on their investments. . . . And the rates to shippers and the wages to employees, from the highest to the lowest, must be conditioned on this fact."

So we aren't a band of brothers, after all! Or, if we are, some of the brothers are "the fair-haired boys" who get to eat at the first table, while the others stand around and swallow hungrily. They can have the leavings, if there are any from the first table, and what they get is "conditioned on this fact." A band of brothers, but "Get up, Jack, let John sit down." This doesn't seem to sing so well to Dennis, unless the name of that hymn tune is also that of the farmer and the railroader.

This is, however, just exactly where Mr. Roosevelt represents with photographic accuracy the sentiments of the great American public. The stockholder is entitled to come first, nine out of ten will tell you, "because he risks his money."

The engineer strains his eyes on the track ahead as it opens up in the dark before the headlight's glare; the fireman bends his back to shovel coal by tons; the brakeman scuttles along the icy car top; the switchman must keep awake in his lonely tower; the section hand must never miss a broken rail—All of them risk life at more than a war risk. Without them the railroads could not run at all.

The farmer rises fairly early in the morning, although the criticism has been made of late that in some sections of Wisconsin they don't have breakfast until half-past five; works most of the day till bedtime with his "Whoa haw!" and his "Gee haw!" with his seeding and his cultivating, his reaping and his gathering into barns. He doesn't only risk his life; he loses it. And for every unnecessary dollar he pays for freight, so much flesh comes off his bones.

But his freight rates and the railroader's wages (the very life of both) must be "conditioned" on the "ample returns on the stockholders' investments."

Remember the traditional widow and orphan. Alone and helpless in the world, with nothing but a couple of hundred thousand dollars between them and sheer starvation (for the only way widows and orphans can be kept alive is by dividends on their investments), they seek a safe and sure place to put their little all. And here is where the villainy of "the swindlers who profit by stock watering" appears. For these audacious rascals lead the widow and the orphan to believe that freight rates will be so high, and wages will be so low, and the difference between so great, that the widow and the orphan make a bad buy.

* * *

But there's a good reason why the stockholders are such important people that they must get ample returns on their investments before any one dare think of cutting freight rates or raising wages. Mr. Roosevelt tells us in this letter—really, you ought to have read it—that "the railroads could not be built save for the money contributed to them by the shareholders."

"Could not" is probably the strongest expression in the language. Cautious prophets think twice before they use it. So many things are happening every day to shake one's confidence in "could not." Most of us learned "Darius Green and His Flying Machine" to speak on Friday afternoons. We could say "could not" then with boldness, but how about it these days? People ARE flying. Not fifty-seven of them, all told, perhaps, but enough to put "could not" as applied to aviation forever on the shelf.

But there are fifty-seven governments where railroads ARE built without the contributions of the shareholders. And what's the very first move those governments make? To reduce the rates on freight, to boost up wages and to shorten hours. EUGENE WOOD.

A Reminder

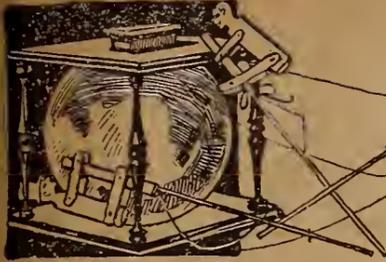
More than eighteen months ago, under date of April 10, 1907, FARM AND FIRESIDE said:

In his recent pronouncement on the developing situation in Ohio over candidates for United States Senator and for President, Senator J. B. Foraker says:

"In view of the interviews and announcements of one kind and another that are appearing in the newspapers, I feel that I may with propriety say that I do not want any political honors from the Republicans of Ohio without their hearty approval."

Amen. If Senator Foraker is sagacious he will immediately cease from wanting any more political honors from the people of Ohio.

Now, in the light of political events, all we care to add is: The Senator was not sagacious.



Politics

By Alfred Henry Lewis



MR. ARCHBOLD, five feet three, bald, round, coarse, pudgy faced, a stub of evil, arrogant, not book-wise, steeped body, soul, brain, heart in Standard Oil, the thumb as it were of that great sinner among the companies for what crimes it would commit, is rich. Mr. Archbold is rich with the riches of Pern—that is to say, Standard Oil. And so he buys a senator. What will be done about it?

Nothing!

The sword of justice rusts in its sheath, undrawn, whenever he who should be dealt with is of the caste of millionaire.

* * *

Mr. Archbold is not singular; he doesn't stand alone. There is a long roll call of malefactors—self-confessed. They have committed crimes of rebate and perjury and bribery and larceny and forgery. No Paul Kelly, by their own admissions, was ever more the proper candidate for stripes.

But the law is not enforced. There come no indictments, no prosecutions, no corrections, no sentences, no stone walls, for these rich rogues. The public's attorneys hear as little, see as little, forget as much, of what should go to prove their ebon iniquities, as they say.

Would you have the reason?

Because a controlling public sentiment does not demand the punishment of these fashionable felons. As I said the other day, they are "respectable;" and "respectability" has been twisted and turned and improved upon until it operates as an Indulgence. He who is "respectable" is safe from the law lash.

His caste protects him.

The mark of the million is the modern benefit of the clergy.

* * *

Public sentiment is the thing difficult to understand. Sometimes, the public would seem to be without a memory. People forget! Our pulpits pray that the people be given honesty, humility, that their hearts be touched with contrition and their souls made devout. It would appear, however, that more than any of these, the people need a memory. It would be no bad thing for the White House to proclaim a day of general fasting and prayer, to invoke aid from above in the cultivation of that faculty.

Go back a year or so. Take those railway and insurance rascals who confessed. What was their social or business punishment? Did they lose place, or fall behind, or find themselves thrust aside? Were they outcast, as the result of their discovered and admitted guilt?

Far be the thought! Nothing of disaster, whether of church, club, drawing room or bourse, has overtaken their evil heels. They walk the same streets, and are saluted by the same people as politely as before. The same friends grasp their hands and drag them home to dinner. On Sunday they sit in the selfsame pews, and are deferentially preached around by the same clergymen—politely, tenderly, timorously careful not to allude to the villainies they have so cheerfully committed and confessed. They deal with the same banks; their accounts are welcome, their money-potent signatures deeply rejoiced over. At night they repair to the same clubs, to encounter warm receptions, play final bridge, with the same old "respectable" gamblers with whom they have besported for years. At fêtes, receptions, cotillions, at breakfasts, dinners, teas, the same good women smile upon them if they are married, marry them if they are single.

Virtue is its own reward! That may be as it may. The fact remains, however, that our "respectable" rascals of politics and money know so little of virtue, and of its value as its own reward, that they will do nothing, fail of nothing, for its pale and tasteless sake!

The Eskimos of dull, perverted palate, if offered his Arctic choice between a cluster of grapes and a dripping morsel of whale's blubber, would seize the blubber. And so with these "respectable" but indurated rogues of trade and politics. As between virtue for virtue's dollarless sake, and those rotund if rotten millions, they will take the rancid millions, finding for them and for themselves thereafter as wide and as ready an acceptance as for whiter characters and money much more clean.

* * *

There is another business which the public might profitably consider. Mr. Archbold came out in an interview, upon which I place reliance since he subsequently denied it. He declared, in effect, that frequently Standard Oil and kindred companies, instead of giving bribes, were blackmailed.

Between us, from my own observation Mr. Archbold

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

is right. The public too often and too carelessly maintains a band of wolves at the Capitol as part of what it calls a Congress. The public, in the business of its office filling, is largely ruled by Bosses ruled by Money. These Bosses are mere wolf masters. They pick out and control the public wolf packs alluded to. There is the Republican part of the pack, which corresponds with the black timber wolves of our Northwestern woods. There is the Democrat fragment of the pack, which, dingy and brindle as to moral hue, find their prototypes in the big gray wolves of our Western grass plains.

Being gathered together, gaunt, hungry eyed, famished of flank, what does the wolf pack do? Abroad upon the plains of business, it describes a fat railroad or some other company equally fat. It is now the chase begins. The fat company is beset by bill, or resolution, calculated for its injury or destruction.

At this crisis, enter the lobbyists, whose province is the mean province of the gobetweens. The threatened company is told the price of peace and safety. Unless the price be forthcoming, the injurious bill or destructive resolution will be voted through. The harassed company gives up the price. The wolf pack falls upon the blackmail—after the Bosses and the minor wolf masters have torn off their shares—and rends it to pieces.

* * *

Who is responsible for that special and particular corruption? Is it the company, hunted by the wolf pack? Or is it the public, indifferent both to its duty and its interest? Remember, there is no evil at either state or national capital which the public could not correct. There is not a wolf master, not a wolf, that could exist if the public but spoke the word of doom. Therefore, if you must blame the companies, oh public, do not fail, as equal rogue, to also blame yourself. These wolves are public wolves, not company wolves; it is not the companies, but your agents, who demand blackmail and accept bribes.

* * *

When Rome fell, it was Rome's fault. It will be our fault should our republic repeat the fate of Rome. I said recently in print, what I here say again—for the truth cannot have too frequent repetition—that every government, whether it be a despotism, an aristocracy, a monarchy or a republic, is the just expression of its people like a flower of its stalk. For black or white, it is a match for popular desert. In the eternal fitness of things, men will get man government, dogs will get dog government. Why not? Would you throw away a man government on a dog public? Dog publics should have dog government—a kick, a kennel, a collar, a bone to gnaw, a chain to clank.

* * *

In a recent issue I sang veraciously, yet in the minor key, of ministers and ambassadors. I said I knew of nothing of moment that one of these gaudy folk had accomplished. Let me amend that utterance in a single particular. There was one who actually did something. He was a Jew; and he succeeded in establishing the United States, in the eyes of international law, as "not a Christian nation." This was in the port of Tripoli. The ingenious diplomat's name was Mordecai Noah—our first Minister to the Barbary States.

It was during the War of 1812. A stout Yankee privateer came tugging into the port of Tripoli a British merchantman, which he had been at pains to capture. The Yankee privateer wanted his prize "condemned" and sold by the Barbary courts.

The British Minister, a Lord Somebody, interposed. He held the treaty between England and the Barbary States beneath the august nose of the Bey. He pointed to a clause which said that the Bey's ports "should not be used as ports of condemnation, for the sale of British vessels as prizes, when captured in any war between England and any other Christian nation."

The American Minister, the ingenious Noah aforesaid, met this with what the lawyers call a "plea in confession and avoidance." He admitted the force of the treaty between England and the Bey, but insisted that in the case at bar it did not apply. Noah lugged out the federal Constitution. He showed the Bey that in our country, under that sacred parchment, Jew and

Gentile, Turk, Hindu, Chinaman and Christian, all stood together on an even footing. How, then, could we be called a Christian nation, while we extended equal privileges to every man, without reference addressed to his belief?

The Bey saw the point. Saw and seized it the more eagerly, perhaps, since he would have into his own personal coffers twenty per cent of the proceeds of that asked-for sale. The British merchantman was condemned and sold, the Bey—to use a Tammany phrase—"got his," and we as a people took our place outside the religious pale as "not a Christian nation." This was in the long, long ago, and finds its place in history as the last notable achievement of an American minister.

* * *

Now comes a valued correspondent, and wants to know something, in the sense personal, about the senior Texas senator, Mr. Bailey. Mr. Bailey was born in Mississippi in 1863. He is tall, of dignity, beardless, expression heavy. He has plenty of hair, plenty of manner. He reads profoundly, remembers accurately, and all he knows lies ready to his mental hand. He talks convincingly, fluently, even eloquently, is not to be posed by interruption or question, and thinks as well standing up as he does sitting down.

Which is more than can be said of some of us.

Mr. Bailey makes a specialty of being Southern. For myself, I like Southern men. They are unadulterated in their Americanism. To be a Southern man has its advantages and its disadvantages. For one thing, the Southern man is unduly sentimental. And so he is frequently found voting for some one he doesn't want, to get something he can't have. In Congress he commonly appears to better advantage than does the Northern man. I have never met a Southern congressman who seemed to remember he was in Congress. I have never met a Northern congressman who seemed to forget it.

This is not so much due to aught of inner sort, as to the way folk are brought up. The Southern man, by the mere fact of a nativity, is given an exaggerated opinion of himself. The opinion is all wrong; but, since he can never find it out, he gets as much joy from it as though Gibraltar were its base.

The Southern man, like a squab pigeon, is biggest when he's born. It's as though he were cradled on a peak. The world holds no honor greater than that greatest of all honors, the honor of being Southern born. No matter where his walks of life may take him, and whether it be into Congress, or cabinet, or the White House itself, he never goes uphill. Wherefore, he is to the last unaffected by station, and lives guiltless of those vulgar insolences of place, which are so offensively frequent in some of our high officials of state.

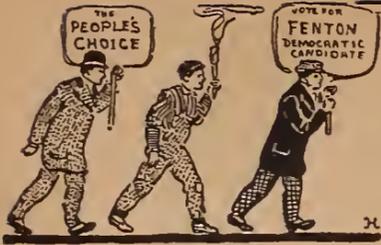
When Mr. Bailey came to Washington in 1891 he was somewhat green. That greenness has departed; the verdant has gone from him. As a publicist he is seasoned, not to say kiln dried, and has secured a proper focus on affairs. In the old day he was inclined to be romantic; his nature was full of moss and mocking birds. This has gone with that young greenness, and he is now the sublimation of the practical.

It was in his moss and mocking-bird period that Mr. Bailey objected to dress clothes, and declined to dine at the White House rather than wear an open-face suit. This was, of course, flyting, kyting nonsense. Dress coats are the most democratic of our institutions. I've been at great dinners where you couldn't—because of dress clothes—tell the guests from the waiters. And than that, may I ask you, what should be more democratic?

Dress clothes are the palladium of our liberty. You can pay only so much for them, though your income be the income of a king. And because the price is not boostable, but remains fixed within the reach of all, it keeps that ferocious animal, the millionaire, from running the rest of us down. Wherefore, I repeat: dress clothes are our magna charta, our bill of rights, our ram's horn before the blasts of which the walls of the social Jericho crack, crumble and fall.

It was Bulwer's "Pelham" that gave us dress clothes. Before "Pelham" each of us went about of an evening as gaudy as any golden pheasant. Now we have reason, responsibility, sober black and white.

Mr. Bailey is an honest man. That is to say, he is congressionally honest. He has temper, spirit; but he is neither unreasonable nor vindictive. His favorite task is defending the Constitution. I have faith in Mr. Bailey. If I owned a government, I shouldn't hesitate to employ him as night watchman.



Two on 'Em

By Albert Lathrop Lawrence



"HURRAH! Mother, they have nominated me!"

Arthur Fenton burst into the little room where his mother had sat late into the night awaiting his home-coming.

"Nominated you! Of course they have! Didn't you expect they would?" Her features glowed with pride and joy. She had risen quickly to meet him, and they stood holding each other at arm's length. "Weren't they bound to choose the best? And where could they find better than my boy?"

"Surely, where?" he returned, laughing in the joy of victory and her fond conceit. "But conventions aren't like mothers. They sometimes make mistakes. I would it were otherwise. The muck raker then would have little to do in politics."

"I don't know what you're talking about, Arthur," the sweet-faced woman interrupted, withdrawing her head, so he might not stroke her hair, grayer than the years alone warranted. "I don't understand—and I want to, very much. Does this mean that you are to have the office?"

"I wish it did," he groaned, dropping into a chair, for he had had a hard day at the convention. "No—it simply means that I've beaten the others that wanted the office in our party. Now I've got to beat the fellow the Republicans put up; and that's a harder proposition. Clay County has a discouraging habit of turning down fellows of my stripe. But there's much to be hoped for in the new independence abroad in the land. I'm counting on that. Besides, I believe Wayne St. Clair will help me. Although he belongs to the Republicans, in a quiet way he can do a lot for me. We talked it all over at college many a time, and we both agreed that national politics should not influence voters in choosing local officers."

"But Wayne St. Clair is in Europe," said the mother.

"He's coming home in a few weeks," declared Arthur.

It was a year since the friends had parted—one to go abroad for further study, the other remaining to put out his shingle at once. For a moment Arthur's mind was carried back to the old days—days even before they began college together. It was perhaps a little odd that they had been such friends in their boyhood scarcely outgrown now. Wayne's father was rich, as circumstances went in their native town, while his own father had never risen above the position of a master carpenter. How that odd phrase of the St. Clair gardener's returned to Arthur now! Many, many times he had heard it at the big brick house when inquiry had been made for them. "There they go now—the pair; two on 'em!"

"Who's the fellow you have to beat?" questioned the mother.

"The Republicans haven't named their candidate yet. That will be done two weeks hence."

"Republicans?" she mused, and then remembered something he had said a moment before. "Maybe they'll name Wayne St. Clair. You said he was a Republican."

Fenton started, but recovered quickly. "Wayne wouldn't run against me," he said confidently. "He doesn't need the office, and I do. He might take it as a duty. But with my name on the other ticket, I think he'd feel justified in turning the nomination down. Besides, he's one of the Independents in his party—and there's no danger of the machine's naming him."

Despite this comforting thought, Arthur Fenton was disturbed on the following days by more than one casual mention of his friend's name for the place he coveted.

"If Wayne were only here he'd stop it," said Arthur anxiously, talking the situation over with his mother one noon.

"Can't you write him?" she suggested.

"No—there isn't time. Besides, it isn't a favor

that I can ask. It's one of those things which a friend should volunteer. If Wayne doesn't, it's plain that our early relationship isn't to obtain out in the world," he added a little bitterly.

"Oh, well, I'm sure it'll all come out right," said his mother with the optimism that was habitual with her.

"If he's nominated, there's little chance for me," Arthur returned hopelessly.

He glanced about the cheaply furnished room, as if he foresaw the little they had left slipping away from them. It had taken more to complete his college course than he had anticipated, and nothing remained now of the savings which the frugal father had stored. The home was his mother's; but was it right to mortgage that in the uncertain hope of future advancement? Yet the campaign could not be made without legitimate expenses. Clients had been distressingly slow in seeking his service that first year. Had he not made a grave mistake in taking up the law instead of fitting himself for the honorable trade which had been his father's? It was a dark hour for the young man.

"Oh, but there will be a turn," the mother had declared. And she was still hopeful even after the Republicans had placed Wayne St. Clair's name on their ticket.

"I'll make the best fight I can," said Fenton to himself, though he added grimly, "but it's no use."

The papers had chronicled the return of Wayne St. Clair, but after ten days the two friends had not yet met. Arthur had planned to attend the public reception which the St. Clairs gave their son, but a campaign exigency called him out of town. Each day he had looked for Wayne to make some explanation, or at least some acknowledgment of the old friendship. He told himself repeatedly that had the tables been turned, he should never have allowed his name to enter against Wayne's. Defeat was not so bitter as to have the bonds of friendship thus rudely snapped.

Then one day came a rush up his outer stairs—three steps at a time. His dingy little office was further darkened by an athletic figure which filled the doorway. Anything like gloom, however, was impossible after the ringing voice had filled the empty spaces.

"Hello, Art! Where in the name of pigskin and all the sports have you been keeping yourself? I looked for you at the house the night they mobbed me; and I've looked in here nearly every day since."

Fenton had got to his feet, and they were shaking hands across his desk. St. Clair in his eagerness had given him no time to come from behind it. They were fairly crushing each other's fingers, and repeating words which neither paid much attention to. At last St. Clair demanded again why he had not come to the house the night of the reception.

"I had to meet some political friends," began Arthur, and then the constraint that was inevitable made itself felt.

"Politics be hanged!" snorted Wayne. For a moment he had forgotten the situation. His clear-cut, manly face was clouded. "Art, what must you think of me?" he began. "They telegraphed me to know if I'd go on the ticket; and thinking of the days at college when we promised each other we'd reform everything, I answered 'Yes.' I never thought to ask who was on the other ticket. I never thought there was another ticket—the more fool I!"

Fenton laughed a bit grimly. "I guess the other ticket won't cut much of a figure."

"I want you to win out, Art," exclaimed Wayne. "I'll not turn my hand over for a vote. Indeed, you can have mine! I don't care who knows it."

"Is that fair toward the fellows who named you?" asked Fenton, with the steady light of football days in his eye.

The other showed his dislike for the trying situation by impatient gestures.

St. Clair's chagrin and his warm expressions of friendship lifted a load from Fenton's heart. In the next ten minutes Arthur planned the campaign for both. At least he went ahead with efforts in that direction.

"Of course you'll win out," he finished. "I can say that here, though I promise you I'm going to cut your majority down to the smallest figure possible."

"Cut it below zero, old man," interjected St. Clair.

"No—you know I can't do that."

"You're going to win, Art, I tell you! Go in and give me fits. Tell 'em I wear silk stockings—change my clothes three times a day—sleep on a sachet bag as big as a feather tick! You'll win all the fellows in the shops, and the farmer vote, too."

"No—there's to be no personalities in the campaign," said Arthur.

"Confound it, what am I to do, then?" interposed St. Clair helplessly. "I can't talk national politics—that would be treason to the pledge we made at college. I can't ask them to vote for the best man—that would be treason to the fellows who named me."

"I hope I'm a man," cried Arthur, "to know how to play a losing game. Give me credit for so much, and go ahead and do your worst—or best. It isn't half bad now that I know you didn't take the nomination with your eyes open to my name on the other ticket. That did hurt!" he confessed.

Ten minutes later merchants along the avenue were surprised to see the rival candidates go by absorbed in friendly conversation, St. Clair's hand slipped within the arm of the other. He had invited Fenton to lunch with him at his club, while he told him of his stay in Europe. They passed old Hodds, the St. Clair gardener, without perceiving him. But Hodds could not let the incident go unnoticed.

"There they go now—the pair; two on 'em," he exulted.

Despite friendship newly pledged, the

campaign proved a strain. It was not always easy to remember that Arthur Fenton could not possibly have started the senseless stories or coined the phrases—"St. Clair—Society's Selection!" "St. Clair de la Smart Set!" "Saints, not Sinners!" "The Saint" was further named "The Celestial One," and later hooted at on the street as plain "Chink."

Petty spite was aimed at Arthur Fenton as well. The opposition called him a "Socialist" when the term meant "Anarchist" to the common mind.

In spite of himself, it would seem, Fenton had hoped for the impossible. Not only was he defeated, but he made scarcely a showing on the majority heaped up against his party. He tried to be just to St. Clair, but it was not in human nature to emerge from such a fight without wounds. These raw surfaces could not all escape rubbing when the friends met through the winter, though Fenton denied the pain, and ascribed any irritability to other causes. He rarely sought his old friend; and recognizing the diverging trend of their ways, he accepted it with a sigh as a part of the inevitable.

"What's troubling you to-night, my son?" asked Mrs. Fenton with tender anxiety. She had twice called him to supper, but he had scarcely moved except to present another surface of his sodden boots to the fire.

"What good is it for a man to prepare himself for opportunities which fate persistently places beyond his reach?" he demanded gloomily.

"Who knows the ends of 'fate,' as you call it?" she returned with the gentle tones that were so soothing. He knew that in her faith all things were ordered well. "Better prepared and never the opportunity than to have the opportunity come and find you lacking. I've poured your tea, Arthur," and then she added, as he drew up, "There are men whom the world considered failures at twice your age, and who later made signal successes. What if business doesn't come yet? Keep on with your studies. We can live a while longer."

He looked helplessly across the table at her while something cut him cruelly at the heart. He hoped heaven would forgive him for that mortgage he had allowed her to place on the house in the fall. He despaired of meeting the interest shortly due.

"Study!" he groaned. "I've just fitted myself to measure the glorious success or signal failure Wayne St. Clair will make of the unexpected duties which have fallen to his office. Oh, if I could have had this opportunity, I should have made a name for myself that attorneys from one end of the state to the other would envy! It is the chance of a lifetime for a reformer. You don't know how hard it is to feel yourself tingling to be in the fray, and then have Circumstance with her strong arm press you back!"

It was in this attitude, pacing the narrow confines of his barren office, that Wayne St. Clair came upon him next morning.

"Hello, Art!" he cried, swinging in breezily. Then he stayed his errand to make an accusation that suddenly pressed. "Why don't you ever come to see a fellow? You've scarcely been in my office since election! I hope your business isn't going to crowd out old friends. Besides, I've got something more for you," he added, recalling his errand.

The old friendly enthusiasm warned Fenton, but the best he could do was to smile stoically. "A visit to your office doesn't exactly fit me to be happy in my own," he returned, his eyes sweeping the uninviting place, while a flush covered his face for shame of yielding to such feeling.

But Wayne seemed scarcely to heed, so full was he of the other matter. "Say, you know there's a law which permits a state's attorney to employ counsel in grand-jury cases. I want you to help me. I [CONCLUDED ON PAGE 21]



"What good is it for a man to prepare himself for opportunities which fate persistently places beyond his reach?" he demanded gloomily

Little Economies

After Gleanings

IT WOULD pay one to go over the potato patch a second time and gather up the small potatoes that were left—potatoes as large as seconds, almost. To winter them as winter food, cooked until soft and mashed and warm, as a surprise supper for the chickens, when winter's cold is hard upon them, would repay for the trouble of saving the potatoes.

Don't let the apples on the ground in the orchard go to waste. Something ought to be done with them. Wash the apples and put them through the cider mill; let stand in open barrels, to go to vinegar, but cover the bung with thin netting or wire tacked fast all around, so that no sour flies can get inside. It is only by chance that good vinegar is to be had these days. The kind of brown fluid served at the grocer's, acrid and bitter, falls short of apple flavor, and is a very poor substitute. The initial expense, however, is the only expense when it comes to vinegar making. The grocer will save the barrel for you, to be called for when empty. Much can be saved by a little forethought and management—the getting of barrels on a rainy day in early spring when the year gives promise of a good apple crop. Of course, bad seasons might come, and the apple crop fail, but the barrel of pure cider vinegar will never fail—the longer it stands, the stronger it grows, and will certainly draw a first-premium card at any time of the year.

Utilizing Left Overs

LEFT-OVER fowl, turkey or meats of any kind should be picked from the bones; then make a dough as for baking-powder biscuit, roll the lower crust, fill with meat and a little gravy or butter to moisten, cover with the top crust, and bake thirty minutes. Warm the gravy.

Bleaching Faded Dresses

A COLORED house dress that has become somewhat faded may be boiled in cream-of-tartar water until it is perfectly white. Many old dresses will appear almost new under this treatment.

Potato—A Good Cleanser

IN PLACE of soap for washing delicate woolen goods, silks and ribbons, try using potatoes. Grate two good-sized ones fine, and dissolve them in a painful of lukewarm water. Wash the goods in it very carefully, and rinse thoroughly. For outside garments this method is especially good.

Bags from Gingham Shirts

THE worn-out shirts of gingham and calico cut off under the arms, and trimmed square, can be made into neat bags, and utilized for all manner of things. Keep everything that you possibly can in bags, and you will find your closets and rooms much neater in consequence.

Use for Old Felt Hats

DO NOT throw away your old felt hats. Brush and clean them, and cut into inside soles for the winter. They will be found more satisfactory than those you buy.

Duster Suggestion

OLD pieces of washable silk are good for the purpose of putting a fine polish on mirrors, window glass, table glasses and nickel and silver. They also make fine dusters for highly polished furniture.

Handy Towel Rack

WOODEN curtain pole and fixtures will make a handy towel or paper rack, and will cost only ten cents.

Pads for Stairs

WHEN comfortables have become discolored and faded, they may be washed, and cut up into squares about eighteen by twenty inches each way, and used as pads for the stairs.

Two Uses for Parings

GOOD vinegar can be made from apple parings, fruit pulps, such as grape and plum, saved up from time to time and kept in a stone jar, with enough rain water to cover, and stirred every few days. Let stand for several weeks, then strain, and add to the juice one pint of sugar to three gallons. Let work up, skimming off once a week until clear, then run off in bottles or keg.

Apple parings washed and cooked with a few apples make fine jelly of a deep, rich color and flavor.

A Good Carpet Beater

IS YOUR carpet beater worn out? Don't worry. If you have a piece of garden hose, it will serve the purpose just as well. It is stout enough to remove the dust, and so flexible that it prevents the wear and tear given by the ordinary stick or rattan beater.

Made-Over Skirt

WHEN woolen skirts have become shabby, faded and old fashioned, a good way to use them is to make them into underskirts. For instance, a black broadcloth skirt that has done duty for an outside skirt for a couple of years may be ripped, washed, and made to fit as an underskirt should. The bottom may be cut in points and bound with silk, and back of each corner may be placed a scant ruffle of heavy black lace. This makes a pretty and serviceable skirt, and will wash as well as white. Any colored skirt may be used with good effect if bound with silk or braid the same color. An extra set of points or scallops may be substituted for the lace.

To Mend a Torn Rubber

IF YOU have a torn rubber, don't throw it away. Take a piece of black dress braid, with the end doubled under, and fasten it at the upper part of the slit, bringing the edges of the slit close together, fastening to the braid. Then, commencing at the bottom, the edges are sewed across a flat overhand, and the upper edge finished with a buttonhole stitch, which takes in the end of the braid.

Old Blankets

IN ORDER to utilize old blankets which have become thin from constant use, baste two together and then cover them with a pretty flowered silkoline or calico, which transforms them into very desirable light-weight quilts that can be washed without becoming bulky, as most ready-made quilts do.

Repairing a Clothes Wringer

TO MEND the clothes wringer, take strips of new muslin the width of the worn places, and wind them on the rubber rolls while turning the wringer backward. When these strips become worn, replace with new ones, and your wringer will last many months after you thought it was useless.

Vegetable Parings

TO DISPOSE of vegetable parings profitably, put them into an old pan (which should be used for nothing else), and let them stand in the oven until thoroughly dry. They may then be burned like shavings or paper.

To Mend Broken China

A GOOD method for mending broken china, which, when repaired, can be washed, is to put a thin coat of white lead over the broken edges, and press tightly together. After putting rubber bands around the article to hold the pieces together, set it away to harden.

To mend glassware, get a small quantity of alcohol; to this add a little water, heat, and thoroughly dissolve some isinglass in it. Spread while warm on the broken parts, and press together.

Table Cloths Remodeled

WHEN a table cloth becomes so old that patching or darning is at last impossible, cut the good parts of it into good-sized squares large enough for table napkins. These may either be finished with a plain hem or may be hemstitched if the housekeeper has time to draw out the required number of threads and go to that extra work.

Another way to lengthen the life of an ordinary table cloth is this: We have all noticed how a table cloth begins to wear and become filled with holes along the center crease. This is occasioned by continual ironing and folding in the same place. If these little holes and worn places cannot be darned successfully, cut your table cloth up the center right through this little line of wear and tear, and put the two outside edges of the table cloth together, sewing them strongly upon the machine. This of course makes a seam right down the middle of the table, but the cloth on each side of the seam will be as good as new, for it is the part that has hung over the side of the table and has received very little wear.

Another way to utilize table cloths that are beyond mending is to use the best parts for dusters and wash cloths.

Spick and Span Dairy Things

Every dairyman knows that the quality of his product depends vitally upon the cleanliness of his utensils.

But every one does not know that in cleansing them with mere soap and water it is impossible to drive out the *invisible* impurities—to sterilize these utensils. Now GOLD DUST besides being the greatest of all cleansers, is a positive antiseptic. It not only keeps pails, pans, crocks and churns beautifully clean "to the eye," but insures deep purity and thorough wholesomeness.

Don't use Soap, Borax, Naphtha, Soda, Ammonia or Kerosene. The GOLD DUST Twins need no outside help.



"Let the GOLD DUST Twins do your work!"

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Makers of FAIRY SOAP, the oval cake.

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If you need a stove or range, don't buy until you get our factory prices. I promise you that I will save you \$5, \$6 or \$10 on our smallest stoves, and as high as \$18, \$20 and even \$30 on our largest. And I promise you that you cannot get anywhere at any price, a better stove or range than the Kalamazoo.

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Our Young Folks' Department



Cousin Sally's Letter

DEAR BOYS AND GIRLS:— I wonder if you would like to know about my two little cousins here in New York. Their names are Mary and Gertrude, and I assure you they are very precious to their Cousin Sally. Mary is ten years old and Gertrude thirteen. The other day after school they dashed in to see me, and from their eager faces I knew they had something exciting to tell. Before I knew it, Mary was sitting on my lap with her little arms around my neck, while Gertrude was perched on the arm of my chair. And they both exclaimed, as if in one breath, "Oh, Cousin Sally, we're going to have a Hallowe'en party!"

"Isn't it exciting, Cousin Sally?" said Gertrude. "I think mother is the dearest mother in the world. She is going to let us attend to the whole affair ourselves."

"And you can be the guest of honor," added Mary timidly. "if you'll tell us what kind of games to play."

So here are some of the suggestions that I gave to them. I am sure that most of you are planning a Hallowe'en party, and these ideas may help you other boys and girls, too.

Decorate the room in which you hold your party with field corn, strung cranberries and autumn leaves. And don't forget the jack o' lanterns, which can be made from small pumpkins with the inside cut out and hung with thin wire.

Now for the games.

Tossing Chestnuts—Give each one ten chestnuts. Place a bowl-shaped basket (about nine inches in diameter) in the center of the room. Standing eight feet from it, the boy or girl who tosses the greatest number of chestnuts into the basket wins the prize.

Tack on the wall or a sheet a picture of a black cat or dog minus its tail. Supply each of your little guests with tails, and blindfold them. The one who comes the nearest to pinning the tail in the right place should be awarded a small prize.

Next, hang a finger ring from the chandelier at a convenient distance from the floor. Each child in turn should walk directly up to the ring, and without hesitating a moment, try to run a pencil through it. This is not so easy as it may seem.

Charm Games

Light three candles, and set them near a window. Three children at a time should stand in front of the candles and each make a wish. Then open the window, and if one or more of the candles remains lighted for one minute, the child who stands opposite that candle may feel sure that his or her wish will come true.

Flour Charm—Hide a gold ring in a mold of flour, and have each one in turn cut off a slice. The one in whose slice the ring comes must remove it with his or her teeth.

Be sure to bob for apples. A potato race, too, would be lots of fun. For refreshments have chicken sandwiches, apples, gingerbread animals, doughnuts, nuts and fruit.

I hope that every one of my cousins will have a Hallowe'en party of some kind, for I think they are the jolliest fun in the world. Don't you? I only wish that you could all be with Mary and Gertrude and me on that happy witch night, but you can count on it that we shall think of you all very often.

With much love, affectionately,
COUSIN SALLY.

Prize Winners in Drawing Contest

C. Russell Welch, Galena, Ohio, age eleven. Royal Fidler, Salem, Ohio, age twelve. Grace Needham, Groton, Connecticut, age thirteen. Allen Pratt, Peak, Oregon, age fourteen. Florence Benton, Ashland, Ohio, age sixteen.

Ohio, you will note, seems to be the banner state this month. Let us hope that there will be a more general response next time.

The Honor Roll

Kate H. Sharitz, Wytheville, Virginia, age fifteen. Paul R. Loomis, Salamanca, New York, age twelve. Goldie E. Jones, Peebles, Ohio, age sixteen. Lelan Stewart, Lilly Chapel, Ohio, age fifteen. Albin Hoffman, Summerville, South Carolina, age fifteen. Effie Carpenter, Selden, Nebraska, age twelve; Mary Salahura, Superior, Montana, age thirteen. Susie Salahura, Superior, Montana, age fourteen.

The Twins' Auction Sale

By Sophie Kerr Underwood

MRS. ELLIS sat down on the front porch with a twin on each side of her. They were ten years old, and except that Janie had blue skirts and her hair in a braid, and Jimmie had overalls and a close-cropped head, they were as like as two chestnuts from the same burr. They had hurried at their mother's call with eager expectancy, for Mrs. Ellis usually had some jolly plan for a picnic or a party; but when they saw how serious she looked they realized that something was the matter.

"Sit down, dearests," she said. "Mother wants to talk to you about your pets. You see, you've got so many, and all this fall and winter you will be away from home at your Aunt Mary's, and I wonder if you can't plan some nice way to dispose of them to people who'll be fond of them and care for them. Aunt Mary has a dog and two cats, and I'm afraid she won't want you to bring anything else there; but I believe you can arrange it somehow, and I'm going to leave the matter to you. You may give the pets away or sell them, whichever you please. Now

"He's a horrid boy," said Janie angrily. "He sha'n't have the guinea pigs, either. He likes to hurt 'em—the mean thing!"

"Let's go in and look at the paper," said Jimmie. "Father says there's most always a bright idea in the paper."

So they went in and hunted around on the desk until they found the county weekly, and they promptly laid it flat on the floor and stretched themselves out, heels in the air, to investigate it. After an hour with the newspaper and a pencil and tablet they went to their mother with the following all neatly written out:

GRAND AUCTION SALE

On Saturday afternoon, September 19th, at two o'clock, at the Ellis Farm on the River Road, there will be sold to the highest bidder, if he is proved to be kind to animals:

- 6 nice white rabbits, fond of lettuce and cabbage.
- 14 spotted guinea pigs, very cute.
- 2 turtles, not the snapping kind.
- 2 white rats, very tame.

Saturday was bright and warm, and in the morning the twins brought out a big box and put it under the maple tree in the front yard for Jimmie to stand on. They carried out the pets, too, fed them, and arranged them in good positions about the yard.

At two o'clock the yard was full of children looking at the pets, and a few grown-ups had come also to see the fun, so Jimmie climbed up on the box and Janie lifted up the cage with the Japanese mice in it beside him. He began in a loud voice:

"Boys and girls, the auction is now open! Please speak up good and loud, so I can hear your bids. First off, we are going to put up this cage with four Japanese waltzing mice that Uncle Henry sent me from New York. They are awfully funny little animals, and spin around and around like a top. How much am I offered? Remember, absolutely nothing will be sold to anybody who isn't kind to animals."

He paused to let the children have a chance to bid, and little Laura Smith, who had always admired the mice, called out, "I offer ten cents."

"Ten cents," said Jimmie. "Anybody bid any more?"

"Fifteen cents," called out a big boy at the back.

"Twenty-five cents," cried Laura, who was determined to have the mice.

No one bid any more, so "Going, going, gone—to Laura Smith, for twenty-five cents," called Jimmie. And Laura came up and gave her money to Janie and took the little cage lovingly in her arms.

The most of the pets soon sold, for they were all very nice animals, and finally nothing was left but the raccoon. No one wanted to bid on him because he snapped at people so crossly, but just then Mrs. Ellis came out on the porch, and said:

"I propose that we let the raccoon go back to the woods, where he can enjoy himself with his raccoon friends." All the children clapped their hands, so that was decided. Then Mrs. Ellis said, "And now I invite everybody to sit down on the porch or on the grass and have refreshments."

This was a complete surprise to Jimmie and Janie, but they were greatly pleased when their mother brought out cookies and pears and popcorn balls for everybody, and lemonade in a big tin bucket.

After it was all over, and the guests had gone, Jimmie and Janie counted their money, and found that the auction had brought them over two dollars, as well as all the fun.

Post-Card Exchange

You see, boys and girls, Cousin Sally is keeping her promise about the Post-Card Exchange. But before she gives you a few of the names and addresses of the cousins who are interested in it, she wants to offer the following suggestions:

The craze for souvenir post cards seems to be as popular now as when it first started. There are any variety of subjects—unfortunately, not all worth collecting. The educational cards, such as those showing the principal buildings of our largest cities, mountain scenes, natural wonders, etc., etc., are the ones most deserving of a place in your post-card album. Such cards will furnish you much knowledge. Think how nice it would be to have cards of the ten finest churches in the United States! And cards of historical places, too. What a fine thing that would be! An album filled with good cards of this kind would, I am sure, prove instructive as well as interesting. Don't you agree with me?

It would be a very good scheme to classify your post cards. For instance, reserve one part of your album for the cards you receive from Texas, and another part for the cards you receive from Maine, and so on, and in a little while you will be able, during the long winter evenings, to take imaginary journeys throughout the country. I want this exchange to be a benefit to you as well as a pleasure.

Here is a list of some of the cousins who would like to exchange post cards: Nellie Egnew, Box 58, Oswegatchie, New York.

Blanche DeCoursey, R. R. No. 1, Bellefontaine, Ohio.

Regina Ross, Cambria, Wisconsin.

Lora R. Goff, R. F. D. No. 1, Avoca, New York.

Emily Sippel, 59 Jeffrey Avenue, Jamaica, Long Island, New York.

Jessie D. Bogert, Larck Avenue, Bogota, New York.



"Boys and girls, the auction is now open! Please speak up good and loud, so I can hear your bids!"

get on your thinking caps, and when you've made up your minds what you want to do, come and tell me about it." So saying, she went into the house and left the twins to their thoughts.

Jimmie Ellis sat on the top step of the front porch and stared gloomily at Janie Ellis, who stared back just as gloomily.

"What are we going to do with them?" he asked at last.

"I don't know," answered his twin sister, swinging her foot. "Maybe we might advertise 'em for sale. 'Course, I don't blame mother for not letting us keep the pets when we're going away for so long, but I do want people to have 'em who'll be good to 'em."

"Well, I won't let Tom Trice have my rabbits," declared Jimmie, "for he'd never remember to feed 'em, and he likes to poke 'em about with a stick."

4 Japanese waltzing mice, came from New York.

1 raccoon, not as tame as he might be, but very nice.

2 gray squirrels in a cage with a wheel.

JANIE ELLIS, MANAGER.

JAMES ELLIS, AUCTIONEER.

Everybody Welcome. Terms Cash.

Mrs. Ellis laughed a little when she read this, but she said it was all right and the twins might go ahead.

There was much to be done, of course, for this was Friday. They set to work and gave all the cages an extra cleaning, and they brushed the furry animals—all but the raccoon, who showed his teeth when they tried it. At last they all looked as nice and neat as possible, and Jimmie and Janie went to bed quite satisfied with their scheme.

Miss Gould's Dressmaking Lesson

The front gore is lettered E, the first side gore M, the second side gore N, the third side gore Y, the fourth side gore J, the fifth side gore F, the sixth side gore T, the back gore H, the trimming band I and the belt A.

Smooth the pieces of the pattern carefully before pinning them on the material. Lay the front gore, the trimming band and the belt with the edges marked by triple crosses on a lengthwise fold of the material. Place the side gores and the back gores with the line of large round perforations in each lengthwise of the goods.

If you decide to have the plain skirt without the band, do not cut out a trimming band. If, on the other hand, you decide to have the skirt with a plain back and band trimming, be careful to cut off the plait on the back gore by the long line of small round perforations.

The band can only be used on the skirt without plaits at the back.

Special care should be taken in cutting out the notches in the skirt before removing the pattern pieces from the material.

How to Make the Plain Skirt With Inverted Plaits at the Back

The first step is to join the gores by corresponding notches, and this must be done very particularly, because there are so many gores, and the groups of notches are apt to become confusing. It is really an easy matter to make a skirt which is cut in many gores if you are only careful about joining the pieces as notched.

Finish a placket at the center back seam as far as notch. Form the plait at each side of center back by placing cross on perforation at upper edge, and bring the long line of large round perforations over to meet the center back seam. Baste these plaits and press them flat. In some materials it is well to stitch in one

out all at one seam. Fit just a little at each seam and keep the gores about the same width. They are so narrow and so evenly proportioned in the original pattern that it would spoil the lines to change the skirt too much at any one seam.

How to Make the Skirt With Plain Back and Trimming Band

The back gore for this skirt should be cut off on the long line of small round perforations. This cuts away the material used for inverted plaits in the other skirt and leaves a plain or habit back.

A placket should be finished in the center back seam to the depth of twelve inches. If your hips are small, the placket need not be more than ten inches deep, but twelve inches is a good general length for a placket. Sew the hooks and eyes very carefully and have them close together.

The trimming band may be finished in several different ways, as much depends upon the material used. If the band is of cloth, the edges should be turned in three eighths of an inch and basted flat. Silk seam binding or a half-inch-wide bias band of soft silk should then be basted over the lower edge. When the bottom of the band is stitched, this binding is included in the stitching and makes a neat finish. The band is applied on the skirt along the lines of small round perforations and stitched to position.

When the material used for the band has not body enough to look well, it should be lined with a very soft crinoline or light-weight lawn. In this case the edges are turned in three eighths of an inch and basted. Then they are secured by catch stitching, which does not show on the outside.

One illustration shows two different ways of finishing the band as described in this lesson.

The back seams of the band and the skirt should be joined separately, in order to have the band simulate an overskirt.

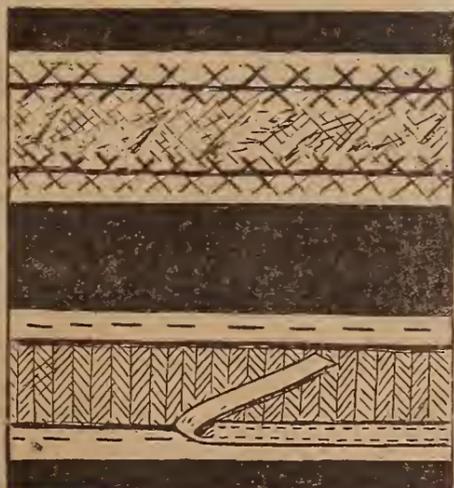
If the material used for the skirt is narrow, the band may have a seam in the center front instead of being cut on the fold of the goods.

When the skirt is made of striped or plaid material it is very effective to have the band cut on the bias, with a seam in the front as well as at the back.

The length of this skirt is forty-one inches, just one inch from the ground. For general wear it is well to finish the lower edge with a silk or mercerized braid, for skirts of this length are apt to cut quickly at the bottom. A soft braid keeps the skirt from wearing out at the lower edge, and will not rub the shoes like the old-time skirt braids.

If you happen to have large hips and a small waist it would be well to mention the fact when ordering a skirt pattern, giving the hip size as well as the waist measure. Frequently a skirt ordered by waist measure only is too small around the hips. It is wiser to secure a larger size which will fit well at the hips, and then take in just a trifle at each seam at the waist.

Before cutting out a skirt, be sure to take measures for the length desired and compare them with the pattern. Measure from belt to floor, back and front, also on each side, and deduct from this length the one or two inches you desire the skirt to clear the ground. Sometimes one hip is higher than the other, making the skirt length on one side a whole inch longer. The material for this additional length must be added when the skirt is being cut out. Patterns are made for regular forms, and allowances must be made for any irregularities in the figure.



Two Ways of Finishing the Trimming Band

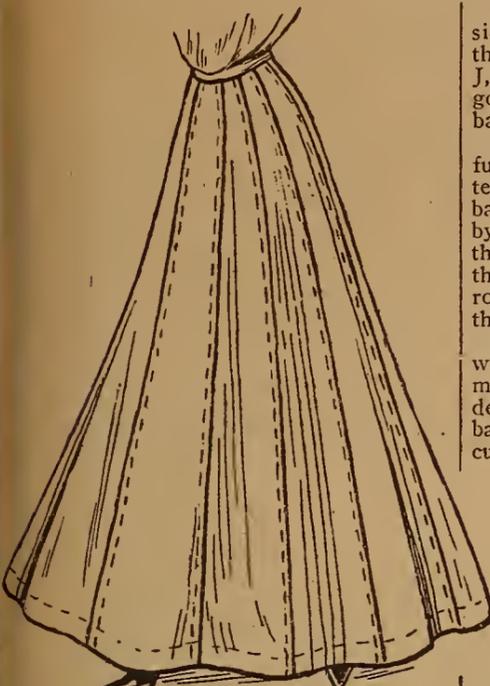
fourth of an inch from the edge of each plait to have them lie flat after the bastings have been removed.

Turn a two-inch hem at lower edge by lines of large round perforations. Baste as near the edge of the skirt as possible, in order to make it lie flat. Then turn in the upper edge of the hem three eighths of an inch, which is allowed for a seam.

Now pin the hem to position. Pin first at each seam, making the seam in the hem come directly over the seam in the skirt. There will be just a trifle of fullness between each seam, which must be disposed of by forming little plaits or darts in the hem at the top. If possible, have these plaits come near the center of each gore, and baste them very flat. Sometimes it is necessary to hem them down firmly, but usually they remain in place after they have been basted and well pressed. Use plenty of pins in the hem before you start to baste it at the top; it will make the work so much easier. Join the skirt to the belt as notched and fasten at the back.

When it is necessary to fit one of these many-gored skirts, do not take in nor let

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No. 1198—Fifteen-Gored Skirt in Circular Effect

Pattern cut for 22, 24, 26, 28, 30 and 32 inch waist measures. Length of skirt all around, 41 inches. Quantity of material required for medium size, or 26 inch waist, seven yards of thirty-six-inch material, or six yards of forty-four-inch material.

The price of this pattern is ten cents. It may be ordered from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

NO MATTER how many best skirts you may have in the Directoire, princess or Empire style, you will surely need at least one of the new many-gored walking skirts for general wear this fall. There seems to be a fad at present to cut skirts of this sort in many narrow gores—sometimes thirty strips of material are used in one model. The fifteen-gored skirt, however, is considered one of the smartest skirts for the coming fall and winter.

Some of the many-gored skirts are made perfectly plain, with inverted plaits at the back. The gore seams are double stitched, and the back plaits pressed very flat. Others are trimmed with bands of self fabric, the bands being applied to give the effect of an overskirt. The plain back is just as fashionable as the plaited one, and more becoming to some figures.

The fifteen-gored skirt illustrated on this page is one of the newest models and is cut in circular effect. The long lines of the narrow gores are, however, more desirable for cloth than the plain sweep of the circular skirt would be. The pattern, No. 1198, may be ordered from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City. The price of the pattern is ten cents. Just because the skirt would look equally as well on slender women as on stout ones, the pattern is cut in an extra number of sizes. The pattern is particularly practical and adaptable. The two skirts illustrated on this page may be made from the one pattern, No. 1198. One is plain, with plaits at the back, and the other is trimmed with a band applied to simulate a pointed overskirt. This skirt is made without plaits at the back.

The pattern envelope contains ten pieces, each piece being designated by a letter, which is perforated through it. These letters are used especially for the benefit of the amateur dressmaker, who is apt to confuse the pieces. In using this pattern, however, even the woman who has always done her own sewing might mistake one gore for another, because they all look alike. It would be well to watch the letters on the different pieces carefully, and also to take particular pains in cutting out the notches.



Showing the Back Views of the Two Different Skirts Made from Pattern No. 1198

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Booklet and sample of Vellastic fabric free.
UTICA KNITTING COMPANY
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is long and sharp. Will go through any fabric without tearing. Fastens from either side.
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To the Readers of Farm and Fireside

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No farm paper in this country has ever before made such a generous and liberal offer as this. It is the climax of all the great offers we have ever made our readers and friends.

A Trip to Florida! How many of us have hoped and dreamed for such a luxury—and how few have attained it! The cost is so great that only the very wealthy people can afford it usually, but through FARM AND FIRESIDE you can take the trip with first-class train and hotel accommodations to Florida and back again, without the necessity of spending a single cent of your own money. We are going to pay all your expenses from your very door to the beautiful hotel, where the headquarters of our party will be, all your hotel expenses during the two weeks the lucky contestants will be in Florida, and then all your expenses back again to your own doorstep! What more could any one ask?



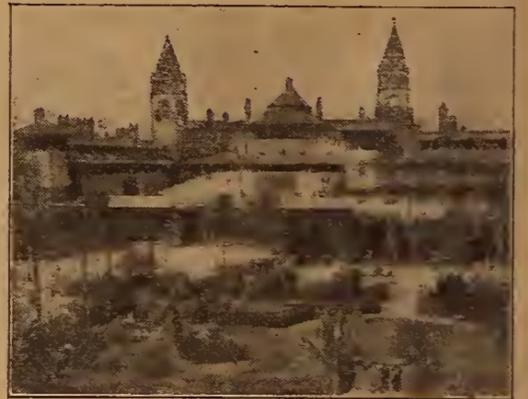
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"Palm Garden in the Court of the Hotel Ponce de Leon" Where Our Party Will Stop

pick all the oranges, pineapples and cocoanuts you want and send them home to the folks, and flowers will be out in profusion. And the climate will be delightfully warm and mild in

Forget the Ice and Snow of Winter

Put aside your furs and heavy coats and come with our merry party to the land of flowers, for the trip long to be remembered. In Florida you can go out and



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"Outside View of the Hotel Ponce De Leon" Where Our Party Will Stay

The Land of Blue Skies and Eternal Sunshine

One of the managers of FARM AND FIRESIDE will go along and personally conduct the party. A ten-year-old child will be as safe on this trip as if in its own home, for our manager will continually look after the safety and comfort of every lucky member of our happy party. That is what he is going along for. It will be his business to see that every member of the party gets from his or her home to Florida, and has the best time of his life there, and gets back home safely, well and happy. Florida will be in the very height of its season while our five lucky contestants are there, and you will have such a time as you never dreamed of having before. Jacksonville, where this party will stop for several days, is one of the most beautiful cities in the South and is filled with Northerners during February and March. And St. Augustine, where our party will spend a great deal of the time, is the oldest city in America, and the very center of Southern hospitality in-the resort season. Surely there is

In All Your Life No Trip Like This!

The trip will start Tuesday, March 3, 1909, from some city like St. Louis, Cincinnati or Washington, whichever is nearest to all the lucky winners. Your expenses from your home to whichever of the above cities we start from will be entirely paid by FARM AND FIRESIDE. At the starting city, our party will board a Superb Limited Solid-Vestibule Pullman train for Jacksonville, Florida. All railroad fare, Pullman fare, meals, etc., will be paid for in full by our manager who will personally conduct the party. At Jacksonville, Florida, the party will stop for several days and then will proceed to St. Augustine, the Queen City of the South. Among the hotels at which our party will stop on this wonderful trip are the world-famous Ponce de Leon (pictured above), which is the finest example of Spanish architecture in the United States, the superb Hotel Cordova (pictured on the right), which is one of the finest hotels in the world, and the well-known Windsor Hotel at Jacksonville. Our manager will see that every one of



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"The Beautiful Hotel Cordova, St. Augustine" Our Party Will Be Here, Also

our party is treated with the utmost courtesy and enjoys all the pleasures and advantages which these world-famous hostleries offer. He will be with you continually to look after your wants. It will certainly be fine to go home and tell your friends about the good times you have had at these world-famous hotels. At Jacksonville the whole party will take a trip down the beautiful St. John's River, called by many the prettiest stream in America. It will be a trip long to be remembered. Then, too, there will, of course, be all the ocean bathing you want right in the invigorating salt water of the ocean itself—with competent guards to look after you. And think of what fun you can have on the beautiful white-sand ocean beach. Think of picking oranges, or pineapples, or cocoanuts to send or take home. Think of gathering beautiful roses—all in March, when the winter winds are still blowing and the snow is still on the ground up North! It will certainly be the trip of a lifetime. Two whole weeks will be spent in Florida, free of all cost to you!

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Absolutely Every Contestant Gets a Prize in this contest, whether he wins a trip or not—that is our guarantee, and FARM AND FIRESIDE stands behind it. If you shouldn't be able to take the trip you can have in cash the money that your trip would cost us. Or, if you prefer, you can have a splendid \$350 Harrington Piano instead of the trip. All you have to do is to become a contestant and you are absolutely sure of a prize—we guarantee that—and if you hustle a little harder you can get the splendid trip to Florida just as well as any one else. What more could you ask? And besides all the trips, pianos and other Grand Prizes, we will pay a Cash Commission for Every Subscription You Get!

How to Get to Florida

Absolutely the most important thing to do now is to cut out the coupon below (or a postal card will do), sign your name and address, and send it to the Florida Man, FARM AND FIRESIDE, Springfield, Ohio, immediately. I can't tell you on this page one tenth of the things I want to about this wonderful trip—and the good times in store for you if you take it with us, but as soon as I hear from you, I'll write you and tell you all about it in detail, and I'll also send a lot of pictures of Florida and the places we will visit. And besides, I'll tell you just how you can go on this trip with us if you hustle, so don't wait. But if you want to get a good start, and make sure of a prize the very first thing, don't wait to hear from me, but get right out and get ten of your neighbors or friends to take FARM AND FIRESIDE at 25 cents each. Then you will be a prize winner sure and have a fine start toward Florida. You may keep 5 cents commission from each 25 cents, sending me only 20 cents for each subscription. Hustle and you'll be a winner! Write me to-day!



Copyright, Underwood & Underwood, N. Y. "Avenue of Coconut Trees, Florida"



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"Excursion Up St. John's River, Florida"

Oct 25

Dear Florida Man
Please tell me all about how I can take the wonderful trip to Florida free of all cost. Also send me your Florida pictures and all the other things. I will send in ten subscriptions as soon as possible. Please save a place for me in the contest.

Name.....

Street or R. R.....

Town.....

Date..... State.....

The Florida Man
Farm and Fireside Springfield, Ohio

CUT THIS COUPON OUT AND MAIL TO-DAY TO THE FLORIDA MAN

The Household Department

Three Chestnut Recipes

CREAM OF CHESTNUTS—Peel one pint of chestnuts, put them in boiling water for ten minutes, then rub off the thin dark skins. Cover them with boiling salted water, and let them cook until very soft. Then, without draining off the water, mash the nuts to a smooth pulp, and rub them through a fine strainer. Turn the pulp into one pint of scalding milk, add one cupful of hot cream, and let get very hot again. Season with salt and white pepper, one tablespoonful of white sugar and a lump of butter. Just as it is removed from the fire stir in quickly one well-beaten egg. Serve at once with croûtons.

CHESTNUT SAVORY—Peel and blanch a quart of chestnuts, and cook them until very tender in just enough boiling salted water to cover. Then press through a colander. They should have cooked almost dry. Stir in two tablespoonfuls each of grated cheese and butter and one teaspoonful of finely minced onion. Let get very hot again, and serve at once as a vegetable.

BOILED CHESTNUTS—Shell and blanch one quart of chestnuts, and cook them until quite tender with a bunch of sweet herbs and milk to cover. Strain off the liquor, and put the chestnuts in a heated vegetable dish. Season the liquor, thicken it with one tablespoonful of flour, add a generous lump of butter, and when it has boiled up well pour it over the chestnuts, and serve as a vegetable.

Unusual Baked Dishes

BAKED BEETS—Choose rich, dark beets. Wash carefully, and without cutting any of the roots, boil for two hours and thirty minutes. At the end of this time remove the beets, cut off the roots, and trim and pare them carefully. Set them in a baking dish with a little water and some lumps of butter. Sift freely with granulated sugar and a little salt, and bake for an hour more. They will be as tender as possible, and the sugar baked into the surface will give them a most toothsome flavor.

BAKED BANANA PASTE—Place six or eight large, perfect bananas—red ones preferred—in a baking dish, and bake for eight or ten minutes. Remove from the oven, and strip off the skins. Strain the banana pulp through a colander. Place in a baking dish with salt and fine bread crumbs sifted over the top. Bake for ten or fifteen minutes more. This is a very wholesome dish for children, as it is nourishing and easily digested.

Old-Fashioned Recipes

LADY BALTIMORE CAKE—Beat into one cupful of butter two cupfuls of sugar; add one cupful of sweet milk, two level teaspoonfuls of baking powder, three and one half cupfuls of flour carefully sifted, the whites of six eggs beaten to a foam, one teaspoonful of rose water and one of vanilla. Bake in a quick oven in layer-cake tins.

To make the filling, take three cupfuls of fine granulated sugar, and dissolve in one cupful of boiling water. Add to it the whites of four eggs whipped to a foam. To this add one cupful of chopped raisins, one cupful of grated pecan-nut meats and six soft figs chopped fine. Beat the whole mixture together, and place between the four layers of cake, putting the plain icing on the top and sides of the cake.

WASHINGTON PIE—Sift into three cupfuls of flour two teaspoonfuls of cream of tartar. Beat the yolks of six eggs to a foam, and slowly mix into them the flour and two cupfuls of fine sugar. Then add the whites of six eggs whipped until frothy, and four teaspoonfuls of sweet milk in which one teaspoonful of soda has been thoroughly dissolved. Beat the whole thoroughly, and bake in a quick oven in jelly-cake tins.

For the filling, take one pint of sweet milk and place in a double boiler to boil. Have ready two eggs—the whites and yolks first beaten separately and then whipped together—and put into the milk the moment it comes to the boiling point, also one cupful of flour. Stir the whole until it thickens. Flavor with vanilla.

Home-Made Feed Grinder

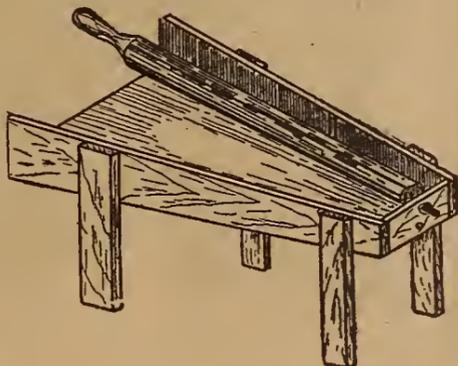
A FEED grinder for grinding corn for young chickens can be made from an old coffee mill. Take the bottom out of it; get a board ten inches wide and eighteen inches long, and nail the coffee mill securely to it. Fasten the mill and board to a bench about four feet long, one foot wide and about twenty inches high. Grind the corn a few minutes, then run through a coarse sieve. Feed the coarse part to the large chickens and make cornbread out of the fine part for the smaller ones. It is known that one woman raised two



Home-Made Feed Grinder

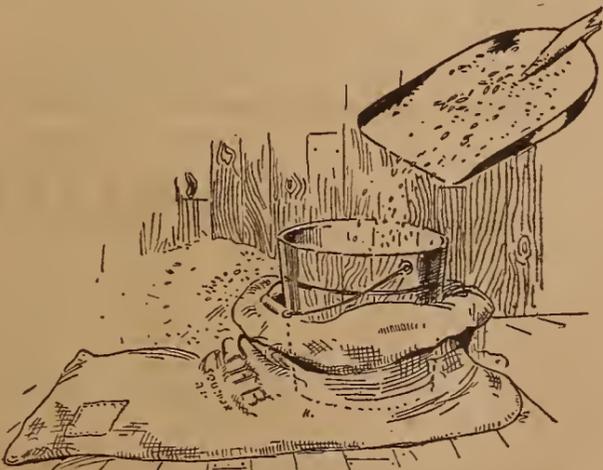
hundred chickens in one summer through this process, and she expects to raise as many more this fall.

This butter worker has been in practical use for some time, and is said to be superior to the high-priced factory butter workers now on the market. The top, or bed, should be of hard wood, if possible. Make the bed about thirty inches long, twenty inches at the wide end and eight at the narrow end. These dimensions are for a small worker, for ten to twenty-five pounds of butter. If you have a larger quantity of butter, make the worker correspondingly larger. Make the lever, or roller, of a three-inch-square stick at



Butter Worker

least ten inches longer than the bed of the worker. It is made with six sides, hexagon shape, one end shaped as shown for a hand hold, and the opposite end has a half-inch pin placed in it. This pin is inserted in the hole bored in the narrow end as shown, and the roller, or lever, moved over the butter with a rolling motion, the water and buttermilk escaping at the narrow end, through the hole shown below the end of roller. A bucket should be placed below the narrow end, to catch this drip. Make the small end one or more inches lower than the opposite end, to insure the water draining away.



Handy Funnel for Filling Bags

Practical Helps

AN EXCELLENT and simple method of making a lamp throw out a clear, bright light is to place a small lump of camphor in the vessel with the oil.

Before sweeping carpets, sprinkle them over with a little moist salt or moist tea leaves. This will restore the brightness of a carpet and also lay the dust during the process of sweeping.

In boiling tough meats, add a small amount of vinegar. This makes the meat tender very quickly and gives a better flavor to wild meats.

To prevent jar rubbers breaking when very stiff, dip them in hot water just before placing on jars.

Fresh lard will remove tar from either hands or clothing. Wash with soap and water afterward.

Red table cloths keep their color if a little borax is added to the rinse water and they are dried in the shade.

When draining fruit juices for jellies, use an iron clamp for hanging the bag to a table or shelf.

To keep potatoes fresh and free from sprouts, place them in a covered box from which all light is excluded.

When cooking vegetables that give out a bad odor, such as cabbage, cauliflower, turnips, onions, etc., a good-sized piece of stale bread may be added. This absorbs the odor.

Uses of Kerosene Oil

PUT a little kerosene in the water when cleaning window panes.

Except for the unpleasant odor, it is an excellent thing for the hair and scalp.

Half a cupful added to the water when mopping up the floor will thoroughly cleanse it.

Two tablespoonfuls put into the wash boiler will loosen the dirt and make the clothes white.

Before varnishing furniture, clean well with kerosene, and the varnish will take much better.

Laundry Hints

SOAPY water used in making starch will give the clothes an excellent gloss.

Black cotton hose should be dried and ironed on the wrong side, to prevent fading.

A tablespoonful of turpentine boiled with the white clothes will make them snowy.

After the clothes are ironed, if they are placed in a sunny window a few hours before putting them away, it will render them sweet and wholesome and free from any odor of starch.

To clean soiled white woolen articles, rub them in hot flour until they are perfectly clean, then shake well, to remove the flour. The rubbing takes some time, but if persevered in, really brings good results.

It is of great help while ironing sheets, white petticoats and other large pieces easily soiled, to spread a newspaper under the ironing board. This will protect the edges from the dust on the floor.

A Handy Funnel

TO FILL a sack with any kind of produce or seed, knock or cut out the bottom of an old pail. Place the pail at the opening of the sack, and fill. The sack can be filled as quickly in this manner as with the help of an extra hand.

Picture Post Cards

PRETTY home-made stereoscope views can be made of post cards having similar designs, either plain or tinted. Slip the cards on the frame, and when the two scenes focus just right, hold firmly and cut through the middle, then mount neatly upon a card of a size to suit the scope.

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Yon take no risk. Send us \$1.00 cash and we will ship you this large and beautiful "Fit-your-back" Rocker. The best value ever offered. Frame is constructed of richly carved seasoned Golden Oak, upholstered in best-sylvan leather, almost like real leather. Back is concave shape to fit your back. Diamond tufted, ruffled edge and ruffled front. Spring Seat.



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UNITED STATES RUBBER COMPANY

42 Broadway, New York, October 1, 1903.
The Board of Directors of the United States Rubber Company has this day declared from its net profits a quarterly dividend of Two Per Cent. on the First Preferred Stock (including all outstanding old "Preferred" Stock), and a quarterly dividend of One and One-Half Per Cent. on the Second Preferred Stock of this Company, to Stockholders of record at 3 P. M. on Thursday, October 15, 1903, payable, without closing of the Transfer Books, October 31, 1903.

Home Knit Hosiery

These stockings can be knit in 30 minutes on Gearhart's 1903 Family Knitter. New machine, improved up-to-date. Knits everything for home or trade, from factory or home-spun yarns. Big money earned the year round. Write and learn what others are doing. Catalog and sample work free. All yarns at first cost. Address, J. E. Gearhart Box 109, Clearfield, Pa.

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A portable, pure white, steady, safe light. Brighter than electricity or acetylene. 100 candle power. No grease, dirt nor odor. Lighted instantly. Costs 2 cts. per week. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog. Do not delay.

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To Get Farm and Fireside Before the Price Goes Up

This is our final decision. We can't put off a raise in price any longer. The first of next year the price of Farm and Fireside will be raised. Then all new subscribers and those old subscribers who fail to take advantage of these generous low-price offers below will have to pay a considerably higher price.

However, to save you money, we are going to give all of our old readers and those new ones who read this page, a Final Last Chance to get FARM AND FIRESIDE at the present low prices below.

Offers No. 1 and No. 2 are the best because they give you most for your money. A dollar now saves you 50 or 75 cents after the first of next year!

And we will put your subscription ahead from the time when it expires, for as long a time as you pay for.

You will get with FARM AND FIRESIDE next year the best reading matter ever printed in a farm paper. And by far the best story we have ever printed, entitled "The Soul of Honor," by Lady Troubridge, author of "The Millionaire," "The Woman Thou Gavest," etc., starts next month. Don't miss it!

The price will soon go up. Don't delay. If your renewal or subscription is received by November 25th we will send you a Special Thanksgiving Gift for promptness—a superb picture of the entire family of either Bryan or Taft, as you prefer. Read about these pictures below. Every home in America, where good citizenship means anything, should have one.



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This picture of Mr. Taft and his family can be obtained only with FARM AND FIRESIDE. It shows Mr. Taft at every stage of his life, from boyhood to the present. In the corners are the other members of his family—Mrs. Taft, Miss Helen, Robert, the older son, and Charlie, the youngest of all. The size of the picture you will get is 7 3/4 x 11 3/4 inches, beautifully reproduced and carefully packed.

This picture of Mr. Bryan and his family has never before been offered to the public. It shows Mr. Bryan at every stage of his public career, including many pictures taken on his trip around the world. In the corners are the other members of his family—Mrs. Bryan, Ruth, Grace and William. The size of the picture you will get is 8 x 11 1/2 inches, beautifully reproduced and carefully packed.

HERE ARE OUR OFFERS

OFFER No. 1
\$1.00

Gives you FARM AND FIRESIDE five whole years—120 numbers—better and bigger than ever—several novels, lots of stories, and in addition a superb picture of either the Taft or Bryan family, without extra cost. See Special Notice below.

OFFER No. 2
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Gives you FARM AND FIRESIDE until February, 1911—54 numbers—better and bigger than ever—several novels, lots of stories, and in addition a superb picture of either the Bryan or Taft family, without extra cost. See Special Notice below.

OFFER No. 3
25c

Gives you FARM AND FIRESIDE one whole year—24 numbers—better and bigger than ever—a novel, lots of stories, and in addition a superb picture of either the Bryan or Taft family, without extra cost. See Special Notice below.

Accept One of These Offers Now, Before the Price of FARM AND FIRESIDE Goes Up!

Rush This Coupon Before November 25th, So as to Get the Bryan or Taft Family Picture.

CUT HERE

FARM AND FIRESIDE,
Springfield, Ohio,

Date

Gentlemen:—Please find enclosed for which I accept your Low-Price Offer No. It is understood that if this coupon is received by November 25th, I am to get with FARM AND FIRESIDE either the Bryan or Taft picture and the entire series of superb full-page color pictures without cost.

Send me the Name

Bryan picture Address

Taft picture State

(Put a cross after the one you want)

CUT HERE

SPECIAL NOTICE!

With every subscription or renewal received by November 25th, we will send, in addition to the Taft or Bryan picture, three beautiful art-proof full-page pictures, reproduced in six colors, post-paid. November 25th is the Limit!

See Page 24 for a Blue Mark

Things to Read Out Loud

Fall Work Among the Flowers

HAVE you got the plants from which you expect to grow flowers this winter ready for the work of the season? We are quite likely to neglect giving them the attention they require at the right time. We forget that it takes a plant several weeks to adjust itself to new conditions, and the consequence is that a plant not repotted until winter seldom gives us any flowers until the winter is nearly gone.

We ought to get our plants ready for winter work early in the fall. Repot such as need it, prune those that are not bushy and compact, throw out such as are lacking in health and vigor, and do everything possible to put the occupants of the window garden in the best condition before the time comes when they are expected to concentrate their energies upon the development of flowers.

Before winter sets in, do your best to get rid of every insect in the window garden. If the aphid, or green plant louse, infests your plants, get some tobacco dust and mix it with water for a spray. It makes a good all-round insecticide. One or two applications of it may not entirely rid your plants of the aphid, but the persistent use of it will soon do so, and after you have the insect in check it will be an easy matter to prevent it from regaining lost ground by an occasional application of the insecticide. You cannot have fine plants unless you keep down the enemies that will prey upon them if allowed to do so.

Many persons write me that their plants grow well for a time in the fall; then the leaves begin to turn yellow, and fall off. They find no insect on them, and are at a loss as to the cause of the trouble. Nine times out of ten a close examination of the under side of the leaves will reveal the presence of what seems at first sight to be a speck of some kind—a tiny red or brown atom, apparently without life. By keen observation you will discover little webs here and there about the leaves, and these "specks" will generally be found among them. If you watch closely enough, after a little you will see that the "specks" are living organisms. These are the red spiders which do more harm to plants than all other insect enemies combined. They suck the vitality away from the plant, incredible as it may seem because of their smallness, and soon ruin it if let alone. The only remedy is water. Use it freely and frequently. Keep the plant moist all over until the spider takes his departure, and then keep on using water to prevent his return. Be sure to get it to the under side of the leaf, where the spider lurks, hoping to escape detection. The hot, dry air of the living room in the fall exactly suits this pest, and this explains why plants that are brought into the house in an apparently healthy condition soon become sickly.

When you dig your dahlias, don't put the roots into the cellar until you have given them time and opportunity to ripen off well. When first dug they are full of moisture, which will surely bring on decay if they are stored away at once. Spread them out on boards exposed to the sunshine. At night cover with blankets, and expose them again the next day. Continue to do this until they show a wrinkled surface and have lost nearly half the weight they had when first dug. Do not break the clumps apart; cut off the old stalks close to the tubers. Spread them out on shelves or racks of wire netting when you put them in the cellar. This is much safer than putting them in boxes on the cellar floor. In a damp cellar they will be almost sure to mold if placed there, and when a dahlia tuber molds, decay is pretty sure to result. By keeping them on shelves or racks we give them a drier atmosphere than that near the floor. If decay is discovered, cut off the affected tuber immediately, before the diseased condition has a chance to communicate itself to the other tubers in the bunch. If the trouble spreads, throw out all bunches showing any trace of it.

Gladiolus roots should be ripened off by exposure to sunshine for several days, as advised for the dahlia. But do not store them in the cellar. Put them into paper bags with perfectly dry sawdust or buckwheat hulls, and hang them in a frost-proof closet.

If you want a charming "hanging basket" of winter-blooming flowers, plant from eight to a dozen roots of the buttercup oxalis in a six-inch pot, and suspend it in your sunniest window. It will give you hundreds of flowers of the richest golden yellow, and continue to bloom until March.

EBEN E. REXFORD.

Deer Farming

IT MAY be interesting to know that deer farming is a branch of animal husbandry that is being given some semblance of a future possibility by the government farm folk at Washington. And why not grow your own venison when it is so much cheaper than buying it at one dollar and fifty cents a pound, especially when it can be produced for less money than beef or mutton or pork, to say nothing of fried chicken?

The market shows quotations for venison ranging from forty cents to one dollar and fifty cents a pound. That's better than raising beef cattle at three to six cents a pound; by all of a deer foot. When domesticated the deer family increase as rapidly as cattle. This is proved by the fact that the Otzinachson Gun Club has nearly three thousand deer in its four-thousand-acre park in Clinton County, Pennsylvania, the same being the natural increase from ninety animals in six years.

The weight of a matured animal ranges from six hundred to one thousand pounds, and they dress with a far less percentage of loss than beef cattle. If they would dress on an average of six hundred pounds, and sell for an average of fifty cents a pound, each carcass would bring three hundred dollars. Then, starting with the modest number of, say, thirty head, the herd at the end of six years would bring in the market the tidy sum of— But that's like figuring on the enormous profit in squabs—before they are hatched.

The deer family includes the whole family of elk, caribou, moose and other species, and certain sections of the country are specially adapted to raising the different species. Elk are probably the best general-purpose animal of the family, and they furnish a fine quality of venison. There are something like thirty or forty thousand elk running and feeding at large in the state of Wyoming and in Yellowstone Park. Out in Arkansas one man keeps a herd of about forty elk that range on rough land covered with hardwood forest and dense underbrush. They act as a forest-improvement association by clearing out a part of the thicket each year. Elk feed on buds and leaves and twigs to a height of eight feet and over, and kill out all brush and young growth of that height. In this respect they are better for clearing up new lands covered with brush and scrub than even goats.

The elk prefers the rankest, coarsest weeds to the finest, most luscious grass and choicest hay. An Iowa deer farmer regularly plants as a crop for their feeding the seeds of the roughest, hardest weeds to supply his herd with the peculiar diet that they prefer.

The heaviest expense in deer farming is the matter of fencing. It is not expensive to stock a deer farm. Zoological parks and private estates frequently sell their surplus stock for as low a price as twenty dollars a head, and a few animals will soon increase to a good-sized herd. A woven-wire fence from four to five feet high will hold a herd of elk, and the cost of a good fence, where posts can be had at a low figure, will run about two hundred dollars a mile. Heavy wild bull elks have to be confined in an extra-strong enclosure, for they are by no means as gentle and docile as fawns; nor is it considered safe for the younger members of the family to get into the enclosure and try to play tag with them, for they are as vicious as they are ferocious, particularly in the breeding season.

To raise them for profit does not necessarily imply that they must be completely domesticated. This applies especially to herds that are kept on "range" or on large preserves with natural surroundings. Some sections of the country are particularly and peculiarly adapted to deer raising—where, for instance, the land is rough and there is considerable underbrush or small forest trees and plenty of pasture grasses and weeds, with, of course, running water easily accessible. A combination of woodland and open country is their delight, although the writer has visited elk ranges that were wholly open—some flat, some rolling land—and others that were wholly wooded.

The greatest obstruction to the deer-farming proposition at present is the statute in some states that prohibits the sale of venison. Also the simple keeping of deer is barred by law in a number of states. However, it is hoped that the statutes may be speedily revised to permit the raising of deer and the marketing thereof as a commercial proposition.

RICHARD MAXWELL WINANS.

A Hallowe'en Frolic

IN THE olden times Hallowe'en was looked forward to with as much enthusiasm by the old folks as by the younger ones. And so it is to-day. Old and young alike gather together on this "witch night," and all the old games and frolics which have been handed down from generation to generation are revived.

If you are planning a Hallowe'en party, here are some appropriate games for the occasion:

The first is a ring-toss contest. The one in charge should be dressed as a witch and stand by a table on which is placed a board about an inch thick and twelve inches square, having candles equal distances apart. The center candle should be taller than the others, and lighted.

Before the contest begins, each guest is given a number, the even numbers to the ladies and the odd numbers to the gentlemen. As their numbers are called, they advance, and the one who succeeds in throwing a brass ring over the lighted candle, without blowing it out, is to have the best luck throughout the year; but if, in the attempt, the light is extinguished, their fate is reversed.

Each of the other candles also have a meaning, as follows:

Red, never wed.
Blue, means a sweetheart true.
Green, lover now on the scene.
White, will have a lovers' quarrel to-night.
Black, have money enough to fill a sack.
Yellow, will catch a right good maid or fellow.
Pink, single blessedness, we think.
Brown, soon will move to another town.

Another game equally as interesting is the test of three charmed cups. Get three large coffee cups, and place under each one a marble—a crystal one, a plain brown one and a pretty china one. Each player in turn should be blindfolded and told to raise one of the cups. The crystal marble signifies a young husband or wife, with a life full of happiness and sunshine; the plain brown one denotes doubtful happiness, with an aged but rich helpmate, with numbered but adventurous days to follow, and lastly the china marble signifies a middle-aged husband or wife, married for love, with a hard and struggling but happy life, rewarded by fame in the end. The marbles should be changed after each trial.

At the conclusion of these games serve light refreshments. The dining room or kitchen might be decorated with harvest things of all kinds—corn stalks, sheaves of wheat, with plenty of jack o' lanterns standing about and hung up everywhere. Very charming jack o' lanterns can be made from small pumpkins cut into queer, funny faces. They can be hung with thin wire, and are most effective.

After supper the guests wend their way to the cellar and seat themselves around a large pan of bright coals. Each one is given a walnut from which the meat has been removed, and replaced by a slip of paper, numbered, and containing the following directions:

1. Recite the first piece you ever learned.
2. Make a pun.
3. Make a statue.
4. Tell your greatest ambition.
5. Bow to the wittiest.
6. Describe your favorite occupation.
7. Tell a joke.
8. If not yourself, tell who you would rather be.
9. Tell the most idiotic thing you ever did.
10. Sing a verse of your favorite song.
11. Give a conundrum.
12. Tell a short story.

These numbers should be responded to by the ones holding them. A small prize of some kind may be given to the one responding most readily.

Song of Returning

Homeward, homeward!
Homeward at last to you—
Adown the vale and the shining river,
With glowing heart and heart aquirer,
From the night to the dawn and the long day through,

To you, to you!
Homeward, homeward!
Love of my heart, your cheeks are wet.
Did the night bring jealous dreams to you,

Saying I might forget?
Homeward, homeward!
Straight is the river's course and true
Through the glad, young hills to you, to you,

Love of my heart, to you!
—Hermann Hagedorn, Jr., in Lippincott's.

Two on 'Em

[CONTINUED FROM PAGE 14]

happen to know that you've been studying up such matters." He added, smiling, "If you know how to make out your fees as well, it'll be better than a year's salary. What do you say?"

Say! Fenton's head swam. It was what he needed. It was just the chance he longed for, but had considered hopeless. It was too good to be true—and some perverse strain in his nature made him hold the matter at bay.

"Why don't you retain your father?" he asked.

"Dad? I'm not going to have the world give him credit for this. Besides, I can get all the help I need from him and not have his name figure in the matter."

"You'll get your counsel from him, and you want me to take the pay," repeated Fenton ungraciously. "No, thank you," he added, as a proud man refusing charity.

"Good heavens, Art, what ails you?" demanded the other, dimly comprehending. "You'll make out your own bill! You can donate your service to the state if you like. Confound it, what I want is your talent for the right question. Can I or can't I have it?"

Fenton went very white about the mouth. "I'll do anything I can for you, Wayne," he said simply. "Thank you. You don't know what this means to me. It just saves me! And there's mother—"

"Rot!" interjected St. Clair, turning on his heel, and refusing to see the tears in his friend's eyes. "Come over to my office and we'll go over the cases at once."

With a swelling heart Arthur followed his lead.

And old Hodds nodded sagely as they waved their hands, boy fashion, to him in passing.

"There they go—the pair; two on 'em!"

The Terrors of English

If an S and an I and an O and a U,
With an X at the end spell Su,
And an E and a Y and an E spell I,
Pray what is a speller to do?

Then if also an S and an I and a G
And a H E D spell side,
There's nothing much left for a speller
to do

But go commit siouxeysighed!
—Success Magazine.

Apple-Tree Lore

"**M**AY the Almighty bless thee with the blessing of grapes and apples!" ran the coronation benediction of the old Saxon kings of England. Apples were then the noblest of fruits, as perhaps they are even in these days, when commerce has brought the rich bounty of the tropics to our doors and the genius and patience of such men as Luther Burbank are continually surprising us with new products of garden and orchard. But in medieval Europe the apple was all-important, and memorials of its importance yet survive in quaint superstitions and ceremonies.

In West Sussex and other parts of England old custom calls for the ceremony of "wassailing the apple trees" to insure a good crop for the coming year—"wassail," as readers of Scott remember, being derived from the old Saxon toast, "Waes hael!" This ceremony consisted mainly in reciting, to the accompaniment of blasts on a cow's horn, the following stave, formula, charm or incantation:

Stand fast, root;
Bear well, top;
Pray God send us
A good, howling crop.
Every twig,
Apples big;
Every bough,
Apples enow;
Hats full, caps full,
Full quarter sacks full,
Hurrah, boys, burrah!

But according to some learned authorities, even this is not sufficient. To insure fruitfulness the sun must shine through the branches of the trees on Christmas Day. Moreover, it must rain on Saint Swithin's Day (July 16th) to "christen the apples," or they will come to naught.

In Courland, Russia, the trees must be struck with a stick on the first day of the Christmas holidays. In Montenegro the charred wood of the Yule log must be placed between the boughs of the young trees. In Vogtland, if the wind shakes the trees well on Christmas, they will bear much fruit, and a hoar frost is also beneficial.



Things Worth Knowing



Uncle Sam's Orchard

FIVE million acres in apples and pears is a pretty fair-sized orchard for our Uncle Samuel to have, even on his great big farm, reaching from ocean to ocean and from the Gulf to the tall and uncut timber of the blizzard-swept North. This does not include the peaches and the cherries and plums and other tree-grown fruits that in themselves make a rather sizable "fruit yard."

While chickens and other farm poultry and the grain crops and the animal industry overreach the fruit-growing business so far that it cannot be said to rank with them, yet it is a very considerable source of income. Like the other branches of husbandry, it will be found as one of the leading industries in some states, while in others fruit raising is not carried on as a commercial proposition. As an example of contrast, it may be noted that while New York State has as many as 2,183,909 pear trees, the state of North Dakota has, according to a census just taken, but three pear trees in the whole state. This difference is easily accounted for by climatic conditions, not by the size of the two states, for the little square on the map known as the District of Columbia boasts of nearly 1,200 trees, while the big state of Wyoming, nearly twice the size of Ohio, and on practically the same latitude as New York, has but 135 pear trees. Michigan totals next to New York in pear orchards, with 1,187,110 trees, and Texas a close third with 1,044,680. Ohio has 921,412 pear trees in bearing, while Missouri, which leads in apples, has but a few over half a million. Montana, on the northernmost boundary of the states where the thermometer takes frequent little toboggan slides down to fifty degrees below zero, counts 8,422 trees as her portion of the grand total of 17,716,184 pear trees in the whole United States, in which the state of California leads with 2,512,890.

Missouri has grown to be the apple state of the Union, having on June last 20,040,399 apple trees in bearing, and the apples she produces are in one respect like her crop of mules—the best ever. New York State, the home of the "big red apple," once the apple kingdom, has to play second fiddle now, and trails along with 15,054,832 bearing trees. The Buckeye State, felicitously called the "United States of Ohio," though noted for her fields of yellow grain and thoroughbred live stock, also as a producer of White House tenants, comes fourth with 12,952,625 trees, just a few under the big corn and butter state of Illinois, which claims 13,450,006 cider fruit-bearing trees.

In Kansas, where the biggest thing they once produced was their crop of untamed cyclones, and where the days of the pioneer are hardly yet to be reckoned with the yesterdays, they have 11,848,070 apple trees in bearing, with close to half a million pear trees on the side.

Pennsylvania, better known for its strikes and coal mines and steel trusts and other things that take place in the newspapers, has, nevertheless, all of 11,774,211 fruit-bearing apple trees, and other hundreds of acres are being planted in that state each year. Michigan, the birthplace of shredded-fodder breakfast foods, comes next with 10,927,899 apple trees; possibly with some hope of raising enough cider to wash down the Battle Creek grit and chop feed. It is well to remember that Maine has nearly five million apple-bearing trees; but hardly juice-bearing apples, surely, for, remembering again, Maine is a prohibition state.

The other states that have large numbers of apple trees are Kentucky, first, with 8,757,238; Indiana, having 8,624,593; Tennessee, 7,714,145; Arkansas, 7,486,145; North Carolina, 6,438,871; West Virginia, 5,441,112; Iowa, 6,869,588; Nebraska, 3,877,329; with New Hampshire, Georgia, Alabama, Wisconsin, Colorado, Washington, Oregon, California, Oklahoma and New Jersey in the two-million class, while six other states have considerably over one million each.

The grand total for the United States reaches the enormous number of 201,794,642 apple trees in bearing, with an acreage fifty per cent greater than the potato crop, and that gives employment in the picking and packing to five times more people than required to dig and store or ship the potato crop.

But the city man who has to pay from twenty-five cents to a dollar and a quarter a dozen for apples in the winter cannot be made to believe that there are one tenth enough apple trees bearing fruit in this country; and probably he is right. The remedy will be found in larger plantings and better care of the orchards that are now planted.

Sky Sailing

SINCE the marvelous flights of the aeroplanes of Wilbur Wright in France and Orville Wright at Fort Myer, near Washington, D. C., the papers have been full of "the conquest of the air." As a matter of fact, the air is not yet conquered. Yet America has a right to be proud of the fact that in competition with the world the Wright brothers—those two young men from Dayton, Ohio—have shown the principles upon which the airship of the future will probably be built.

What is an aeroplane? You know that a kite, though heavier than air, when once started, will fly as long as the wind or a boy running and pulling the cord keeps it in motion. The Wright aeroplane may be considered a big, double decked free kite, driven by screw propellers. It is a sideless box six feet high, the top and bottom being the two kites—horizontal planes of light fabric on wood frames forty by six and one half feet—joined together by a series of light rods. Remember that the long view of this open box is the front. Midway between the planes is the seat for the operator, with his steering levers and the gasoline motor that drives the two wooden screw propellers behind him. In front of the operator, connected by rods, is a steering device consisting of two other horizontal, parallel planes, sixteen by two and one half feet. As these are tilted upward or downward the machine, when once off the ground, will fly up or down. In the back of the machine is a rudder, consisting of two vertical parallel planes, which enables the aeronaut to steer in any lateral direction.

Now, a boy must run with a kite to start it. The Wright aeroplane is started by letting it run on little wheels down an inclined single rail about fifty feet long; as the machine gains momentum the steering planes in front are tilted upward, and the airship soars aloft to sail at great speed as long as the propellers drive it. The sad accident that recently wrecked Orville Wright's machine was due to the breaking of a propeller; the machine thus lost motion, and was dashed downward just like a kite when the string breaks.

On September 12th, five days before the accident, Orville Wright sailed through the air seventy-four minutes, cutting figures of eight, rising to a height of two hundred and fifty feet and attaining a speed of forty miles an hour. He also carried a passenger more than nine minutes. His machine with two men and supplies of fuel and water weighed eleven hundred and fifty pounds.

By these flights Mr. Wright practically proved his ability to construct a machine that will fulfil the stated requirements of the government.

Automobile Farm Machines

THAT the Golden State is an undoubted pioneer in machine harvesting is asserted by Victor Longheed in "The Automobile" (New York, August 6th). Traction engines, he says, have been used in the San Joaquin Valley wheat fields for at least twenty-five years in the production of crops from the thousands of level acres upon which the fame of this great valley is founded. He goes on to say:

"So far most of the engines have been ponderous steam affairs, of prodigious weight and size, ranging up to twenty-one tons, and to such dimensions as twenty-four feet in over-all length, fifteen feet of width and a height of twenty feet. Driving wheels eight feet in diameter, geared to a one hundred and ten horse-power engine, are a commonplace feature, and explain an ability to tow heavy loads over rough ground that is little short of amazing. Plows turning thirty-six ten-inch furrows at once, and harvesters heading, thrashing and sacking sixty-foot swaths from a wheat field, are easily pulled by these machines. As tractors, loads of ore and lumber aggregating seventy-five tons are hauled on two or three trailers, while as much as thirty-five tons can be freighted up a fifteen-per-cent grade. When it is considered that all that is not merely in the way of supplanting the horse, but in work for which the equine proves absolutely inadequate and unavailable, something of the attitude of California's bonanza ranch owners toward farming with power will be appreciated.

"In the more recent exploitation of this field with its internal-combustion engines, the greatest demand seems to be for five to six ton machines."

A Lucrative Nose

MADemoiselle LUBIA BEHREND, one of St. Petersburg's most popular actresses, adds fifteen pounds a week to her income by devoting an hour or two a day to smelling the perfumes manufactured by a leading firm of Russian scent makers. Mademoiselle Behrend is gifted with an exceedingly delicate sense of smell, which renders her assistance invaluable when determining the proper proportions of the various ingredients in a new perfume.

Much of Queen Alexandra's favorite scent—violet—is distilled in Russia. It costs ten pounds an ounce bottle, and it has to run the gauntlet of Mademoiselle Behrend's nostrils as well as those of four subordinate professional "smellers" before it is passed as being correctly blended and ready for her use.—The Tatler.

Sheep Washing

THE washing of mountain sheep is an event of great importance in Arcady. It is an old custom for many flockmasters and graziers to combine for a big wash, lasting several days, at a dub or deep rocky basin in the mountain beck. Sometimes a professional "chucker in" or two is engaged as an important auxiliary to the regular shepherds, but these are invariably supplemented by the owners of the sheep, by voluntary workers, and not a few dogs. First of all, the shepherds devise a plan of campaign for gathering the wandering tribes from fell, moor and garth, every ridge and every dip having to be carefully searched by the curs, whose scent is keen. The shouts of the shepherds can be heard resounding from one hillside to another throughout the day. Eventually the different forces converge at a point where the hamlet can be seen under its field of sycamores, many miles away from where the first collecting was done. The muster of sheep may be several hundreds strong. It constitutes a fine picture, while the sheep are fenced in by men and dogs before being driven into the separate enclosures, which are built of big rough stones mostly washed down the mountain sides. If there are lambs, they have to be separated from the ewes, but all alike soon acquiesce in their narrow bounds, and begin to browse inside the folds, many of the dogs meanwhile sitting as warders on the wall tops.

It is a land of mountain streams, some of them foaming cascade like down the overlapping ridges between the everlasting hills. One of the largest streams—Scalegill Beck—has a swift fall down a stony channel from the high moor, where red grouse may be found in abundance, and a few miles further down it slips under the old packhorse bridge, with one stone arch, at what is called the "town head." Tumbling from ledge to ledge it scoops innumerable basins, called dubs, out of the limestone, and swirls at last into the widest, deepest pool of the series, known from time immemorial as the "wash dub." The sheepfolds are on higher ground near to the packhorse or bridle road which ascends the moor; but a few woolly tenants are kept ready at hand for the operations, immured in a small pen.

Agrippa Hagyard and his assistant, the former a professional washer, or, rather, chucker in of sheep, stand on the gangway at the mouth of the dread alley waiting for their victims. Agrippa looks a very determined fellow, with a shock head of hair, brawny arms, powerful wrists and hands capable of a vise-like grip. The sheep protest against being driven toward this gangway by a dog, but after a scuffle, and possibly a shout, the end of the argument is always the same. Agrippa grabs his unwashed victim by the "scruff" of her neck, by the mane or a leg, minding not how he gets kicked so long as the sheep does not make his position appear too ludicrous. At last, with an easy but lusty swing, he heaves her, neck over crop, into the dub below.

She goes in with a plunge and a splash, and Agrippa gets slapped all over with water as yet pure, his yellow-green waterproofs and leggings not intercepting it quite all. Around and around twirls the ewe, but next moment her head and neck reappear above water, her eyes wide open. Two shepherds stand in readiness facing each other on the shelving bank, armed with curious implements called washers. One of them is a long pole with a cow's horn fastened to the end of it, the other a kind of old hayrake without teeth, the crosspiece having a concave curve adapted to the shape of a sheep's back. These implements are plied to frustrate the sheep's efforts to swim ashore, also to give the sheep several duckings, to roll her over, belly, back and flank, to rub the thick, matted fleece, and if she shows any sign of becoming exhausted from the increased weight of her sodden wool, to quickly thrust her ashore.

While the shouting, barking and bleating go on, another member of the newly purified mob is observed clambering ashore every minute or two where the dub is shallowest. Whether ewe or ram, the drenched creature stands stockstill for half a minute, panting and looking utterly miserable, while the water streams off her hanging wool; though sometimes she will shake it off in showers. With the last few dribbles she ascends leisurely the green bank to swell the ranks of the purified, looking anything but grateful for the service that has been rendered.—London Globe.



Which ?

Uncle Sam—"Great Scott! they won't both hatch!"

Practical Pattern Fashions



IN REPLY to many letters of inquiry about the new sleeves for the autumn and winter, Miss Gould, the fashion editor of FARM AND FIRESIDE, says: "The sleeve is always a difficult subject. No sooner is one style adopted than another style springs up to take its place. Nothing in the world looks so old fashioned as an old-fashioned sleeve. The new-fashioned sleeve is close fitting. It is long—oh, very long for street wear. It is short for evening wear—so short, indeed, at times as to not deserve the name of sleeve at all. The sleeve of this season is often made of a different fabric from the gown. For instance, tucked satin sleeves in cloth gowns are quite à la mode.

"It ought to be a comfort to the thrifty woman that she can use left overs from her piece bag in evolving many of the modish sleeves. A large number of the up-to-date sleeves are close fitting, laid in tucks or gathers, and they have a slashed drapery, forming a sort of oversleeve, I might say, which is frequently braided. So you can readily see that the foundation might be an old piece of material.

"A word of caution to the wearer of these new sleeves: For many years the size and shape of the arm has not counted. This year they do count, for the contour of the arm is closely revealed. Hence, if the arm is either very thin or very fat, there should be some modification of the prevailing style. With the exception of sleeves for evening gowns, it is the long sleeve that is now the fashion. For afternoon gowns, the upper portion of the sleeve may be of broadcloth and the lower part of net or chiffon cloth the same shade."

No. 1202—Tailored Waist With Tucked Front

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and three fourths yards of twenty-four-inch material, three and one half yards of thirty-six-inch material, or two and one half yards of forty-four-inch material.

We will furnish a pattern for the three designs illustrated on this page. The price of each pattern is ten cents. Send all orders to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

It is the tailored designs in shirt waists that are the most fashionable this season, and the new waists are shown in fascinating variety. They are made up not only in the heavy luster cottons, but in French flannels and taffeta silks. The majority of the smartest of these waists are severely plain. Some have buttons as their sole trimming, and others show a little decoration in the way of silk braid.

The shirt waist here pictured is Pattern No. 1184—Plaited Waist With Pointed Plastron. The pattern costs ten cents, and is cut in sizes 32, 34, 36 and 38 inch bust measures.

This waist would look particularly well made of flannel, with silk braid the same shade as the flannel for the trimming, with either braid or gilt buttons. It is also an equally good model for a silk waist or one of mercerized madras or cotton cheviot. A dark satin waist made in this style would be particularly the mode this season and would be in better taste to wear with a tailored suit than a white waist.



No. 1206—Tucked Wrapper With Pompadour Neck

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, eight and one fourth yards of thirty-six-inch material, or seven and one fourth yards of forty-four-inch material.

Fables of Noah's Ark

HEREIN are a few of the many tales told in many tongues of the first sea captain's first voyage:

Now, when the Ark was floated, there were neither mice nor cats on board; but, in order that they might devour the waste and offal that accumulated, mice were specially created from the dark clay of the jungle wallows brought in on the huge feet of the Elephant. And so frightened was the Elephant when he saw the little creatures springing from his feet, that to this day are all elephants afraid of mice.

As the days went by the mice increased and multiplied to such an extent as to become a nuisance, but no one could catch them. Then went Shem, the son of Noah, up unto the Tigress, and tickled her left nostril with a feather of the Bird of Paradise. And lo! the Tigress sneezed a mighty sneeze, and forth from her left nostril sprang a small, furry creature, like to the Tigress, that leaped upon the mice and devoured all save two. And this was the First Cat. Moreover, because the Cat was born of a sneeze in the greatest of all rains, do all cats, to this day, sneeze before the coming of rain.

Now it befell that at the beginning of the voyage there was a leak in the door of the Ark because of a knot hole, and the wind and the rain came in. Then went Noah's faithful Dog and thrust his black nose into the hole, stopping that leak through all the long forty days and forty nights. And because of the coldness of the wind and rain the nose of a healthy dog is always cold.

Of birds it is told that the Magpie would not enter the Ark, but sat upon the ridgepole and chattered and scoffed over the drowning world; wherefore is the Magpie in evil favor among men. Also it is said that when the rain had ceased, Noah first sent out the Raven to look for land. And the Raven was then a fair white bird with a pleasant voice and an even flight. But the Raven proved false to his trust and stayed abroad to feed upon carrion, and did not return. Wherefore did Noah curse the Raven so, that the Raven became black, its voice is a croak, its flight is crooked, and it avoids the homes of men.

Moreover it is told that when Noah sent out the Dove for the first time it was the first of April, and as the Dove was sent out on a bootless errand, this was the first April Fool.

The Common Lot

BY EUGENE C. DOLSON

Not always ours to choose the way we go,
And yet, perchance, as toward the goal we tend,
Custom will smooth the road, and we may grow
To prize our unsought life work in the end.

Oxford Grey Coat \$1 Sweater



Just to introduce our wonderful Sweater values, we will send, prepaid on receipt of \$1., this heavy Oxford Grey Coat Sweater, in the very latest style, exactly like cut. (Only one Sweater sent to the same name and address.) This Sweater is identical to those sold at the stores for \$2.50 and more, and is the greatest Sweater value ever offered to the public. Write plainly and give chest measurement. Send your order to-day.

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TO AGENTS

This season we will pay our workers over \$75,000 on our guaranteed income plan. For prizes alone \$25,000 has been set apart and there are rare opportunities for ambitious men and women to make big money. Even solicitors who give up part of their time are delighted with the results, while some hustlers have netted over \$2,000 in the last twelve months. Would you like to know how they did it? Address

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Department C

Madison Square, New York City

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Our new Fall Catalogue cannot help but be invaluable to the woman who makes her own clothes. We will send it to your address for four cents in stamps. Order patterns and catalogue from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

The Price of Each Pattern is 10 Cents

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

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We will give any two of these patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern, for only 30 cents.

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PERFECTION Oil Heater

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You can carry it about and care for it just as easily as a lamp. Brass oil font holds 4 quarts burning 9 hours. Handsomely finished in japan and nickel. Every heater warranted.

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Farm Notes

The Proposed National-Bank Law

You have printed a number of good things from your correspondent "Fred Grundy," and among them is the first paragraph of his article on "The Farmer's Duty in Practical Politics," but I think the second paragraph shows that he has not fully considered the question of guaranteeing bank deposits.

The proposed law guarantees the deposits in national banks and very few farmers have any reason for putting any great amount of money there. A prudent man who is laying up money for his old age will naturally deposit it in savings banks, which are, as a rule, more carefully managed than banks of deposit, and the proposed law does not apply to them.

Almost every one who has money to deposit is able to choose between two or more banks, and he should exercise the same care that he would in lending money to an acquaintance or selling his produce on credit—that is, make some effort to find out the kind of men with whom he is dealing. Some bank officers are disposed to be careless, and as it has already been pointed out, such a law might make them still more careless, for they would tell their depositors that their money was safe anyway.

Possibly at some future day a good law in this direction may be framed, but not until the subject has been carefully studied by experienced men capable of considering all sides of the question. It is a matter of business, not of politics. In a great many cases more harm than good has been done by hasty legislation by men whose intentions were good, but were without experience in those special subjects.

FARMER.

What the Young Man Should Do

AN OHIO subscriber says he has a small farm and makes a specialty of fruit growing. He has a good home and the place is clear of debt. He is now making a little surplus above expenses, and for this he can obtain four per cent in a good savings bank. He would like to know if this is the best he can do with it. If the bank is safe and sound, I think four per cent is all right. This is a steady thing, and his money is at his call on short notice if he sees a good bargain in real estate. I am well satisfied that it is only a matter of a short time when all depositors in banks will be made safe by law. Their deposits will be guaranteed by state or nation. Then, one's money will be safer in a bank than anywhere else in the world. Then, every dollar of surplus working men earn will go into the banks and into business, instead of into hiding and out of business.

This man asks another question. He is very much interested in a young lady friend, and he wants to know about how much surplus he should have on hand before taking her as a partner. That is a difficult question to answer.

I have seen men with a surplus of some thousands take such partners, and in five years be practically bankrupt. Then I have seen others with little more than enough to begin housekeeping take partners, and in a few years grow into comfortable financial circumstances. Much depends upon the man, and a great deal upon the partner. If a man is fairly supplied with good common business sense, and the partner understands household economy pretty well, there is no reason under the sun why they should not make much better progress together than singly. Give a steady young man, with a reasonable show for making a living, a partner that has his interests at heart, and he is

almost sure to climb financially, morally and socially. He should be certain that the partner understands her part in making and keeping a home. If she does, he needs very little surplus to begin business on. If she has ideas away above his circumstances he would better look a little farther. Some young ladies value their skill in knocking a tune out of a piano far above that of preparing and cooking an appetizing meal economically, and these are good things to steer clear of. Not that music isn't nice, but that good food is better. Skill in duties comes first; in amusements next. I would suggest to "Subscriber" that if his friend is a sensible young woman, well posted in the art of home making, he induce her to make an early date.

F. G.

The Dog Question

A FEW parties have thumped me quite hard because I am opposed to sheep-killing dogs—because I would tax out of existence the cur, the mongrel and the ravening beast that goes into a farmer's pasture in the dead of night and kills his sheep. There are not many sheep owners who would object to paying a tax of five dollars on their own collie, if by doing so they could rid the locality of the curs and mongrels that infest it. But it is not likely that the Tiges and Carlos and Petsys and Dandys will be legislated out of existence very soon, so my friends may roll down their sleeves and resume their coats.

FRED GRUNDY.

In the Back Office Your Last Chance

During the next few weeks our readers will have their very Last Chance to renew their subscriptions to FARM AND FIRESIDE at the former low prices. We have decided to increase the price the first of next year. After that all new subscribers and those old subscribers who fail to take advantage of this liberal Last Chance will have to pay a considerably higher price.

If you want to save money, subscribe now. A dollar will bring you FARM AND FIRESIDE for five long years—one hundred and twenty big numbers—at a cost of less than a cent a number! FARM AND FIRESIDE is going to be better and better every year. It's worth a lot more than we ask.

See our liberal offers on page 20. They are good only for a short time. The colored art-proof pictures alone are worth more than we ask you to pay for your subscription.

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Springfield, Ohio, November 10, 1908

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The Commission on Country Life

BUT what of the men? This is the question asked by all interested in the Commission on Country Life appointed by President Roosevelt. Every one who has followed the daily and the agricultural press knows of the great interest in the "rural uplift" idea now before the public. This is the day of investigation. No phase of life escapes it. The eternal question "Why?" winds itself about all successes and all failures. When tillers of the soil from which we draw our sustenance become dissatisfied and turn their backs on the farm and farm life, it is time to ask "Why?" of them.

The men who have been selected by President Roosevelt to ask this question—in other words, to serve on the Country Life Commission—are: Prof. Liberty Hyde Bailey, director of the New York Agricultural College, Cornell University, chairman; President Kenyon L. Butterfield of the Massachusetts Agricultural College; Gifford Pinchot of the Forest Service, United States Department of Agriculture; Walter Hines Page, editor of "The World's Work," New York City, and Henry Wallace, editor of "Wallaces' Farmer," Des Moines, Iowa.

The members of the commission serve without any pay whatever. They are not even allowed postage money. Naturally the commission must do considerable research work, and carry on a great amount of correspondence with farmers. Not one of the men selected by President Roosevelt will treat the matter lightly. Each one has a world of accumulated information at hand. Each has spent years in studying agricultural conditions and social and economical questions. Each is prepared to use this information to relieve the situation of the moment, to graft the best of the new methods upon the best of the old, or, if necessary, to pioneer into new, experimental ways.

Liberty H. Bailey

There was some doubt at first as to whether or not Professor Bailey could be secured to serve on the commission. Already loaded to the ground with heavy and important duties, he could not see his way to accepting the President's invitation. Finally, however, he rearranged his program for the autumn and accepted the chairmanship. Professor Bailey is one of the most widely known writers upon agricultural subjects. His latest authoritative work is the "Cyclopedia of American Agriculture," the fourth and last volume of which is now in press. He contributes widely to technical journals and popular magazines. Some of his best-known books are: "Survival of the Unlike;" "Evolution of Our Native Fruits;" "Lessons With Plants;" "Botany and Elementary Textbook for Schools;" "Principles of Fruit Growing;" "Principles of Vegetable Gardening;" "Plant Breeding;" "Garden Making;" "Horticulturalist's Rule Book;" "Principles of Agriculture;" "Nursery Book;" "Forcing Book;" "Pruning Book;" "Practical Garden Book;" "Cyclopedia of American Horticulture (four volumes);" "The Nature-Study Idea;" "The Outlook Idea." Professor Bailey is the editor of the "Rural Science" series, the "Garden Craft" series and other noted technical

works. With all his book writing and the amount of study and concentration it involves, he is director of the New York College of Agriculture and director of the Cornell University Agricultural Experiment Station.

Professor Bailey is a Michigan man. He was born at South Haven, Michi-

gan, March 15, 1858. As a farmer's boy he was always interested in studying botany, horticulture and agriculture. He was graduated from the agricultural college of his state in 1882. He spent one year as assistant to Asa Gray, at Harvard, returning to the Michigan Agricultural

College as Professor of Horticulture and Landscape Gardening. He became connected with Cornell University as Professor of Horticulture in 1888, and has been director of the College of Agriculture since 1903. President Roosevelt could hardly have selected a more capable chairman for the Country Life

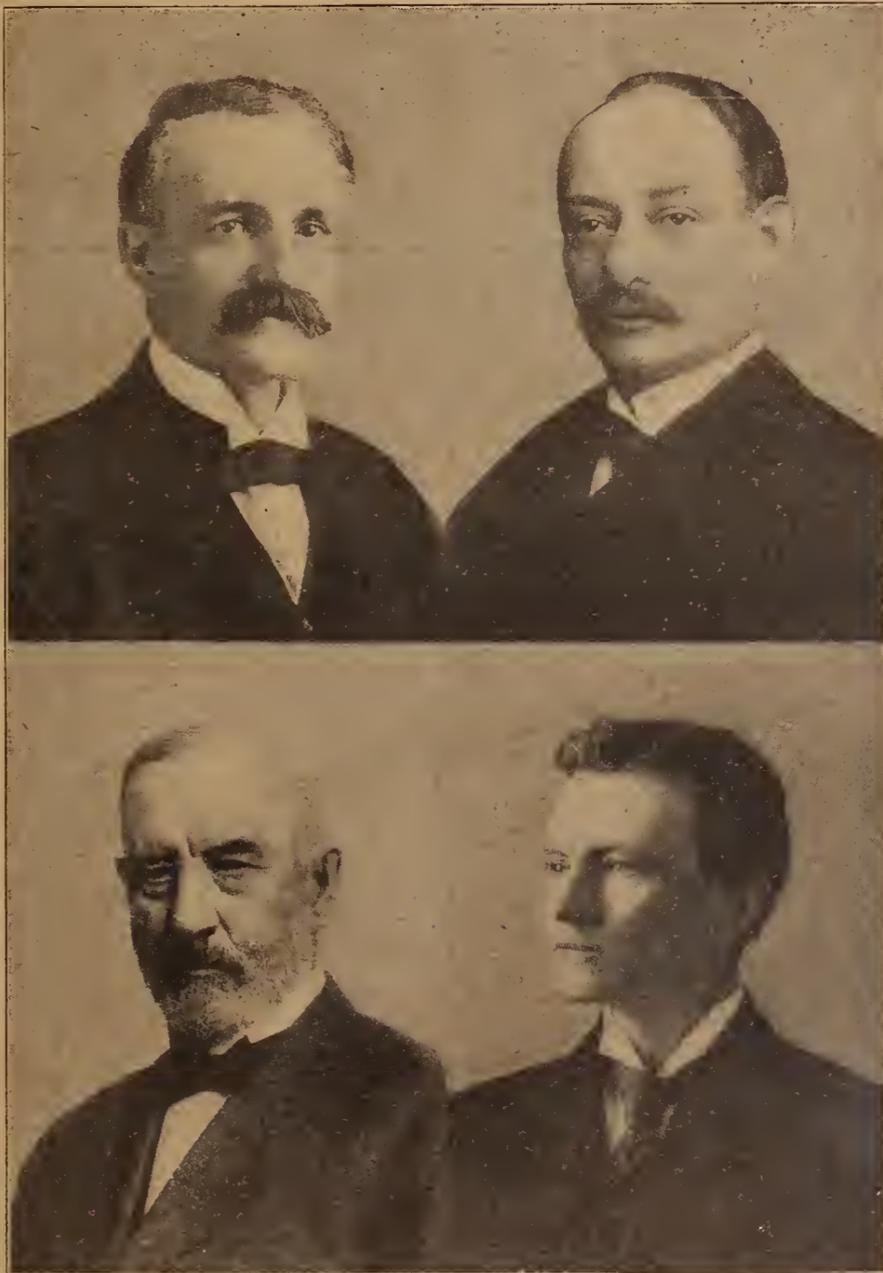
a Middle West state. The East will honor him because he is the head of an Eastern College of Agriculture and stands high in technical literature.

It was Michigan, you know, which founded the first agricultural college in America. Congress has repeatedly enacted laws to help the several states in establishing and maintaining agricultural and mechanical colleges. It was at the semicentennial celebration of the founding of the first agricultural college in the United States at Lansing, Michigan, May 31, 1907, that President Roosevelt delivered the address "The Man Who Works With His Hands." This address contained the major part of the ideas that impelled the President to form the present commission.

Kenyon L. Butterfield

President Butterfield of the Massachusetts Agricultural College is a native of Michigan, too, having been born in Lapeer, that state, June 11, 1868. After attending the Lapeer and the Port Huron high schools he went to the Michigan Agricultural College, nine years later than Professor Bailey. He was graduated from the agricultural college in 1891, and then studied in his state university from 1900 to 1903, receiving his M.A. degree in 1902. He began to identify himself with agricultural colleges in 1891, when he became secretary of the Michigan College. He was editor of the "Michigan Grange Visitor" and the Grange department of the "Michigan Farmer." Then he went into the work in earnest. He held the office of superintendent of the Michigan Farmers' Institute from 1895 to 1903 and was college field agent for the state agricultural institution for three years. Answering "The Call of the East," he accepted a position with the Rhode Island College of Agriculture and Mechanic Arts. For the past few years he has been president of the Massachusetts Agricultural College. Since June, 1906, he has been collaborator in charge of the agricultural division of the Department of Economics and Sociology of the Carnegie Institute. President Butterfield has written a book on his investigations and experiences along the lines of the Country Life Commission, entitled "Chapters on Rural Progress." He is a member of the American Sociological Association, the National Educational Association, the American Society for the Promotion of Industrial Education and an honorary member of the university clubs of Providence, Rhode Island, and Boston, Massachusetts. He has written bulletins of the Michigan Farmers' Institute and contributes to magazines, agricultural journals and newspapers.

President Butterfield says: "So far as the work of the commission is concerned, I feel that President Roosevelt has shown remarkable insight in his statement of the rural problem, and has by his letter raised the question to the highest rank. Of course, a great many people have felt that the problems connected with our agricultural industry and rural life were important, but they had not regarded them as needing the attention of thoughtful people. From now on, those of us who are particularly interested in these



Gifford Pinchot, Forest Service,
Washington, D. C.

Walter Hines Page, Editor "World's Work,"
New York.

Henry Wallace, Editor "Wallaces' Farmer,"
Des Moines, Iowa

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Commission. Professor Bailey not only knows the science and the book lore of agriculture and its kindred subjects, but he knows farmers, having a wide acquaintance with them in all sections of the country. The West will have confidence in him because he is a native of

problems are assured of a hearing from all of those who care for the consideration of the really fundamental questions underlying America's future welfare."

Gifford Pinchot

Gifford Pinchot is chief of the United States Forest Service. Mr. Pinchot hails from Connecticut. He was born in Simsbury, August 11, 1865. He was educated under the blue flag of Yale, being graduated in 1889. He went abroad and delved into the secrets of the forests in several foreign countries, including France, Germany, Switzerland and Austria. He received the degree of M.A. at Yale in 1901 and at Princeton in 1904. He has served on many different committees and has served each splendidly. You hear much of the "Conservation of Natural Resources" around Mr. Pinchot's offices and much about the opening of the inland waterways, as well as of the preserving of the forests. He renders valuable service on government scientific work, on public lands, department methods and other committees. He writes government bulletins on forestry and is the author of "The White Pine" (with H. S. Graves), and of "The Adirondack Spruce."

Mr. Pinchot, himself a millionaire, works as hard for Uncle Sam as if he were dependent on the salary he receives. This salary about equals his private income for a week or two, and he uses it in paying for a good secretary. As forester Mr. Pinchot lived among the country people, sleeping on the floor at night and hearing their life stories. It is Mr. Pinchot's belief that the work of the commission is to educate as well as to create new institutions. The people must be inspired to wish for better road laws, better school laws, better corporation laws, better transportation and communication, co-operation in buying and selling, elimination of the middleman, and many more things that stand for physical comfort and mental elevation. Once the people understand the meaning of these improved conditions, there will be little delay in establishing the desired reforms.

Walter H. Page

It is a well-known fact that the people who are the busiest are the ones who find time to do the most extra work. Perhaps this fact governed President Roosevelt in his selection of the men for this important commission. When a man whose daily tasks are stupendous, is asked to serve on a national commission without any pay whatever for his service, you may be sure the man who accepts the trust is a true patriot. I was impressed with this fact in a conversation I had with Walter Hines Page, editor of "The World's Work." Mr. Page's reason for serving on the commission is on the line of the famous "England expects every man to do his duty." Mr. Page holds that when the President of the United States honors any man by asking him to serve on any public committee, the United States expects that man to do his duty—to be a patriot in works as well as in sentiment. We have reason to believe that the other gentlemen on the commission are serving for the same grand reason that actuates Mr. Page, and somehow one feels glad and confident when men like these take hold of a public question.

Mr. Page is a native of North Carolina, "The Land of the Sky." Perhaps its bright sunshine and blue skies have something to do with his geniality. He was educated in the Bingham School and Macon College and the Johns Hopkins University. Mr. Page is a great student and thinker and a man of wide information. He edited "The Forum" from 1890 to 1895 and then became literary advisor to Houghton, Mifflin and Company. He became editor of "The Atlantic Monthly" in 1896, and since 1900 has been editor of "The World's Work." He wrote "The Rebuilding of the Commonwealth."

Henry Wallace

In inviting Henry Wallace, of Des Moines, Iowa, to act on the commission, President Roosevelt honored one of the originators and promoters of the "rural uplift" idea.

Mr. Wallace was born on a farm in Westmoreland County, Pennsylvania. He was educated for the ministry in the United Presbyterian Church, and from 1866 to 1876 preached at Rock Island, Illinois, and Davenport and Morning Sun, Iowa. Because of threatening tubercular trouble he was obliged to give up the ministry, and having a love for agricultural pursuits, he naturally turned to farming, purchasing a number of farms in Iowa and driving from one to the other, giving them close personal supervision. From that time until this he has owned one or more farms and has been in the closest possible touch with farm problems. Early in the eighties he began to write on agricultural topics, and finally became interested in agricultural journalism. In 1895 with his two

sons he started "Wallaces' Farmer," which has come to be generally recognized, even by its competitors, as one of the best-edited agricultural papers in the United States. A few years since Secretary of Agriculture Wilson said of him: "Henry Wallace is the ablest agricultural writer in America, if not in the world. 'Wallaces' Farmer' is doing more for the Northwest than any other paper I know of."

Mr. Wallace can claim to be the originator of the special train idea as relating to agriculture. In 1896, in company with State Dairy Commissioner Boardman and H. C. Wallace, he spent a week on a special train furnished by the Rock Island for the purpose of stimulating interest in dairying along the Iowa lines of that road. Meetings were held at each of the towns on the Des Moines Valley division. This was the first special agricultural train, so far as can be ascertained. When Professor Holden, the corn expert, was invited to come to the Iowa Agricultural College, it was found that the funds of the college were not sufficient to pay Professor Holden a salary large enough to secure him, and it was a question of raising some money outside the college funds or losing Professor Holden. The matter was submitted to "Wallaces' Farmer," which agreed to itself pay a part of the money needed and to raise another part, and as a result Professor Holden was brought to Iowa. A year afterward Mr. Wallace and Superintendent Given of the Rock Island Road inaugurated the first special corn train, securing Professor Holden to accompany it. Mr. Wallace has written a number of books on agricultural topics, one of which is "Uncle Henry's Letters to the Farm Boy," which has had a circulation of over fifteen thousand copies. He is generally known throughout Iowa and the states adjoining as "Uncle Henry."

LAURA A. SMITH.

It is Better to Educate Than to Condemn

THE articles we still quite often see in papers and magazines about the isolation of the farmer, and his humdrum life, read very much like the weather prognostications in a last year's almanac. In comparing the life of the farmer with that of a city man the magazine writers make the mistake of comparing his home and its surroundings and conveniences with those of men who are wealthy. They have nothing to say about the tenements, crowded from top to bottom; not a word about the places where nine out of ten workingmen live without either comforts or conveniences. Compared with these places the farmer's home is, in fact, a castle.

In almost all the good farming sections of the country the farmer now has his mail delivered at his door daily, and he has a telephone in his house and can talk to friends and business men far and near, no matter how the roads or weather may be. He has a daily paper and one or more of the best magazines, and he and his family are about as well informed concerning what is going on in the world as most city people. He has pure air to breathe, and that the city man has not. He has good water and the freshest of fruits and vegetables for his table, the purest of milk and sweetest of cream and butter, and his slumbers are undisturbed by the bedlam of noises heard in the city. He should be the healthiest man in the world, and would be if he would take a little more time to his eating and resting, avoid unnecessary exposure, and let alcoholic liquors and tobacco alone. He should be the most comfortable, and would be if he would take a little more time to make himself comfortable. Improved machinery has given him more than double the time he formerly had for these purposes. He should be the happiest, and will be if he and the members of his family carefully avoid the run-into-town-every-evening disease. This disease—it is more of a disease than a habit—will create more discontent in a family and cause the wife and mother more worry and anxiety than all other things besides, and will surely destroy the home life of any farmer.

Rural Life Commission

I note that a "commission" has been appointed for the study of means to improve country life, to make it better, fuller, broader and more attractive. It is to study means for doing just what the Grange has been doing for several decades: Establishing social centers in rural communities; establishing libraries, lectures and other means of promoting intellectual interests; promoting co-operative buying—just what the catalogue houses have been doing for more than twenty years; propagating interest in a parcels post. Of what value will this be while such men as Cannon and Overstreet control postal legislation. Thousands of petitions for a parcels post have been sent to Congress to be thrown into

the waste baskets of the committee on post offices and post roads. What sense is there in cultivating an interest in what cannot be had? It would be more businesslike to propagate an interest in putting such men down and out, and filling their places with men who are progressive and up to date, and will give us these things.

What Will the Farmer Think of It?

Whether farmers will take kindly to the efforts of this commission is a question. I am inclined to think that the farmer is amply capable of working out his own salvation in these respects without the suggestions of any commission. The manufacturers of our improved and labor-saving machinery are now sparing neither money nor effort to call the attention of farmers and farmers' wives to their wares. And farmers are not slow purchasers when they find articles that save time or labor or promise to be more efficient than those they now possess. It is true that the wives of farmers who are in debt, or are tenants, have a rather hard time, because they are unable to buy machinery or hire help; but this is the case in all vocations. The wives of farmers who own their farms have about as easy a time as those in similar circumstances who live in the cities. They have improved machinery, the same as their husbands, and are able to accomplish a great deal more work in a short time. It is safe to say that there are ten improved labor-saving implements in the average farm home now where there was only one twenty years ago. The farmer's wife will not thank the commission for suggestions that indicate that she is a back number and badly in need of instruction in housekeeping. She is a reader, and has good literature to read, and is about as well informed as her town sister, and vastly more kindly in her demeanor toward strangers with whom she is thrown in contact.

No Guardians Needed

I rather think that the farmer and his wife require no set of guardians to look after their welfare, and this new "commission" will find itself much more ornamental than useful. The farmer has asked time and again for a liberal parcels post to enable him to procure from the cities goods that his village merchant does not keep, or charges two or three prices for, and to enable him to ship small packages of his produce at reasonable rates, but this boon has been refused him. If the President had appointed a commission to see that he got this one thing, and got it quickly, he would have benefited him ninety per cent more in one year than this ornamental commission can in twenty-five. But Congress has done something along the line of establishing a parcels post, and we should rejoice to some extent. It has arranged a parcels post to some foreign countries that is quite liberal. If one of our friends desires to send a package weighing a few pounds to a friend in a nearby town, and is in no particular hurry for it to get to him, but does not want to save postage, he should send it by parcels post to England, and have somebody over there send it back to the friend.

If anybody is in doubt about the farmer's attention being properly called to the latest labor-saving devices manufactured, all he has to do to have that doubt dispelled is to attend one of our state fairs. Let him go as a farmer and hearken to glib-tongued representatives, then carry away their circulars and catalogues, and read them. He will be satisfied that the mechanical needs of the farmer are being looked after pretty thoroughly. The implement manufacturers and dealers are not letting farmers lack information in regard to labor-saving devices. If one thinks for a moment that any of the farmer's interests are being neglected in any respect, let him pick up any good agricultural journal and carefully look through its pages. He will find that the farmer and his wife have access to the best and latest information on all matters that pertain to his and his family's welfare.

The farmer who fails to avail himself of this information belongs to the same class that the city missions are looking after, but he will not remain in that class long. I can well remember the time when not a farmer in the neighborhood took an agricultural journal. Now, eight out of ten take one or more. I know several farmers who have subscribed for agricultural papers to be sent to others in the locality who were behind the times. And it is wonderful how these journals brighten up the younger members of these families. If any reader of FARM AND FIRESIDE wants to do a little effective missionary work along this line he should send this paper a year to such people in his neighborhood as appear to need instruction in better farming, better housekeeping, and better methods generally. It is more satisfactory to enlighten, and thereby elevate, ignorant people, than to condemn them.

FRED GRUNDY.

Farmers Should Own Their Land

IF MANKIND from city and village were summoned together and asked the question, "What change in your present method of securing a living would you desire?" there is little doubt that the answer of a large majority would be, "A farm." Perhaps the only exception to this general rule would be the successful professional and business men, and even many of these have it in their minds that when they have accumulated enough money to afford it, they will buy a farm and begin with their families the real enjoyment of life in the country.

This is the highest aspiration of millions of employees in factories, furnaces and mines, and of the other toiling millions in the busy industries of our great cities. It seems to be natural for mankind to gravitate toward the country and the soil. But it is strange that there are millions of our people who in their experience have known little of life elsewhere than on the farm, are pining for the city, anxious to leave the farm and the free, independent life in the country, and to enter the life of the city, to tempt its dangers and to woo its misfortunes in the great contest for an existence. This only illustrates that peculiar bias of the human mind that imagines that every other one's burden is lighter than their own; while if an exchange of conditions and burdens were effected, it would be followed by a fearful awakening to a realization of actual facts and conditions that would in many cases be appalling.

But aside from all sentimental considerations, most people have a desire to own land, although not all, by any means, who cherish this desire and ambition will be able to realize its gratification, because there is not enough land to go around, nor anywhere near it. There is another fact that must be considered—that is, it will not be long until land prices will be so high that millions who might buy a small farm now will not be able to secure a farm of any size in the future.

The time when "Uncle Sam" was rich enough to give us all a farm is about passed. Not because our venerable uncle is less generous, but because his domain is about exhausted. Since 1863 he has given away to actual settlers 1,456,525 farms of one hundred and sixty acres each, a body of land embracing 28,344,000 acres, or twenty-eight per cent of all land classified as farms in the United States. Besides this vast empire of land, Congress has passed laws granting to railroad corporations nearly as much of the public domain as that claimed by actual settlers. During the last ten or fifteen years there has been unusual activity among farmers and people in general to acquire land. From 1900 to 1904, a period of four years, fifty-three million acres of government land have gone into private hands, besides what has been practically stolen by land sharks and other favorites of those entrusted with its safe keeping for legitimate settlers.

The prodigal donation of public lands to corporations and moneyed syndicates in the past forty or fifty years is now beginning to be realized when fifty thousand American farmers crossed the line into Canada in search of homesteads, and became identified in the great work of developing the resources of a foreign country. But aside from these conditions there is no better investment offered for safety and continuous enhancement in value than in land.

When government land is exhausted, when no more free homesteads are available for settlement, what will be the result? Land will become like any other commodity which is limited and for which there is an unlimited demand—it is bound to increase in value when the supply is no longer equal to the demand. That is one of the rigid laws of trade and traffic throughout the world. Land will be no exception to this general rule. With an ever-increasing population demanding more land for occupation and for maintenance in all the necessities of life each year, the price of land will increase as the population of this country increases and gains ascendancy and the per capita share of land will grow less.

Then the policy of this country should be to encourage the purchase of land by the congested population of our large cities—those, at least, who have any money; and those who have no money should be helped to colonize on what land there is left, that their children may become useful citizens. To those who have money to invest there will never be a time when they can buy so much land for so little money. During the last decade land values increased throughout the United States from forty to sixty per cent. That this rate will continue for years to come is doubtless a foreign conclusion. But aside from all matters of speculation, there are those essential elements of safety and stability in the farming population that our country needs; and the more farmers we have, the longer and happier will be the life of our republic.

S. J. LOGAN.

Around the Farm

Items of Interest and Value to the Progressive Farmer

Management of Clay Soils

CLAY soils possess a wonderful wealth of natural fertility, but unless the conditions are favorable this fertility remains in an unavailable condition. In the management of clay soils the practical point for us to bear in mind is the fact that we must modify soil conditions so that this locked-up fertility may be made available to nourish the growing crops.

These stored-up elements in the soil are so much potential energy, which by our methods of cultivation and management may be converted into active energy. We must therefore adopt such methods as will conserve and preserve this stored-up fertility, except such as is necessarily required to produce profitable crops from year to year.

Drainage of Clay Soils

Clay soils must be properly drained before they can be brought under a profitable system of cultivation. Without attempting to enumerate all of the advantages of thorough drainage on clay soils, attention may be called to its improving the temperature of the soil by removing the water from under the surface and giving the air and moisture an opportunity to separate the soil particles and permit a better growth of roots.

Drainage also prevents the washing of the surface soil and helps to conserve the available fertility. Its influence on the temperature of the soil especially in the spring is of particular importance, as it lengthens the growing season and makes it possible for the farmer to begin cultivation earlier and perform the work in a more thorough manner than when the soil is saturated with water.

In addition to these direct benefits of drainage, there are a number of indirect ways in which the soil is improved, such as through the influence of a higher temperature on bacterial and chemical changes. We know now that there are other than mere chemical changes going on in the soil. There are bacterial processes that play an important part in this branch of natural economy, and we must so shape our methods of cultivation and management as to get the advantage of these processes.

These clay soils which are the most benefited by a thorough system of under drainage are the most fertile soils in the country, and they will therefore warrant the largest expenditure in improvement and development. While every farmer is not able to put in a whole system of drainage the first year, he can so plan his labors that what he may be able to do from time to time will fit into a permanent system and not be a haphazard, disconnected work.

The Tillage of Clay Soils

I believe that more damage has been done to clay soils by plowing too deep than by all the cropping yet done in the country. One fact worthy of our attention is that in the cultivation of clay soils we should keep the humus or organic matter as close to the surface as possible until the physical condition of the soil is such that the air may have an access to the soil as deep as the organic matter is plowed under.

Vegetable matter when exposed to the action of the air will soon decompose into carbon, or vegetable mold and carbonic acid. Large quantities of vegetable mold and carbonic acid make the soil plow up light, loamy and free from clods.

On the other hand, if this vegetable matter is plowed under deep the air cannot reach it in the saturated wet soil, and the decomposition will go on slowly and the product will be widely different. Under such conditions the nitrifying bacteria cannot perform their work.

When the air can have a free action through the soil the sods and vegetable matter will decompose into carbon and carbonic acid, which will liberate the plant food in the soil and provide the growing plants with nourishment. When it is desired to deepen the cultivation of clay soils the work should be gradual and there must be a very thorough intermixing of the soil with vegetable matter as fast as it is brought up from below.

Manuring Clay Soils

As a general rule it will be better to apply fresh manure to clay soils, for the reason that the fresh manure mixed with the soil goes through a process of fermentation, which not only increases the availability of its own fertilizing con-

stituents, but also assists in rendering soluble the hitherto insoluble constituents of the soil. On a large proportion of clay soils there will be more direct benefits from the manure when it is applied as a top dressing for the meadow lands.

After a clay soil has been improved by under drainage, tillage and fertilization so that it will grow good crops of clover it is an easy matter to adopt a rotation of crops in connection with livestock feeding and the return of the manure to the soil that will soon bring it up to a high state of fertility.

W. MILTON KELLY.

Corn Crib and Granary

A FARMER of Monee Township, Will County, Illinois, has built a combined corn crib and granary that may be considered a model among builders of the kind in the state.

The structure rests on a solid concrete base that serves for both foundation and floor. It is covered by a red tile roof, and is equipped with an elevator that distributes corn and oats to any part of the building. The capacity is four thousand bushels of ear corn and four thousand bushels of oats.

The crib is twenty-four feet wide, forty-eight feet long and eighteen feet high to the foot of the rafters. The crib material for the siding and ends is four-inch pine with beveled edges, to shed the rain. The part that is tightly weatherboarded is of surfaced pine put perpendicularly and stripped.

The bins for corn in ears are at each side, while the oat bins are above the driveway, reaching from one end of the structure to the other. Sliding doors are at either end of the building, so that teams may drive clear through. At one end in a solid concrete pit is a fine wagon scale dropped flush with the floor.

The elevator is arranged along one side of the driveway. After a wagon has passed off the scales, a swinging section of the elevator is swung around under the tail gate of the wagon box. The forward end is raised by machinery, and the load of corn or oats is allowed to run into the elevator, whence it is carried aloft, and by portable sections the grain

Better Products, the Great Need

THE great aim of every soil worker seems to have been quantity. We have tried to raise a big lot of stuff, and every year to raise more. Experience of years, however, teaches that the season of short crops or half crops are usually the ones that bring the most cash into the farmers' pockets. In 1907 we had a very favorable combination of circumstances. Times were good industrially. The laboring man had employment at good wages and was able to buy. Farm and garden products were in fair but not excessive supply, and everything offered found ready takers at good prices. This year the tables are turned. Many laborers, having lost their regular employment, have rented land and gone into the production of garden and other soil products. The result is a lot of stuff produced by the unskilled, most of it of low quality, trashy, and not wanted anywhere.

Last Saturday evening I made a tour of investigation through the Buffalo retail markets. Every line of produce seemed to be well represented. There were quite fine fruits and vegetables. In every case the price is held up quite well, even high, and this class of goods is invariably sold out long before the close of the market. It is the trash that is left, the stuff that should never have been brought on the general market. There are customers who buy for cheapness only. They can use anything that will fill up. Stuff intended for that trade should be taken directly into the negro and Pollock quarters of the city. It hurts the general tone of the market if displayed in open market. The better way is not to raise trashy products.

At this time we are picking and marketing our Bartlett pears. If we go into any of the orchards around here, and watch people sorting this fruit, of which there was a very large yield, we will find that fully one third are culls and worthless. We simply throw them out and leave them in the orchard either to rot or to be picked up by people from the city, or sometimes by farmers from way back, who want cheap pears to can, and who pay twelve or fifteen cents a crate

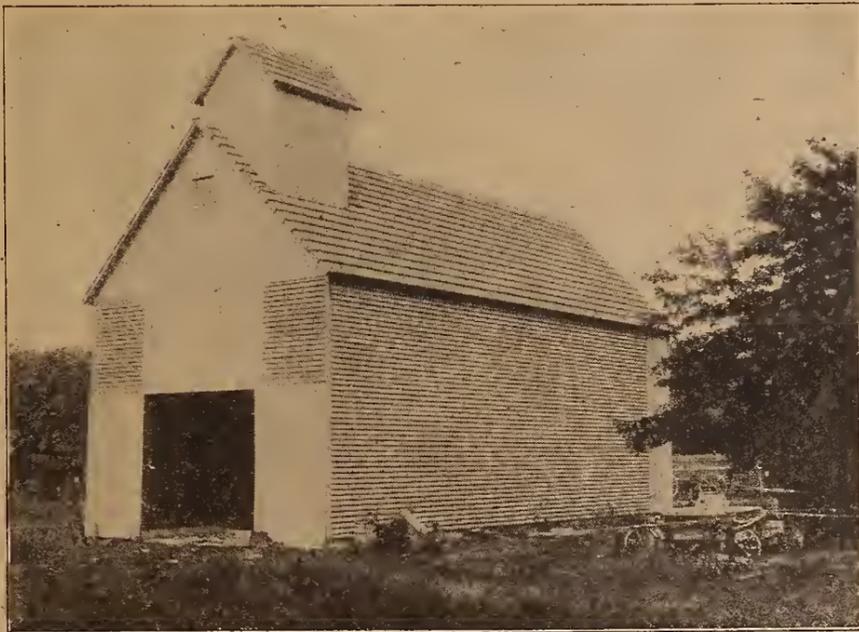
pollination may have been due to unfavorable atmospheric conditions at the time when those specimens were in bloom and trying to "set," or to the lack of the proper quality of the pollen furnished. Last year I found that the Bartlett generally bore very little, if any, fruit when standing in solid blocks of the one variety, so that they had to depend on their own pollen for pollination, while trees in orchards of mixed varieties where there was plenty of chances for the intermixture of pollen, were frequently or usually well laden with good fruit. It seemed to be one of the rare seasons when (probably due to unfavorable atmospheric conditions) the Bartlett pollen was not potent to fertilize its own pistils. This year all Bartlett trees seem to be loaded, really overloaded, with fruit, no matter whether the trees are standing in solid blocks, away from all other varieties, or intermixed with others. The atmospheric conditions were undoubtedly right for the proper development or ripening of the Bartlett pollen, so that it was potent on its own blossoms. Yet I believe I can see a difference in the quality of the fruit on different trees. The pears seem to be larger and more perfect where several varieties stand intermixed than where the Bartlett is planted in solid blocks of just the one variety.

Avoid Growing Trash

These observations should show us how to avoid growing so much trash, at least in this line. One of the first things for the wise grower of Bartlett pears (and undoubtedly of many other fruits) to do is to arrange for chances for cross pollination, so as to insure a better setting and development of fruit. This can be done by intermixed planting or by grafting scions of suitable varieties here and there into the trees where standing in solid blocks of one variety only. This would remove one of the causes of gnarly and lop-sided growth in fruits.

Probably we can do nothing to counteract the influence of unfavorable atmospheric conditions upon fruit setting and fruit development. I mean we cannot change the seasons. Yet we have available remedies. One of my neighbors earlier in the season had a man or two go all over his pear orchard, from tree to tree, just as in gathering the crop, and break off and drop to the ground every defective specimen found. This has very effectively disposed of the trash, and the crop now being harvested is large and remarkably fine. Undoubtedly there are other causes of trashy fruit, such as insect and fungous attacks. Greater attention and promptness in spraying will remedy these evils. But really there are ways for us to get rid of the trashy stuff and produce a far better quality of fruits, and perhaps just as much in quantity. The case of the Bartlett pear is only one instance. It is the same thing in many other lines. This one point of quality is the one great need of the times in this field, and we can hardly put too much stress on it. Better products make better prices and far greater profits, and satisfaction generally. We should no longer boast of our achievements, of the scientific character of our work, of our skill as producers, etc., so long as we continue to flood the markets with trash. And we will not get the best financial results until we learn more thoroughly how to grow for quality rather than for quantity.

T. GREINER.



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for them as they themselves pick them out of the heaps of culls. But this large proportion of trash in a crop of this kind is rather a sad reflection on the skill of the grower. Is it really necessary and natural to produce so much worthless stuff? What is the real reason in this particular case? We pretend that we have learned a good deal about the science of fruit production, and that we understand fairly well the principles of fertilizing and cultivating and everything else connected with orchard management. Yet the large amount of trash in our orchards is an eloquent witness to the fact that we either do not understand all the ins and outs of our business, or that we do not live up in practise to our better theoretical knowledge. Something must be wrong. What is it?

In the particular case of the Bartlett, I still believe that lack of proper pollination is the main cause resulting in a weak, gnarly, lop-sided development of many of the specimens. This lack of

Crates for the Cellar

THE farmer who has a good cellar in which to store his fruit and vegetables for the winter should fit it up with good crates. These may be made out of two-by-four pine or oak lumber and common lath. A good size is three feet in width, two or three feet in depth and four feet in length. These crates may be suspended from the ceiling by heavy wires. If there are no mice or rats to bother, they might be placed on trestles set along the sides of the cellar.

Crates will prove much more serviceable than boxes and barrels. Vegetables and fruit placed in them are not so liable to rot, as the air is allowed to circulate freely through the crate. In one winter the saving to the farmer may be more than the cost of the crates. Fruit and vegetables thrown into unventilated boxes and barrels is most certain to heat and rot before mid-winter, unless the cellar is kept very cool, and this is almost an impossibility during some months in the late fall.

W. D. NEALE.

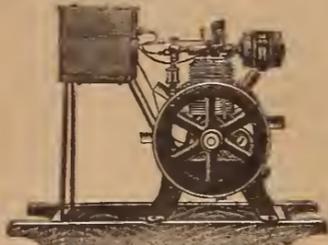
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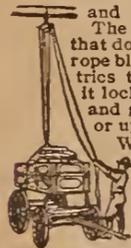
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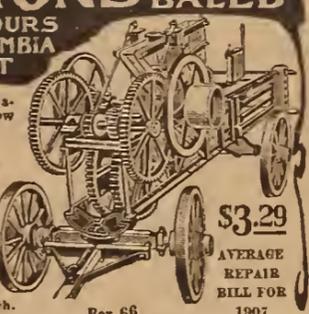
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Review of the Farm Press

What Others Are Saying About Important Farm Matters

Experiment Stations in National Forests

FOREST experiment stations will soon be established in a number of the national forest states of the West, according to plans which have just been completed by the United States Forest Service. These new stations are expected to do the same for the development of American forests as agricultural experiment stations have done for the improvement of the country's farms.

As a first step in this work an experiment station has already been established on the Coconino National Forest in the Southwest, with headquarters at Flagstaff, Arizona. Stations in other national forests will be established later, and it is the intention ultimately to have at least one experiment station in each of the Sylvicultural regions of the West.

One of the most important parts of the work of the new experiment stations will be the maintenance of model forests typical of the region. These areas will furnish the most valuable and instructive object lessons for the public in general, for professional foresters, lumbermen and owners of forest land, and especially to the technical and administrative officers of the national forests.

In the recently established station on the Coconino National Forest one of the first problems to be taken up will be the study of the reproduction of Western yellow pine and the causes of its success and failure. A solution of this problem of how to obtain satisfactory reproduction of the yellow pine is of the greatest practical importance to the Southwest, since the yellow pine, which is by far the most valuable tree there, is in many cases not forming a satisfactory second growth. The study will be carried on largely by means of sample plots, which will be laid out for future observation to determine the effects of grazing, of the different methods of cutting and disposing of the brush, and of other factors on the success of reproduction.

Other studies which will be taken up soon are a study of the light requirements of different species at different altitudes and the construction of a scale of tolerance which will be based on the actual measurements of the light intensity, and not only, as has hitherto been the case, on general observations alone; the taking of meteorological observations to determine the effect of the forest upon temperature, humidity, melting of snow, wind velocity, etc.; a study of the relative value of the germinating power of seeds from trees of different sizes, ages and degrees of health; and similar studies of value to the region. A complete collection of the flora of the forest will be made to form a herbarium, which will be kept on the forest and will be available for reference at any time.

These stations will carry on scientific experiments and studies which will lead to a full and exact knowledge of American silviculture, and the indirect benefits of the forests, and will deal particularly with those problems of particular importance to the regions in which they are located.

The work will be not only scientific in character, but will also be extremely practical, and will aim in every case to solve problems of most importance to the lumberman, the forester and the people as a whole. Valuable results will undoubtedly be obtained in this way which were not possible under the old system of general observations.—Forest Service.

Fall Plowing of Sod

WE ARE often asked whether sod land should be plowed in the fall or in the spring; and if in the fall, how it should be done. Except in sections where heavy and continuous winter rains may be expected, as in much of the southern part of our territory, we would unhesitatingly advise plowing sod land, by which we mean sods of tame grasses, and especially blue grass, in the fall, and for the following reasons:

It may safely be assumed that all sods of tame grasses, and especially blue-grass sod or timothy and clover sod of long standing, will be well stocked with larvae of the different kinds of worms; as, for example, one or more of the dozen varieties of cutworms, of the three or four varieties of grubworms, of the smaller snout beetle, especially where timothy has been grown for several years, wireworms and others. All of these, if the plowing is postponed until spring, will be more

or less certain to do damage to the crop, especially if it be corn, which is the usual crop put on sod land. Plowing in the fall exposes these to the birds and other animals that prey upon them, and to frost, this fall plowing in itself protecting the future crop from their ravages. If to this is added thorough pulverizing at intervals of a week or so from the time the ground is in fit condition in the spring until corn planting, and delaying the planting on old sods, especially blue grass, there will be little danger of any of these worms except wireworms doing any serious damage to the crop.

The thorough freezing, drying out by exposure to the atmosphere during the winter, will go very far toward breaking down the sod and promoting the decay of the roots, thus preventing the growth of grasses in the seed bed, all of which is important in preparing a fit home for the corn plant the next season.

Where the ground does not freeze up and stay frozen in the winter these benefits do not accrue, at least to the same extent; and besides, the sod instead of being disintegrated is run together by the winter rains until the condition instead of being improved is more or less impaired. Hence below the frost line, or the line of continuous winter freezing, we would consider it inadvisable to plow sod lands in the fall.

We are sometimes asked whether it would be advisable even in the region of severe winters to plow native prairie sod in the fall. We have had no experience in that line. The practise of the farmers of a generation ago, who broke up their raw prairie sod in June and backset it in the fall, was based on experience, and should be followed where conditions are similar. Their experience taught them that the month of June was the time for breaking sod, and it was no doubt founded on correct scientific principles, whether they were aware of it or not.

When sod land is broken up in the fall it should not be harrowed immediately after plowing. This would be a distinct damage. It should be left just as the plow leaves it, in order to get greater benefit from the winter's frost, and in the drier sections in order to conserve moisture. The harrow should not follow the plow except where it is intended to prepare the seed bed immediately by preventing clod formation. It may often be desirable, however, to run the disk over this land before plowing it, not for the purpose of conserving moisture, but for the purpose of making the plowing easier and the work of the plow more efficient.

Speaking generally, it is advisable to plow sod land in the fall deeper than in the spring. Where it is important to deepen the plowing, this should always be done in the fall. There are sections in which it is undesirable to throw up much cold soil to the surface. By "cold" soil we mean soil that has never yet been stirred. Exposure to the frost of winter tends to sweeten this soil and prevent any damage that would occur from throwing it up and planting a crop immediately.

Blue-grass and timothy sod may be plowed any time where there is sufficient moisture in the ground from the fall rains to do a good job. We would prefer to defer the plowing of clover sod as late as possible and yet secure completion of the work before the ground freezes up. No damage from wasting of nitrates is likely to occur after the first of October, as the temperature is not high enough to permit of nitrification going on to any very great extent.

The advantages, therefore, of plowing sod in the fall are economy of labor by doing the work in a season where there is less rush and when the flesh of the teams is harder through summer work, the more decomposition of the sod, the prevention of damage from the larvae of grass-feeding insects, the conservation of moisture in regions where moisture is liable to be scant, and the deepening of the soil without damage. These reasons are sufficient to justify the recommendation of fall plowing in all sections where frequent rains or an open winter are not to be anticipated.—Wallace's Farmer.

Plodding Horses

THERE is little that can be prescribed in the way of a remedy for the plodders, other than to pay careful attention to such details of shoeing, harnessing and handling as will insure the horses working with the least possible discomfort. The real cause of the condition which it is desired to overcome must be sought

in the class of horses employed and in the method of handling them while at work. The fact that part of a given lot of horses of uniform weights, doing similar work on the same feed, will continue to go with their original activity while the balance become plodders is evidence of the superior breeding, quality or temperament of the former.

One of the most characteristic attributes of the high-bred horse, be he race horse or drafter, is intelligence, courage and nerve force which enables him to draw on a reserve source of energy not possessed by the common-bred individual. Ample evidence of this fact may be observed among the equine slaves toiling daily in our city streets, as well as among those horses whose lot is cast on the race track or in the hunting field. The possession of these characteristics enables a horse to do his work in a prompt, ambitious and cheerful manner if properly managed, whereas horses of low breeding become careless and indifferent to their work and given to sulking. Furthermore, the well-bred horse is characterized by a greater degree of quality, a desirable feature in a horse of any type, if too much substance is not sacrificed to get it. Quality is indicated by general refinement about the head and neck, a hard, flat, clean bone, and dense, tough hoof. Structures of such a texture may be expected to outwear those found in the low-bred horse of plain head, round, meaty bone and coarse, spongy or shelly hoofs.

Perhaps the strongest indication which may be taken from a horse's plodding along in a listless way is that it is suffering from the effects of the wear and tear of the city streets on his feet and legs. He may not go dead lame, but just a little "easy," a horseman's term which is peculiarly significant. I know of horses that are giving better service to-day after from sixteen to twenty years' work on city streets than stable mates which have been less than two years in the business.

But the reason for this much greater durability in the case is obvious when the individuals are compared. The low-down, compactly built horse, that in type is well adapted to his work and in conformation is an almost perfect mechanism, is working as sound and free to-day as he ever did, but the leggy horse of misfit type and inferior conformation is "ouchy" on his front feet because he has either contracted heels or dropped soles, his long, light-boned cannons have let him over on his knees, or the straightness of shoulders and pasterns has caused him to go with a stilted stride in order to relieve as much as possible the maximum concussion to which he is predisposed; his crooked hocks have been unequal to the undue strain of his many long and hard pulls, which have also resulted in putting a sag in his long, loose-coupled back. Moreover, a horse with a short back rib and shallow flank may be expected to be on the sick report much of the time, and therefore out of condition for work the entire while.

Wholly independent, however, of the horse himself is the man who directs the expenditure of his energy. It is a well-known fact that different men may do the same work with the same team, with very unlike results on the horses themselves. While one man continually "drives" his horses with a rough hand and sharp word, taking everything out of them for no purpose, another economizes their energy by encouraging, directing and controlling their efforts. It is astonishing, sometimes, to note the difference in condition, spirit and action of a horse or a team of horses at the same work and on the same feed, but with different drivers.

Final advice, then, would be the selection of such horses as by their type, breeding, conformation, quality, constitution and temperament may be expected to do most efficient service for the greatest length of time and in a manner most acceptable; the capabilities of such an equine mechanism can only be fully realized, however, when it is placed in charge of a competent and considerate driver.—Carl W. Gay in The National Stockman and Farmer.

If affairs at Washington do not go to please you, do not be afraid to write to your congressman. He is your servant, sent to Washington to attend to your business, just as your man does your work in the field. Moreover, your congressman may be needing a word of advice from home to keep him in touch with his people.—Farm Journal.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

A Question of Renting

CONDITIONS are such that all men who wish to farm are not able to own farms, and many find it necessary to rent in order that they may carry on their farm operations. Now, there is as wide a range of difference in tenants as there is in any other class of men. Some men cannot stay the second year on a farm unless the farm owner in the bigness of his heart has compassion on the man and lets him stay through such compassion. The tenant has done nothing to earn a second year, but rather he has done almost everything he could to prevent it. For the most part, however, tenants are not of this kind. On the other hand, we have landowners who act just as ugly as they know how, and some of them seem to lie awake at night to study some meanness they can bring into execution whereby they can gain something at the expense of the tenant.

We have been advocating a longer tenure of rentals. We have been trying to point out the advantages to both the landowner and the tenant. We cannot change some of the customs of renting, and since that is impossible, we desire to point out some of the desirable things, and much may be gained by asking for them. In the fall is the time to make arrangements for renting another year. It is then one can point to the crops growing which will bear evidence of the kind of farming done, and it is then that manure can be hauled out for next year's crops, and when fall plowing can be done, and possibly winter wheat may be put in, all of which will be neglected if renting is put off until winter or spring.

Should the Rent Be Raised?

In view of the fact that land values are rising and prices of farm products are well up, there is a tendency to raise rents, all of which may or may not be justifiable. Many a landlord has raised the rent on a good farmer, who by his good farming has made it pay, and by his wisdom feels that he can pay no more than he is now paying and leaves, and other inferior farmers are obtained instead, and when a crop is grown the landowner wishes the other fellow had stayed. Good farming on the part of renters brings good crops, and good crops cause increase in rentals, and thus the best farmers are compelled to pay more rent than indifferent farmers. This is not fair. Rather, there should be a premium on good farming, and instead of raising the rent, there should be an encouragement in his operations.

A system of renting that involves the use of live stock is along the line of improvement. This may be either on the partnership plan or by renting for a series of years. Where annual rentals are made it is out of the question keeping very much stock. The wise landlord will now make as liberal a contract with a good tenant as he can. He will take him into his confidence and into partnership and help him make a good thing, and in so doing he will make a good thing for the landlord.—The Iowa Register and Farmer.

Ashes and Sawdust as Fertilizers

AN AVERAGE sample of unleached wood ashes contains about seven per cent of potash and two per cent of phosphoric acid, which at current retail prices of these plant foods makes wood ashes worth about forty-five cents a hundred pounds, or nine dollars a ton. Besides the actual fertilizing value, by reason of the potash and phosphoric acid contained in the ashes, there is some value to ashes simply from the power which potash has to make the nitrogen of the soil available for plants by its chemical action on the organic matter and humus in the soil. The potash in ashes exists in a readily soluble form, and is thus immediately available for plant food. Ashes also contain a little magnesia and a considerable amount of carbonate of lime, which is of some importance because of its effect in improving the texture of heavy soils. The farmer can better afford to pay eight or ten dollars a ton for good wood ashes than the usual rates for almost any potash fertilizer.

Leached ashes have rarely more than one per cent of potash and one-half per cent of phosphoric acid, which will make them worth about one to two dollars a ton. Coal ashes are probably not worth fifty cents a ton as fertilizer, but on heavy soils they may often be applied with profit

just for the loosening effect, and they are valuable as a top dressing or mulch in fruit gardens. Sifted coal ashes absorb liquids, fix volatile ammonia, prevent offensive odors and are valuable as absorbents under hen roosts or in stables. Wood ashes should not be placed under hen roosts or in stables, because potash liberates ammonia and the quality of both the manure and the ashes as fertilizers is deteriorated.

On average soils, fruits and vegetables are benefited by liberal applications of wood ashes, and remarkable results have been obtained by the use of ashes on legume crops, especially clover and alfalfa. Ashes will not make so valuable a fertilizer for top dressing for wheat as when used with the crops mentioned. Corn, Kafir corn and cane will doubtless be more benefited than wheat by the use of ashes as a fertilizer. However, if the soil is lacking in the potash element, a dressing of wood ashes will benefit almost any crop. Most of the soils of Kansas are well supplied with potash. If there be any part of the state in which this element of plant food is apt to be lacking in the soil, it is in the eastern part, where the land is old and the plant foods have been exhausted to a great extent. In the Eastern and Middle states it is more usual to apply ashes in orchards or on onion or cabbage fields.

Ashes are best applied in the spring, separately or in connection with phosphate fertilizers as a top dressing. For cultivated crops the ashes should be spread broadcast after the land has been harrowed, and made practically ready for the crop and cultivated in by a light harrowing. On onions, a light dressing is sometimes applied with good results when the plants are two or three weeks old, and I believe that no harm will come to the wheat by light application of ashes in the fall, or, better, in the spring after growth has started. There will be some waste to the soluble potash by surface drainage or leaching if the ashes are applied in the fall or during the winter months.

Rate and Method of Application

Ashes may be applied at the rate of twenty-five to fifty bushels (one thousand to two thousand pounds) to the acre. One ton of good wood ashes will contain about one hundred and forty pounds of potash and forty pounds of phosphoric acid, which is more of each of these elements than any ordinary crop will take from the soil in a single season. If leached ashes are used the quantity applied should be increased.

I think it will be impossible to spread the ashes thin enough with a manure spreader. Spread in this way there is likely to be not only a loss of fertilizer, because of the too abundant supply, but there is likely to result injury to the growing crop by reason of the presence of too much alkali. Ashes may be applied by sowing broadcast by hand, provided the hand is protected, or it is possible by care to spread them thinly enough from a wagon with a shovel. If the ashes are fine and clean it is possible, by care, to spread them thinly with a revolving broadcast seeder.

In wood ashes we have the most serviceable and often the very cheapest fertilizer for peat and muck lands. Such soils are rich in nitrogen and usually poor in phosphoric acid and potash. The nitrogen is also in an unavailable condition, and by the application of wood ashes, potash and phosphoric acid are not only supplied, but by the chemical action of the potash on the peat, the nitrogen is brought into a condition available to the plant. I know of some farmers who collect the ashes of neighboring villages. They usually furnish barrels into which the residents prefer to put their ashes rather than to throw them into the streets or dooryards. I know of one instance in which a farmer located two and one-half miles from town collected ten tons of good wood ashes during the winter which cost him less than \$5 a ton after the ashes were spread on the field.

Sawdust has no value as a fertilizer, but it may have some value in the physical effect which results when it is applied to light, sandy soils. It tends to make such soils hold water better, and when applied on the surface acts as a mulch to retain the water in the soil below. A combination of ashes and sawdust might be made so that the mixture could be applied with the manure spreader without getting on too heavy a dressing of ashes.—A. M. TenEyck in Hoard's Dairyman.

The Apple Harvest

NOTWITHSTANDING the fact that the apple is not a native of American soil, it seems to have found a congenial home here, for the apple is now regarded as the "King of American Fruits." It may be true that we have some species of crab apples which are promising, but as yet no specially valuable varieties have been developed from this source. Our cultivated apples and crabs are the lineal descendants of the wild crabs of Europe which have had many years of careful culture bestowed upon them to bring them to our present standard of excellence.

The interest of the farmer at this season of the year is directed more to the harvesting of the crop. After supplying the family with all the apples needed there is generally a demand in our markets for all surplus from the time of the earliest ripening throughout the year, and for this reason much attention should be paid to handling this surplus to the best advantage. Several points must be considered in this connection; the distance to be shipped to market, the method of transportation and the use for which the apple is intended when purchased. If the apples are to be shipped a long distance they should be picked as soon as the seeds are fully matured, while winter sorts may be allowed to remain on the tree as late in the fall as will be safe against freezing, but if any varieties should commence to drop from the tree they should be gathered at once.

The eye of the consumer is the judge of the fruit on the market, hence it goes without saying that if the apples are racked in a manner that will attract the eye of the purchaser, the sales will be quickened. In packing it is the common practise to face the lower end of the barrel with two layers of selected apples. This is what is termed facing, and it is this end which is opened when the buyers make an examination. The balance of the barrel is then filled up loosely until about half full, when it is gently but thoroughly shaken down. Then the filling is completed by rounding up the barrel more than full, and the head is put on and pressed into position by means of some convenient header. One form which has been found to be useful is a platform made of an inch plank upon which to rest the barrel, from which there extends an upright. To the end of this piece a long lever is attached which will allow the application of considerable pressure to the head of the barrel when placing it in position. If the apples are properly shaken down while filling the barrel the final pressing and clamping should not injure or mar the last layer of fruit. The safety of the packing consists in firmly compressing the fruit so as to avoid any rattling about; otherwise it will not stand handling without injury.

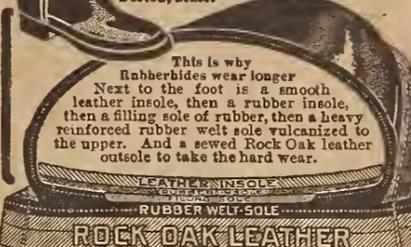
Consul H. J. Dunlap at Cologne states that in conversing with many German dealers much criticism has been made upon the manner of packing, sorting and handling of American apples, the general complaint being that the fruit is unevenly assorted and either too closely or too loosely pressed. The result is the same in both cases, the fruit becoming bruised, and as soon as exposed to the air showing the bruised places. The blame for this condition lies with the man who does the packing. Another complaint—and this does not come solely from abroad—is that the fruit in the middle of the barrel is of poor quality. There is a temptation on the part of the grower to put into the barrel fruit of inferior quality, such as those of small size or a wormy apple, if the outside appears smooth and of good color. Often a tree is found on which the apples are smaller than the average, though good in quality. Instead of making another grade of and packing them separately, part of the barrel is filled with them, in hopes that if the difference is noticed the good quality will make up for the fault and nothing said about it. There is improvement to be made in this method, and those who make it will be the gainers by the transaction.—Guy E. Mitchell in The Farmers' Tribune.

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Gardening—By T. Greiner

Kiln Drying Squashes

Some time ago I was asked by a Wisconsin reader how to "kiln dry" squashes, as there is quite a call for them in the spring. What kind of a building will it take to put them in? I know that pumpkin can be dried or evaporated, and in that not easily perishable form will be useful for pies, etc., and probably would be salable. I am not aware that squashes can be handled in that way, and our friend probably has in mind the keeping of the squashes during winter.

I have not had much success in keeping my winter squashes in perfect order many months after they were harvested. Usually a dry rot attacks them, and makes them worthless for table use. The best storage place for them is a rather warm and dry room. If possible, place them on shelves or racks. Painting them all over with a coat of varnish is often recommended, and this treatment will undoubtedly preserve them free from rot for a long time. Washing them, before painting them thus, with a solution of copper sulphate may be tried. Of course, the squashes must be gathered before the lightest touch of frost, and handled gingerly, so as to avoid the lightest bruising.

Transplanted Plants

A Missouri reader writes that plants from seed planted directly in the garden thrive better than those transplanted from boxes, and that seldom, if ever, is anything gained by planting early in a small box indoors.

I find that to be true with some things, especially melon and similar vines, beets, and sometimes even lettuce, but for many other vegetables we would be in a bad fix if we had to depend altogether on sowing the seed in open ground. For instance, I have no soil on which I could succeed in growing large onions directly from seed, yet by starting my plants under glass in winter, and transplanting, I can grow large crops of large Prize-takers, Giblartars, etc., on almost any soil.

I have had no failure with that crop since 1889, when I made the first trial with the "new onion culture." Even this year, when earlier in the season I was looking for failure, on account of unsuitable, hard-packed and not excessively fertile soil, I have grown these large bulbs, and plenty of them. We must transplant early cabbages, cauliflowers, early lettuce, tomatoes, peppers, celery, etc., and we could not hope for best success in gardening without starting our plants under glass and transplanting them to open ground.

Early Celery

My earliest celery this year came from a row of a few hundred plants that for experiment's sake were planted directly from the seed flat into the open ground in early spring (May) where they were to make the crop. These plants were then not over two inches high, and were set about six or seven inches apart. They started slowly, but soon grew vigorously, were blanched by means of boards, and began giving us good celery for the table early in August.

The plants still left in this row have grown to unusual size. They are a new sort, known as Chicago Giant, and apparently a remarkably vigorous strain of the White Plume. I have usually preferred the Golden Self-Blanching as of better quality, and on account of their rich golden color, of great attractiveness. While quite compact, however, the plants are dwarfs by the side of this "Giant." I have another lot of it now banked up high with earth, and I expect that this will have the quality, too. We can't expect to get the sweetest and tenderest celery from the rows blanched with boards. Earth blanching is the thing when we want really good, sweet and well-blanching celery.

Late Garden Peas

We still (October 1st) have some nice peas for our table. The crop, on account of the long dry spell, is not very heavy, but the peas come good just the same at this time. A quart of seed was used for about two hundred feet of row. We would have more peas if double that quantity of seed had been used. I believe in using seed freely for this crop. When I sow a quart of peas to one hundred feet of row, I usually get a full stand and plenty of peas. But when we have to pay five or six dollars a bushel for seed peas they are rather expensive.

It is possible for us, however, to raise our own seed peas. My last sowing was made on August 20th. I used seed peas from the seed store for part of a row, and peas of my own growing, then just harvested, and some of them not fully matured at that, for the other part. The newly gathered and still partially green peas have come up well, and the plants compare favorably in vigor with the plants from the seedsman's seed peas.

I still have a lot of Thomas Laxton peas of my own gathering, and expect to use them next spring. Hereafter I shall be quite careful to harvest the vines when the last of the peas approach maturity after we are through picking, and thrash the remaining peas out for seed.

Egyptian or Perennial Tree Onion

A Vermont reader asks about the Egyptian or Perennial Tree onion, especially when to dig them and how to ripen them off. This onion is good only for green or bunch onions, and is not of high quality for that. It makes no bulb at the bottom, only little bulblets on top, or so-called top sets. It is very hardy and never winter kills. Our friend says his Egyptian onions seem to grow all year round, and have green leaves even in the winter. This feature, however, is their main merit. They make green bunch onions at a time when we have no other better ones.

Planting Silverskin Sets in Fall

A reader seems very anxious to have good white bunch onions in the spring, and proposes to plant Silverskin sets in October. I have tried that, but never succeeded in getting them to live to give a good crop of green onions in the spring following. Perhaps if planted early enough, so that they will start up in the fall, they would come out in the spring all right. Possibly, too, most of them may go to seed. Yet it is worth the trial.

Blanching Celery

A. F. G., a Bucyrus, Kansas, reader, asks which is the best way of blanching celery for winter, and of keeping it. Blanching for winter is easy enough. The plants do not need much blanching. Just draw up earth enough against the rows from both sides, so that the plants will grow somewhat upright and compact. Then, if you have a cool, dark, somewhat moist cellar, with earth or cement floor, you have plain sailing.

Late in the fall, just before the ground freezes and while the celery is perfectly dry, take the plants up, with some soil adhering to the roots, pack them, upright and close together, on the cellar floor, and pack some moist earth or muck about the roots. Try to arrange it so that water can be applied to the roots near the floor without wetting the tops. Wet tops mean rot. Dry roots mean wilt. If the arrangement is right, the plants will blanch beautifully in a few weeks' time, and give celery of choicest quality, sweet, tender and brittle.

General Fall Work in the Garden

THE bulb bed should be given a six or eight inch covering of coarse litter or manure. This will prevent the frost from heaving the bulbs and breaking their newly made roots.

It is well worth while to give our hardy plants protection. It is true that peonies, perennial phlox, delphinium, dicentra, and many others of this class of plants, will survive a Northern winter quite satisfactorily without protection, but it is also true that they will come out in the spring in so much stronger condition where it is given that one will not neglect to give it, after one season's trial. The vital force of the protected plant is held in reserve for next season's work, while that of the unprotected plant is largely expended in resisting the ordeal to which plants at the North must be subjected.

The best protection for pansies is one of leaves held in place by evergreen branches or pieces of wire netting. Not many leaves will be needed. Too deep a covering is worse than none at all, as it will be almost sure to smother the plants.

Go over the garden and "clean up" generally. There is no good reason, as I have said a great many times, why the garden should not look as neat and tidy in winter as in summer. There may

be no flowers there, but the old, dead stalks should not be left to emphasize their absence.

Gather up the racks and trellises, the plant stakes and the garden utensils, and store them away where they will keep dry.

But before storing away the garden tools, give them a good coating of oil. Give this to the woodwork as well as to the metal. Take proper care of your tools and they will last three times as long as they will if left exposed to the weather. We Americans waste millions of dollars every year by our neglect to properly care for the machinery we make use of on the farm and in the garden.—The Wisconsin Agriculturist.

Market-Gardening Notes

THE question of color of different varieties of tomatoes after being canned is important to housekeepers, but more particularly to canners and dealers in canned goods. The color of the fruit after cooking and canning varies to a considerable degree and there is a general impression that red tomatoes always come out of the can in a bright condition and that pink varieties invariably make a dull red product when canned. Six varieties were canned in glass jars at State College and Honor Bright was by far the most brilliantly colored. Matchless was second in brilliancy. Chalk's Jewel and Early Freedom, both red tomatoes, did not show up any brighter in color than Beauty and Globe, which are pink tomatoes. The Department of Horticulture is making a special study of problems connected with the growing of tomatoes for canning purposes.

From a commercial standpoint the most important vegetable is lettuce. Tomatoes take second place and cucumbers third. None of the other vegetables which are grown in the open air are produced extensively in forcing houses.

Comparatively few men now engaged in the forcing of vegetables are as optimistic as writers were ten years ago. Horticultural writers then thought that the time was not far distant when a great many of our vegetables would be grown extensively under glass. Southern competition of vegetables produced in the field, however, has been a constant check to the rapid development of the forcing business in the North.

Men engaged in growing vegetables under glass should not lose sight of the fact that quality counts for more than anything else in making the greenhouse crop profitable. It is not possible for the Southern market gardener to grow in the open air, ship a thousand miles or more and place upon the market lettuce, tomatoes, cucumbers and other crops in as fresh, crisp and attractive condition as can be done by the greenhouse men in close proximity to market.

There are two general classes of vegetables grown in forcing houses which are designated as "cold" plants and "warm" plants. Among the "cold" plants may be mentioned lettuce, asparagus, rhubarb, cauliflower, beet and radish, which thrive best in a night temperature of fifty-five or below and a day temperature of from sixty-five to seventy degrees. The "warm" plants, including the tomato, eggplant, pepper, cucumber, muskmelon and bean, demand a night temperature above fifty-five and a day temperature which may run above seventy-five degrees when the weather is clear and bright.

The three heaviest items connected with the growing of vegetables under glass are the cost of constructing the houses, heating and labor. It is generally conceded that large forcing houses should be located in close proximity to the great markets. It is a question, however, whether production would not be more economical and profits larger by growing in the coal sections where the cost of fuel would be a small item.

Amateurs in the management of greenhouses often fail to use as much sand in the preparation of the soil as is desirable. The addition of sand provides perfect drainage and is absolutely necessary to secure the light, open, porous physical condition so essential to plants grown under glass. The addition of one part of sand to two parts of compost is about right for most vegetables.—The National Stockman and Farmer.

Fruit Growing

By Samuel B. Green

How Far Apart to Plant Pines and Spruces

C. J., Alton, New Hampshire—It is not easy to answer your inquiry as to how far apart your evergreen planting of ten acres should be placed. If the land was entirely bare, so that it could be cultivated, and there was any market for the small poles, I think it would be desirable to put them quite close together, say four feet apart in rows eight feet apart. If, however, the planting is to be made on brush land where there is already a considerable growth of young stuff that will grow up with the evergreen, then sometimes the expense of planting may be very much economized, and if set fifteen or twenty feet apart each way they will be sufficiently crowded by the young growth so as to kill out all the younger branches and force the trees to take on the log form, so desirable in timber planting, and for which I understand you are to grow the trees.

It is quite true that eight feet apart each way, as you quote some one as recommending, would bring the trees pretty close together in the course of a few years. On the other hand, if planted further apart than this it would be too long before the branches would meet and the shading of the lower branches would begin. My idea is that in a plantation of this kind the aim should be to set the trees close enough together so that the ground would be shaded at all times. This would necessitate thinning as soon as the trees become too thick.

Where it can be practised, there is no question but what cultivation of the ground about the trees while they are young is a great help to them, and it should always be practised where it is practicable to do so. Another feature that should be taken into account as regards the distance between trees is the fact that there is a difference in trees as to the amount of shade that different trees will bear; for instance, Scotch pine will stand but little shade, white pine will stand much more, and spruce will endure a great deal; so the latter could to advantage be put closer together than either of the former.

Identifying Strawberry Plants

P. F., Swift, Minnesota—I have looked over the strawberry plants which you sent me. The sexuality of strawberry plants cannot be determined by their general appearance, but only by the appearance of the flowers themselves; so I cannot settle this point for you, much as I would like to do so. The foliage looks healthy. There are, however, a few rust spots on the leaves, but not enough, I think, to cause any serious injury. I cannot even tell the name of the plant by its appearance, but only by a combination of its qualities, including the appearance of the fruit. Unless you know definitely about these plants, I could hardly recommend you to go on and plant any considerable area with them. It will be best for you to send me on some of the plants with flowers again in the spring for identification.

I am pleased to know that your plants are in such good condition on the approach of winter, and would suggest that as soon as we have a killing frost that they have a light covering of swale hay or straw, and later, after the ground is frozen, a heavy covering of the same.

Uncommon Apples—Galls on Plum Leaf

L. P. H., Baylake, Minnesota—The larger apple with the red stripes, of good quality, which you send, is known to the nursery trade as Charlamoff. You will find it recommended in the fruit list of the Minnesota Horticultural Society. This variety was wrongly named when you received it, and is much better than Gypsy Girl, which was an inferior variety that blighted badly.

The other variety you send is known as Anis. It was formerly sold under the names of Kursk Anis, Green Anis and Russian Green. It is an apple of fair quality, but rather too small for general marketing, and the trees are rather tardy in coming into bearing. I regard the Charlamoff as one of the best late summer and early autumn apples for the northern United States. I know of no apple of its season of better quality. It comes in generally just after Duchess of Oldenburg. I do not know of any one who offers the Anis for sale, but the Charlamoff is sold generally by the nurs-

ery trade. I think that either of these varieties would take well on the Virginia Crab, and would prefer to cut the scions about the middle of November and winter them over, buried in sawdust in a cold cellar or out of doors.

The plum leaf which you enclose, that had a number of small-pointed sacks on the under side, is affected by a small gall insect that cannot be reached by spraying. We had a tree in our orchard that for a number of years was affected in this way. It did not spread, however, to other trees, and after a few years disappeared altogether.

Orchard Injured by Hail

Mrs. A. M. E., Decorah, Iowa—You state that your orchard is destroyed by hail and that you wish a list of quickly maturing varieties of apples to replace it. I doubt very much if the injury to your orchard by hail is as serious as you think. I think very likely that the trees are badly battered by hail and perhaps look as though they were about through with their work. I am inclined to think, however, that if properly cared for they will come on and still make good bearing trees again. I would suggest, that if the foliage has been pounded off, that probably it would be well to give the trees additional protection about the roots this winter in the form of mulch. See to it, however, that the trunks are protected against mice before putting on the mulch. It will probably be a good plan to prune back the trees severely late this autumn or very early next spring.

I would suggest that should you decide to plant out a new orchard you use the following varieties, which are recommended by the Minnesota Horticultural Society: Duchess, Patton's Greening, Wealthy, Okobena and Charlamoff.

Planting Maple Seed

A. J. E., Wheeler, Michigan—The seeds of soft maple, by which I understand you mean the silver maple, which ripens its seeds in May or June, have probably lost their vitality if you have kept them until this autumn. Seeds of this class, including the soft maple, red maple and white elm, should be sown as soon as they mature, when they will start into growth and produce plants the first year.

The soft maple when planted in good soil often attains the height of two and one half to three feet the first season from seed. The soft maple is easily grown from seed and makes good, salable nursery stock in a short time. I do not know whether it will pay in your location to do this. It will all depend upon the market you have for the trees.

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Poultry Raising

Gilt-Edge Hens

TAKES one's breath away to think of a hen valued at five thousand dollars, doesn't it? How in the world can any hen be worth that money? Seems ridiculous to the every-day farmer, who has hard work to see half a dollar in his stock, and hasn't patience worth half that sum when it comes to dealing with this bird of the inquisitive nature. Let her get over the fence into the garden or the grain field, and he will declare that "no hen he ever saw was fit to live, anyway!"

And yet there is one hen in this country that has a price set on her head of a round five thousand dollars, and she probably would bring it, too, if the owner would let it be known that she was for sale. "Peggy," for that is her homely name, is a Crystal White Orpington, weighing eight pounds. She has traveled from Hongkong to Denver, and captured the blue ribbon wherever she has been shown.

Her owner says it would damage her to the tune of two thousand dollars to pluck a single feather from her wing, as she must be in perfect plumage to hold the record she does. Few of us could afford to eat chicken at six hundred and twenty-five dollars a pound.

But there is something for us all in this story of the blue-blooded "Peggy." That is, that it would pay us all to keep better stock than we do. Suppose we had some good breed of hens. There would surely be some one who would want a few of her eggs or some of her chicks. For these we could get a pretty good price. It would make us prouder of our poultry business and enable us to do better things than we have been doing. Don't you think so?
E. L. VINCENT.

From My Experience

I WISH to disagree with Mr. Vincent in his reply to the mail carrier about his hens. Experience has taught me that most of the best-laying hens of the heavier breeds have a tendency to drag down behind, and while this makes them somewhat unsightly, most of us look to profit a bit more than beauty in our poultry. The only help for this tendency seems to be care in feeding very much fattening food, and giving all the exercise possible.

The swelling on the foot called "bum-

blefoot" is supposed to be caused by flying from high roosts, but this, I am convinced, is an error. From what little experience I have had with it I feel sure it is a germ disease.

Low roosting places did not prevent a pair of fine male birds, obtained at quite an expense, from developing "bumble-foot." And after two or three hens followed, I had them killed and the quarters thoroughly disinfected. This was in my amateur days, and the birds were sacrificed to ignorance. The treatment spoken of by Mr. Vincent would doubtless have cured them, but as there has never been another case in my flock, perhaps it was as well to use the ax, for I am quite sure it is contagious. MRS. CHAS. MARANVILLE.

Why He Hated Hens

HE DIDN'T take any stock in hens. He wished every hen on the farm was dead. And so on, and so forth. And he took particular delight in it when he found one of the old hens dead under the perch. "One less of 'em to fuss with!" he would declare.

Now, why did he hate those hens that way? I looked into that a bit, and I am inclined to believe that he hated hens because he did not understand them. He thought it was not up to a man's standard to take care of hens. That was the old idea, you know; so he left the hens to shift for themselves, and they had pretty hard times doing it. It is always so where the farmer looks down on hens. He will get few eggs. There will never be a hen to sell. It is all a one-sided game. The only time he thinks the hen amounts to anything is when she comes on the table in the form of a nice potpie. That suits him first rate.

That man's hens lived the year round under the barn. The wind swept up there as cold as Greenland. If one of the hens happened to have the luck to lay an egg there, it froze as hard as a rock before he found it, and that made him mad again.

He never fed them anything. What does a hen need of anything to eat? Let 'em pick up a living! And as for water, that is a thing no man ever ought to dream of setting before his fowls.

So the hens on that farm are oppressed creatures. They do not bring in anything. How could they? And yet they might. The hens are not half so much to blame as their master is. They would like to do better if they could.
E. L. V.

Model Chicken House

A SAWMILL being near, we cut timber and had lumber sawed for a chicken house. It was built twenty feet by ten, six feet high on the north side and eight on the south. The logs were cut so that there was no sawing off of boards and waste of short pieces. It was floored with oak. The door has knob, hasp and lock, and both windows are covered inside with wire netting, and outside with hinged shutters, made to be locked. Inside, a wire-netting partition and door divide the space into two rooms—one for late-hatched and the other for older ones. In each room are drinking vessels, grit, a lime barrel, with hoe, broom and dust pan. A hook for the lantern, made of the handle of an old tin cup, was nailed to a rafter. The walls were sheathed with heavy coarse paper.

Some one will ask, "Won't the hens fight when turned in together?" If they do, one is put into the other room, but generally they all eat together, and then go to their respective corners.

When a storm comes up I can drive the troop leaders to the door, and they all go swarming in with no trouble. Then let it rain! They can eat in the dry.

"What is a troop leader?" Why, a troop leader is one that will take lots of chickens of all sizes and ages. When you find one like that, mark and keep him forever. An old turkey gobbler makes an ideal one.

When the shutters are open they are buttoned back to the wall with a leather strap and nail, to prevent banging, and beside the door is a tablet saying, "No admittance. Your face scares the chickens!"

In winter, when the brooding is over, a pile of leaves or straw is put in, to make the hens scratch on stormy days; and cabbage is placed there for them to eat.
CLIFFORD E. DAVIS.

Culling Out the Flocks

THERE is a disposition at this season of the year to cull out the flocks and grade the birds for the winter's purposes. On most farms there are now birds of all ages and sizes, probably all running together, and the farmer will soon realize that the assortment will have to be made before the winter comes.

There are the molters, layers, overgrown spring chickens, stunted fowls, perhaps some of last year's fowls, and maybe a few little chickens here and there. First of all, the chicks that have not already reached two pounds in weight should be shut by themselves and fattened for the table. They will not reach maturity before winter and will not lay before late in the spring. The laying hens (last year's fowls) may be retained until they cease laying; but when they commence to molt it is as well to sell them, for they will not lay again this year. The stunted fowls or the overgrown chickens should be fed for market, unless, perhaps, one or two of the overgrown ones promise to lay before long.

The molters are the ones to be retained, and nearly all poultrymen get discouraged and kill them because they are not laying during the summer. It takes about three months for a hen to molt, and if she has not started by now there is no likelihood of her being one of the winter's layers. The hens that are molting are the promising ones for winter, and the greatest care should be bestowed upon them. They do not require very much grain nor fattening foods, but they need a great deal of nitrogenous material, and this is to be found in all forms of green food, insects and worms. Allow them to roam and keep them comfortable, and when winter comes, with the high prices of eggs, you will have just what you want—hens that have molted and are fresh and bright and ready to lay.

There is no profit in keeping fowls for the winter with the expectation that they will lay, for if they are laying now they will molt before the cold weather and not lay until spring, or if they are not old enough to lay before another three months they will not lay until spring. Cull out the stock and feed and house only those birds that you are positive will be profitable during the winter.
LILLIAN J. JACKSON.

Time enough yet to build a better poultry house before winter. Let in the sunshine. Give the birds plenty of fresh air. Let the front face the sunshine. Give space to a good scratching shed. Feed carefully of good food. Sell fresh eggs.
E. L. V.



The Point to Consider in Stock Feeding

As a "feeder" you aim at economy in every detail of the business. You study your ration, and how to maintain perfect health and condition. But does the average stockman pay enough attention to his animals' digestion? Every pound of beef or pork and every ounce of milk must be produced by the animal's digestive machinery. Your hay and grain are your raw materials and meat and milk are the finished product. You are careful about giving the proper feed and don't neglect the importance of a good digestion. This special attention to health and condition is "The Dr. Hess Idea."

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INSTANT LOUSE KILLER KILLS LICE

Live Stock and Dairy

Incomplete Washing Causes Mottled Butter

There are two ways of washing butter. One is the thorough way, and the other the "half way." To wash butter as it should be done, use about the same amount of water as there was cream that the butter was made from. Revolve the churn slowly about a dozen times, draw off the water, and repeat the process. Should the butter be quite soft, allow it to stand in each of the waters about ten minutes. Two washings are generally sufficient, but if the water from the second washing is milky, repeat the third time. It has been found that much washing removes a great deal of the fresh flavor of the butter, but nevertheless the washing must be thoroughly done, or the butter will show streaks when finished, and besides, it will soon become rancid.

For a churning temperature I prefer to have the cream at about fifty-five or fifty-six degrees in warm weather and from this up to sixty degrees as it becomes colder. Some recommend using water at a temperature of thirty-five to forty-five degrees with which to wash the butter, but I think this too cold. It will harden the granules so the butter will not take the salt readily. Water at fifty to fifty-five degrees is cold enough for washing the butter.

No doubt there is more than one cause for mottled butter, such as dried milk and cream, unevenness of salt, etc., but if the butter is thoroughly washed so as to remove all buttermilk, I find there is less trouble from streaks.

It has been found that the proteid in mottled butter is greater in the light portions than in that which is darker, and has much to do in causing the light spots. Brine hardens the proteid particles, the action requiring several hours for completion, and for this reason I believe that the light-colored streaks and spots in butter are caused more by the presence and uneven distribution of buttermilk and to the hardening effect of the salt brine upon the proteid of the buttermilk thus retained in the butter than to any other cause.

If those who are having trouble from

make the complete change and get well started before the very cold weather sets in.

If the cows with the calves are brought to the pen every evening at this time of the year, and another pen has been provided near the main one, connected to it only by a gateway, over which a two-by-six has been secured just high enough to permit the calves to go under and keep the cows back, it is an easy matter to coax the calves into it and start them to lick corn meal and eat hay. After they have been driven into this side pen a few times they will come in alone every evening for their feed. In this way they will be separated from the cows during the time they eat, and thus they gradually become more bold and care less for the cows, while at the same time they are getting used to the food on which they will have to live during the winter. After they have been fed in this way for a short time they should be shut up in the side pen for the night, and the cows left on the opposite side of the fence near by. After a time they can be shut up entirely and the cows removed without either cow or calf fretting very much. GREGOR H. GLITZKE.

Doctoring Horses

If a horse gets sick it is the custom with many persons to administer any and all remedies that are recommended, and there are usually a number of persons on hand ready to prescribe a sure cure without regard to the nature of the disease from which the horse suffers.

Some years ago I happened to be present where a horse was sick with what appeared to be colic. The owner tried a remedy or two and the horse was not relieved; then there was this, that and the other fellow who had a never-failing remedy, so the horse was dosed with a number of different things. None of the remedies was given time to act until something else was tried. The horse died inside of thirty-six hours, and it has not yet been settled whether it was the disease or the medicine that killed the horse.

A few days ago near here a horse ran a nail into his foot, inflicting a painful,



First Prize Galloway Cow, Wisconsin State Fair, 1908

mottled butter will try washing more completely, and then allow the butter to stand from thirty minutes to one hour or longer after the first working before finishing, they will have less difficulty in this respect. VINCENT M. COUCH.

Weaning Calves in Fall

In the fall, when the calves are brought out of the pasture with the cows, they are sleek and fat. But we must not lose sight of the fact that they are soft, also, and that the weaning must not be brought about too suddenly, for they must not be permitted to get down in a poor condition at this time of the year. Winter is before them, and if they are once allowed to get in a poor condition it will be hard to get them over it, and their gains will be very slow during the cold months.

In most cases such calves have never been fed any grain, but have lived mainly on green grass and the milk from the cows. So it would not be wise to pen them up suddenly and feed them entirely on dry food; they should be gradually changed from the one to the other. This changing should not be put off until late in the season, for it is best that the calves

but not a dangerous, wound. Of course the owner thought that there must be something done in order to doctor the wound, so he procured a bottle of carbolic acid and poured one half of the contents on the horse's foot, with the result that by the next morning the acid had eaten up the hoof and the horse was dead.

These are only two of the many such instances in which horses are doctored to death by persons who have no knowledge of the nature of the remedies they are using. Unless a person knows something of the nature of the medicine he is using it is best not to give medicine at all. It would be useless to attempt to describe the suffering that carbolic acid would cause when put on a horse's foot which was already wounded. It would have destroyed the hoof if nothing had been the matter, and of course the only excuse for using it in this instance was absolute ignorance of the nature of acids.

The safest plan is, if a horse gets sick and a competent veterinarian cannot be procured, to use some simple remedy that will do no harm, or else give Nature a chance to cure the horse by simply providing for the comfort of the animal and letting him alone. A. J. LEGG.

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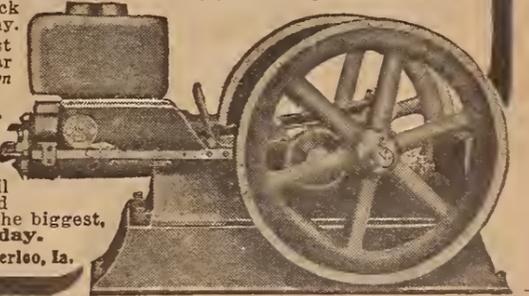
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Live Stock and Dairy

Things to Do at This Season of the Year

Now is the time for every farmer to see that his stock is protected from frosty nights and chilly winds. The cost of tightening up the stables is but a trifle compared with the loss made by stock that goes unprotected.

It requires a great amount of feed to keep up the animal heat to overcome the chilly winds. It is these little things, in the way of care, that makes one farmer more successful than the other. Probably the best-spent time and money that the farmer spends at this time of the year is that used in preparing to take better care of his live stock. Don't delay this, but attend to it at once, for it may mean the difference between profit and loss. If you cannot give the proper care to all of your live stock, then select the best animals for your own breeding and feeding and sell the balance at the very best prices that you can obtain. Get rid of it. Better take a small loss at the present time than a much larger one later on because your stock is in poor condition.

Keep no more than you can keep right. You can make a profit off a small number rightly kept, where you would lose money trying to keep more than you can properly care for. Right now is the time to make this decision as to what you can do, and then dispose of the balance. All stock that is to go to market can be fattened at less expense before cold weather sets in.

When new animals are to be purchased, the early buyers get the choice. In making this selection, it should not be done hastily. In fact, I have known some breeders needing one animal to purchase four or five, and as they develop, watch them, and then make the final selection and sell the ones not desired. These can always be disposed of at cost, or perhaps a handsome profit, and the breeder who does this always wins out in the end with the best grade of stock. The time and money spent in visiting other breeders is one of the best investments that any one can make. The knowledge gained in this way will be of great value in making your selections, as one breeder seldom visits another without gaining some information. It is the one who makes use of these points that makes a success in breeding.

If, after culling out the poorer ones, you have a few good animals for sale, let others know what you have. I have seen farmers, have first-class animals, but buyers did not know it, simply because they never said anything about it. This is not a good way to do business. If you have something good, say so and let others know it. Get all out of your stock that is possible.

There are people who will pay for your best stock, and it is this extra price that adds to the profit of your farm. If you raise better stock than others, because you find it more profitable, go a little farther and get the most out of what you have. Right now is the time others are looking for breeding animals, and if you have some good ones, they will be very easily disposed of.

Now is the time to see that all the crops are well covered. Are there any leaks in the roof? If so, mend them so that there will be no spoiled spots of feed.

It is well to go around the pasture fence and see if there are any places where the little pigs can get out when they are turned into the stalk field.

Take a lot of straw from that old straw stack to the barn for bedding; it will improve the manure, which is so valuable to the land. R. B. RUSHING.

Crisp Live-Stock Notes

If pastures fail late in the fall the breeding ewes should be given extra feed, in order to keep in good condition, so there will be no trouble getting them in lamb.

The quality of milk—that is, the amount of milk solids and fat that it contains—is controlled more by the constitutional characteristic of the cow than by the feed.

It is being gradually understood that the best cow is cheapest, regardless of the price paid for her, and for such correspondingly good prices are always obtained.

It is said that a hog fed exclusively upon corn will starve to death in about one hundred and twenty days, but no wise farmer is in danger of making the experiment.

Clean, bright clover hay makes the best

roughage for horses, but this may be varied by such other roughage as can be obtained if it is sound and free from mold and dust.

Pure-bred sheep should be kept because they have been bred to a certain purpose, but the veriest scrub ewes crossed on a pure-bred ram will bring lambs that are a great improvement.

Barley makes a fine feed for hogs. Grow some next year. The cheapest lot of pigs the writer has ever brought up to one hundred and twenty pounds had barley as their main ration.

When possible to avoid, never give a full draught of water within an hour after feeding a horse. The effect is to carry much indigested food into the bowels, producing serious disorganization thereof.

It is not necessary for a cow to give only a small quantity of milk, in order that the milk may be rich. One can use a breed that is famous for large yields of rich milk rather than to get rich milk from low yields.

The late summer and fall markets should not be glutted with young brood sows, as they are many times. Young and middle-aged sows should be kept on the farm, provided that they farrow fair-sized litters of pigs and take good care of them. WM. H. UNDERWOOD.

Concerning Cows

THE assumption is self-evident, we may think, that the man who is keeping cows or other farm animals is doing so for profit. When we see some cows and the manner in which they are kept, and count up the income from them, we may well doubt the correctness of the assumption, however. Generally speaking, in such cases we may safely conclude that while the intention is to have a profit from the cows, the miscalculation comes in the keeper's ignorance of the points of a good cow, or in his failure to properly feed and care for such cows as he may have.

Poor Cows

The number of poor cows in the country is astonishingly large. Basically they are poor because they represent no particular line or plan of breeding. In fact, they have not been produced at all; they have just come as the result of the meeting of a male and a female. To the most primary student of animal husbandry it is a matter of wonder that such cows are as good as they are. It is a wonder that by such breeding the reversion of type is not even more marked than it is. The cow of great milk-producing qualities, in her function of giving much milk, is an evolution from the type of cow that had merely enough milk for the nourishment of her offspring until it was old enough to shift for itself. Recognizing this evolution of the better cow and the painstaking in breeding and care that has been necessary to produce her, we may well be surprised, as I have said, that we do not have poorer cows, performing more poorly than they do, when we consider the unfavorable environment into which many of them have come.

In producing the better cow, selective breeding was and is necessary. Haphazard, careless mating of animals of even pedigreed ancestry cannot be practiced with any assurance of satisfactory offspring. The breeding end of cow improvement, even when most carefully and wisely done, remains largely tentative. After the careful breeder has done all he may in uniting harmonious lines, and the offspring has been secured, he has about reached the limit of his work, and must there take it up and carry it on as that of a feeder and caretaker.

Since we understand that the giving of large quantities of milk, or moderate quantities rich in butter fat; is a cultivated trait in the cow, to be developed by continuous good feeding and rational care, it is easy to understand how a season of neglectful feeding must result in a suspension of the development of this artificial trait of heavy milking. Thus are produced poor cows that have a birthright to be good cows.

It is just as easy to understand how, in the matured animal, seasons of insufficient feeding or neglect or exposure to hardships will operate against the fullest activity of the animal's artificial functions first and her inherent ones next.

It is a plain proposition that only from the feed that fully nourishes her can the cow do her best at milk making. It flows only from feed pressure. Relax

the pressure by a lowering either of quality or quantity, and just so much the flow subsides.

The Butter Cow

It will require a vast amount of education in many lines, many changes of heart and environment, to make good breeders of the majority of our dairymen, consequently the dairy problem that will confront us for a long time is the better feeding of such cows as we have. It is my firm conviction that by this better feeding and care, the full, all-the-year-round feeding, we can very materially increase the productive capacity and the resultant profit from our cows.

It is very true that many cows are constitutionally so poor that no manner of good feeding will coax a profit from them. The foolishness of retaining such hopeless cases in the herd is so obvious that I need not discuss it. Surely the sensible thing for any dairyman to do is to prove the worth or worthlessness of each individual in the herd by the good-feeding test, and as soon as results are shown, discard the worthless ones and encourage the good ones to more enlarged well doing.

The Feeding Season

There is only one season of the year in which many a cow is fully fed, and that is when she is first turned to pasture, or perhaps, more properly speaking, when the abundant pasture is at its best, late in May or early in June. Of course, the "pasture season" lasts usually from early in May until the coming of the later frosts, when the grasses are dead or ripened, are unpalatable, indigestible and unnutritious. It is possible to have the cow fill herself on this remnant of pasture glory, but not to feed herself. The good feeder, who expects to realize some of the profits of the advance that comes in the fall for milk and butter, gives a thought to the supply of other sufficient feed when the pastures lose their measure of sufficiency; and the cow thus well provided in the fall is well started on the season of winter dairying, when prices are at their best.

It is poor economy to save all the good hay for winter feeding, when the cow goes hungry in the fall; or to allow the forest of corn to ripen and rustle on one side of a fence while the cow is working away at a short, dried pasture on the other side, simply to save all the corn and stover for winter feeding to the very cows that would be able to do better then if given a part of the corn now, with all its living richness upon it.

W. F. McSPARRAN.

Feeding Hogs and Horses

A SUBSCRIBER, W. M. W., New Burnside, Illinois, writes: "Please state the best way to feed middlings, wheat and oats to eight-months-old hogs or younger. Is it best to grind the wheat and oats? Also, is it advisable to grind wheat and oats for horses?"

In feeding middlings to young hogs, I would give it in the form of a slop consisting of milk and middlings or water and middlings. If milk is used, about one half bushel to the ordinary barrel of milk will be in about the proper proportion for eight-months-old hogs. If water is used, it is advisable to use nearly twice the amount of middlings to a barrel of water, but the feeder must be guided entirely by the animals he is feeding, as some are more able to assimilate their food than others. In feeding wheat and oats to pigs, I would not grind it, as the animals will get more out of it if made to do their own grinding.

With horses, however, grinding the wheat and oats is to be preferred, as they often bolt their food, and when in the unground state the grain often passes through the animals without giving them very much benefit. If you are situated so that you can grind this grain on your farm, you are able to give your horses a very good feed in the proportion of one part of wheat to two parts of oats. As the winter advances, however, I would about the middle of December, say substitute corn for the wheat part of the ration, as it is much more heating.

W. H. U.

The tendency of our large cities to specialize as markets for certain products is illustrated in the growth of Omaha as a wool market. One Omaha warehouse is now taxed to its full capacity of five million pounds, and others will soon be built. Wool will soon be stored and advances made to the growers.

Live Stock and Dairy

Best Market Hog—Pumpkins as Hog Food

A SUBSCRIBER to FARM AND FIRESIDE, G. W. V., Vienna, Illinois, writes: "Please mention the hog that is best suited to the general market demands. Why do we want the early to market hog? Are pumpkins considered valuable for hog-feeding purposes, and if so, how should they be fed?"

In answer to the first question I will say that the hog that is best suited to the general market demands must be wide and short of head, deep of heart and sides, broad of back and not too heavy of bone. The tendency to excessive bone has not always been found conducive to easy feeding and early maturing qualities. He should have a quiet disposition and his general character should indicate an easy feeder. He should be practically fat and ready for the market at all times after six months of age, and should be capable of making a weight of three hundred pounds at nine months of age. This is not a high mark to set, and should be reached by all feeders who give the hog a proper ration and good care.

Why the Early to Market Hog?

The reason we want the early to market hog is because the first part of the hog's life is the period of rapid growth. By taking advantage of the laws of animal growth a feeder may gain a much greater per cent on his investment than when he goes at it blindly. The lard hog of old days that ate until it could not stand up any longer has passed away, thanks to the exposure of his profitless life made by the experiment stations.

Prolificacy must not be lost sight of in the general-purpose hog. It has been observed that domesticity tends toward less prolificacy in our farm animals. The remedy for this is to use only sires and dams from large litters, and these in but moderate flesh. Excessive fat produces a crowding of internal organs that is detrimental to fecundity. Other conditions may modify somewhat, but the above is the foundation of success.

The rule most accepted nowadays is to use a smooth, compact sire and rangy

than for the actual food constituents they contain, hence the reason why pumpkins are considered equal to root crops. I regard them as especially valuable for hogs at this time of year, when new corn constitutes the principal portion of the hog's ration.

Hogs are very apt to become constipated at this season, especially those that have been accustomed to pasture during the summer months; and since pumpkins are laxative they are very valuable in preventing hog cholera, not because of any medicinal effect, but because they maintain the bowels in a normal condition.

It is not desirable to feed too large quantities of pumpkins, especially to fattening hogs. It is best to feed about the same number of pounds of pumpkins as grain. To brood sows, however, a larger proportion of pumpkins may be fed to advantage.

Some farmers are of the opinion that pumpkin seeds are injurious to live stock, believing that they act injuriously upon the kidneys. This impression seems to be quite common, but scientific experiments and practical feeding tests have never corroborated this belief. It is not necessary to take the seeds out of the pumpkins for stock-feeding purposes; in fact, it is a waste of time, and also of valuable nutrients, because they contain a considerable amount of protein, carbohydrates and fat. W. M. H. UNDERWOOD.

Salting the Cows

A SUPPLY of salt available whenever the cows want it is necessary to maintain a high yield of milk. Salt stimulates the appetite and assists digestion and assimilation, which increase the flow of the fluids of the body. Salting feeds for dairy cows once a week is not sufficient. It is a good plan to keep rock salt under shelter where the cows can get at it at will, and then feed loose salt once a week in such quantities as the cows will eat. Loose salt may be used exclusively if it can be sheltered from rain. It is not best to mix salt with feed, for frequently the cows will get more salt than they need, which will reduce the flow. Cows having



Berkshire Sows and Pigs

sows. My experience along these lines has not been entirely satisfactory, the best results coming from using sires and dams of similar type. Too much diversity between sires and dams brings litters of two types, and when the product is old enough for breeding, one is never sure to which side it will revert in the offspring. Similarity of breeding stock produces offspring of much greater reliability in its reproduction.

There is a theory, and now a growing one, among some breeders and farmers that young breeding stock is more sure to produce early maturity than old breeding stock. While this may be true, it is also a fact that young breeding stock does not produce the size that old breeding stock does, and I am of the opinion that the good arising from breeding young stock is more than offset by the bad results. I am confident that it is much safer to use aged sires and dams that have come to their maturity quickly than to experiment with immature ones.

Feeding Value of Pumpkins

When fed in limited quantities to any kind of live stock, pumpkins possess about the same feeding value as mangels, although they are more watery than the latter. Mangels contain about ninety per cent water, carrots eighty-eight per cent, and pumpkins ninety-three per cent. Root crops are valued more for their succulency

salt kept before them at all times in separate compartments will not eat too much.

An overfeed of salt to a cow that has been deprived of it for some time acts like a poison and produces an irritation in the digestive organs which results in scouring. W. H. U.

Coal Ashes Protect Against Lice

I read of a remedy for hog lice. For many years I have known that for lice on hogs, horses, cattle and chickens coal ashes is a sure cure. I sift my coal ashes and dust the hogs well with the fine ashes, and throw plenty in their sleeping apartment, and the lice go.

For colts, put the fine ashes along the back from the top of the head to the tail, and work the ashes in with the hand along the back and down the sides. Treat cattle the same way. For chickens, get them into close corners, where you can keep them until thoroughly dusted. This treatment ought to be used for chickens two or three times a week if the lice are bad, together with throwing the ashes in every nook and corner of the hen house. It will do no harm to the chicks; dust them thoroughly. A good plan is to have a box four feet square and ten inches deep kept in a dry place, with plenty of coal ashes in it, for the fowls to wallow in at pleasure. A. BOTHWELL.

Dairy Precautions

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Practical Farm Notes

Depth of Plowing

FALL plowing is as important as spring plowing, and can be carried on until very late in the fall, even until the latter part of December.

The depth to which land needs to be plowed is a matter of very great importance. If the land is plowed an inch or two deeper than it needs to be plowed, the amount of extra work put on it is very great and costs money in the feed that has to be given the horses and the time of the men engaged in doing the plowing.

Investigations have demonstrated the fact that in very many situations plowing does not need to be as deep as it has been customary to go with the plow. This is especially true on good, open soils where the air naturally works down and the roots when given a good start readily penetrate to greater depths than that disturbed by the plow.

It is an error to suppose that the roots of plants feed only to the depth the land is plowed. The roots of various plants have been followed downward for four or five feet and found to go still lower. Alfalfa roots and the roots of peach trees have been traced downward even twenty and more feet. The soil that is plowed is in suitable condition to give the plants a start; but when a plant has been given a good start it is in condition to drive its roots into the soil with great power.

Ordinarily shallow plowing gives as good results as deep plowing, but heavy clay soils should be plowed deeply, especially if they be virgin soils. This turns up the soil and exposes it to the action of frost, which is sometimes very necessary in clay soils. Plowing should be always deep enough to cover all weeds and stalks of plants to insure their rotting.

WM. H. UNDERWOOD.

Saving Seed Corn

As is usual in the fall of the year, the agricultural press will likely have plenty of advice for the farmer as to saving seed corn. Some writers will give such fine theories on the subject as to disgust the busy farmer; others will give more practical advice.

My experience leads me to the conclusion that it pays better to save my own seed rather than depend upon buying seed. Last fall I had fears that I could not select good seed from my corn, as it seemed backward about maturing, and did not make real solid corn. I selected some seed, however, as I husked my corn. When husking, I put the best well-filled ears that came nearest my ideal ear aside and took them to the house. These were put upstairs, where they dried, and were stored away where the rats and mice could not get at them.

Some time before planting time last spring I tested my seed corn and found that every grain used in the test germinated. I used my own corn for planting, and had no trouble with corn not coming up. I secured two samples of seed corn from a prominent seed-corn dealer, and found that only seventy-six per cent of one variety and only eighty-four per cent of the other variety germinated under field conditions.

One thing I notice with seed corn offered for sale is that many of the grains bear the mark of the sheller. I never use the sheller in shelling seed corn, but always shell it by hand. A grain, no matter how slightly it is broken, if it grows at all will send up a very weak sprout which will not amount to much.

Another point against the purchase of seed is that new varieties may not suit my locality. It may be too early for best results or else it may be too late a variety to suit me. Once I purchased some seed that was said to be an early variety. It was planted reasonably early, but when frost came it lacked not less than three weeks of reaching maturity. If I had trusted to this variety for my entire crop I would have had nothing but soft corn that year.

A. J. LEGG.

Stick to Your Farm

WHEN I say stick to your farm, I don't mean just stick to farming, but I mean to have you stick to the particular farm that is now your home. The discontent with the small farm and the ambition to own a large farm have caused more unrest, more worry, more debts and more heartache than any other one mistake the farmer has made.

If an old man's experience is worth anything, I should like to testify to the truth of this statement, in the hope that

it may prove a benefit to younger men. I would not for a moment discourage a renter or a homeless young man from going to a new country to get himself a home, and help develop a promising land, for this is the way to obtain homes and build up the country; but I would discourage the man who has a home from leaving it with the hope of getting a larger farm, and thus bettering his conditions.

When my wife and I started up house-keeping we had a fine little farm, well improved, in a good community. Before many years I felt that the farm was too small for me, and besides, I had ambitions to exert my talents in other lines besides farming. We sold out, and in a less-favored community bought a place twice as large, going in debt for part of it. For a while things went well enough; then a panic came, and the debt pressed heavily upon us. The result was, we sold out, and went from place to place, and while we always owned a farm, we never stayed long enough at one home to take root and feel that it was our real home.

It was hard to leave the first home; but since that, every home has been easier to leave, and we are never very long at one place until some inducement comes to change location, and we really never get settled down. While we love the country and love Nature in all her forms—the grass, the flowers, the trees, the birds—yet we fear to become too much attached to anything, lest it will be too hard to leave it. We feel that it is hardly worth while to plant a tree or shrub, as we know not how soon we will go away.

This feeling of homelessness—too much like that of the "man without a country"—is not at all conducive to happiness.

The effect on the children is still more unfortunate. Every move tears them away from their best-loved associates, and in places it is difficult for them to find company that they can enjoy. Their education suffers by these frequent changes. When they become of marriageable age their opportunity for wise selection is very much hampered by being confined to a community of strangers.

This changing about has not been entirely barren of advantages. Conditions different from the home locality pushed me into the preaching of the Gospel, which gave me an opportunity of developing every talent I possessed. In this line of work I have been reasonably successful, and many and sweet are the joys of the faithful minister. In recent years I was crowded into a special line of church work, which necessitated the publishing of a paper—which had been the aspiration of my youth, but had long since been abandoned as hopeless. The satisfaction of knowing that a good work is successfully carried on through this avocation compensates me well for all the loss and sacrifice of this homeless, transient life, but hardly recompenses the family for all they have missed.

In the light of my long experience I would say to every young man that has a little home of his own, and can be at all satisfied where he is, stay where you are. Improve your farm so it will produce better. Pare down your wants a little below your income, and enjoy your simple home life. Of course, if you have talent and ambition to do things other than farming, you must be the judge of what is best. If your ambition is only desire for office and honor, crush it under your feet. Shun politics, for happiness and politics go not hand in hand.

"There is no excellence without great labor" and there is no great success or great achievement without a correspondingly great sacrifice.

Cement Walks on the Farm

THE farmer can construct his own cement walks at a moderate cost. He will find them more serviceable than the board walks, and when all the advantages are considered, the expense is not great. Granitoid lasts indefinitely. It neither rots nor needs repairs.

If the ground is sandy, allowing the water to drain away rapidly, there will be no need of any excavating unless there is organic matter that will decay and allow the walk to settle. Where the soil is a stiff clay it is better to make an excavation about fifteen inches deep and the desired width. This may be filled in with coal cinders or gravel up to five inches of the top. The gravel or cinders should be tamped down until it is firm. One-inch boards may be used for the sides and should extend as high above the surface of the earth as the walk is

to be. These boards must be well staked and braced and level. If the farmer has two-by-fours, they will be much better for the framework.

Fill to within one inch of the top of the boards with concrete mortar made by thoroughly mixing and wetting two parts of clean sand, four parts of coarse gravel and one part of Portland cement. Do not weigh, but measure the material. The mortar should be thick and should be tamped or beaten down well, leaving it firm and level. When it is set the top coat should be put on. It may be made by using three buckets of clean, coarse sand to one bucket of cement, mixing thoroughly before wetting. Fill the space between the side boards to the top, and level off with the edge of a perfectly straight board. The surface can be smoothed down with a trowel as it dries. Too much rubbing causes the cement and sand particles to separate.

It is a wise plan to cut straight across and through the lower bed of cement with an old ax at intervals of four feet before the top coating is put on. The side boards can be marked where the cuttings are made, and the top coating should be marked through at the same places.

W. D. NEALE.

Shorter Hours for the Farm

IN THE South and some localities in the East it is a rule of the farmer to work from "sun to sun" all the year round, year in and year out. He gets up before the break of day and feeds his team; his wife also rises and prepares his breakfast; after returning from the barn he eats breakfast and is ready for work when the sun peeps up.

Do the necessities of the case require such constant and unceasing toil? Must the farmer make a slave of himself and also of his children to obtain the bread of life and such clothes as his family require? We emphatically say "No!"

Under the old system, when the farmer's tools consisted of a single and double plow, cultivator, hoe and wagon, and all farm productions were low, it did require all of his energies exercised all the time to make both ends meet; but under the present condition of things—high prices for all farm products, and every kind of labor-saving machine to be had at reasonable prices—there is no need for any farmer to labor in fall and winter more than eight hours a day, and ten hours in spring and summer. When grain was low the tiller of the soil had to make up for the deficiency in price by increased bushels; this necessitated the working of a larger area, which required a great deal more labor. Even after the introduction of improved machinery, the farmer having the same desire to increase his income, still continued to labor as before—he could not get out of the habit—and the son followed in the footsteps of the father.

A great deal has been said by the press everywhere about the slothfulness of the negro; the expression used to be, "He is as slow as a snail." It is now said, "He is as slow as a negro." But the system of working in the South from "sun to sun" is largely responsible for the negro's slow movements. What encouragement is there to a laborer "to get a move on him" when he knows he must keep that pace up until the sun sets? If you will say to the negro, "Work faster, and you can have an hour off this evening," you will then see him put in his best ticks.

More Brain and Less Hand Work

The farmer needs to do more brain work and less hand work. He must have some system about his work, and regular hours appointed in which to do this work.

The long hours required on the farm are driving young men to the cities, where the hours of service rarely exceed ten. If the farmer will keep a good number of cows, sell all the milk and butter he can spare, raise improved hogs and sell pigs, encourage his wife to keep a nice flock of hens, disposing of all eggs and chickens not needed for home consumption, he will find he can cultivate one half the usual area in regular crops, have some spare moments in which to read, and have more cash in his pocket at Christmas.

W. H. ARMISTEAD.

Uvalde County, in southern Texas, is said to be the leading honey-producing county in the United States. There are more than fifteen thousand colonies of bees, and the annual production is over one million five hundred thousand pounds of honey.

Practical Farm Notes

A Quiver of Farm Arrows

I DON'T like to hear folks all the time complaining about things they can't help. Some folks are always expecting the potatoes will be struck with the blight, or the oats will not be worth thrashing, or the apples will all drop off. It makes me just as homesick to hear them talk this way! If we do our best, and things don't turn out as we would like to have them, the best way seems to me to be to go on and think it must be all right somehow."

Homely philosophy from a farmer's wife, and yet full of truth. I do not know that farmers are any more apt to be all the time anticipating trouble than any one else, but I do know that they are at it a good share of the time. No matter how rich or how poor we are, be we young or old, fat or lean, it does seem as if we are bound and determined to look for "boogers" all the time. Something is going to happen to us, sooner or later. The blight may be away off yonder, a hundred miles away, but it is going to get us in due time, whether we "watch out" or not, and it just takes the happiness all out of life. What a shame it is, too! Would it not be better to take the view of it another farmer's wife does? She says, when the men folks are worrying about the haying and the other crops, "It will be all over in a little while. Next year we will have forgotten all about this year's troubles. The best way is to let it go. Do the best you can and let it go."

But there we are again, up against another problem. How far is it best to "let things go?" Not long ago I met a farmer whose face was seamed with deep furrows. You would know that care had a big place in his life. He was riding on a train at the time I met him, and every minute of the day he was watching things as they flitted along outside. By and by he turned around to me as I sat just behind him, and said:

"Nice valley, ain't it? Good farm land!"

"Yes. The farmers must be prosperous along here."

Then he visited along quite a while, telling me that he did not know hardly how to get away from home that day, he had so much to do. The weather had been unfavorable and work was behind-hand; but one of his boys had sent word to him to come down and meet him, and he had made up his mind to go. In the course of our conversation I said something about farmers worrying about their work.

"Well, you've got to worry a little," he said, "if you get anything done!"

Plump against it! But I think that man mistakes good, honest care and foresight for worrying. We must all watch the corners in this world. That is, we must be on hand with our work—"up and a-doin'," as my good old down-east grandmother used to say. If we are not, if we sit down and let things drift along, there is nothing surer than that the first we know our ship will be on the rocks.

I used to know a farmer who spent a good share of his days having a good time. His way of doing it was not just like that of most men I know. He stayed at home pretty close, but he did like to smoke and read story papers. His cows—and he had a nice lot of them—had to take things the best they could. Sitting up late at night, he did not feel like getting out very early in the morning. The result was, his cows did not do very well for him; how could they? He was a nice man, good company and real sociable, but he never did well. Soon the farm slipped out of his hands and he took a place far below that which he might have occupied had he been a bit more energetic. It is a fact that we must "care" if we would do well; but as for worrying, that never helped a man to success or happiness.

Now another thing. I had a little visit with the mail carrier on a rural route the other day. He said something like this:

"I wish you would say something in your writings about sending money loose in letters. Lots of folks do that. One man on my route once a month regularly sends a silver dollar in a letter to some insurance company or something of that kind. Some day the envelope will get torn, the money will lose out and I will be the first one to be charged with taking the money. It seems as if it would be better to get a money order. They don't cost much and are so much safer."

I see the side of the carrier and I be-

lieve he is right. We put temptation in the way of the mail agents every time we do a thing of that kind. We do not realize it, but we do, all the same; and then if anything does happen to our money, we are quick to charge the carriers with the loss. The worst of it is, the man we think is to blame may be the last one who ought to be suspected. As a rule, the clerks who handle the mails of this great country are strictly honest. Very rarely is anything ever lost in the mail. No matter how many mistakes we may make in addressing letters, the clerks do their best, and we ought to help them by doing our part as nearly right as we can. E. L. VINCENT.

Shelter the Machinery

THE average tool on the farm is used only about one month during the year. Where is it during the remaining eleven months? If each were to answer this question, it would be answered in various ways. The answer would state in many cases just what is keeping many farmers poor. More tools are rusting out than are wearing out at useful service. Why are the farmers of this country allowing this waste?

We should by all means plan to have shelter for all the farm machinery, and put it under that shelter as soon as possible after using. If we cannot have a good tool shed, then we should at least have a cheap protection in some way, so that the tools may be sheltered from the weather. A cheap shed covered with

straw or cane stalks may be used, and it will shelter the tools all right.

Machinery costs money and is expensive enough at first without letting it rust out. Many tools last the owner only one third as long as they would with proper care and shelter. Why conditions are thus is more than we can say, but it is so, and it is time that we farmers were waking up and making a saving whenever we can do so. There is an opportunity for doing a lot of it in the caring for farm tools.

We can easily figure that our tools and machinery will last at least twice as long when we give them proper care and shelter. In many cases they last much longer, and then they do so much better work while they do last. It takes longer to get rusty tools into shape for work, and they are not pleasant to work with.

The way we should do is to have a tool shed, and when we are through with a tool, put it under that shelter. If we want perfect working tools, this is the way we must do.

Did you ever figure how much you had paid out for tools during the last twenty years? Just estimate it once, and when you have figured it out, you can just say that if you had not left your tools out of doors during the time when not in use you could have saved a half of it; and how many acres of land would this half buy? If you have sheltered your machinery you can say that you have paid out only half as much as your neighbors who winter their machinery in the fence corners. E. J. WATERSTRIFE.

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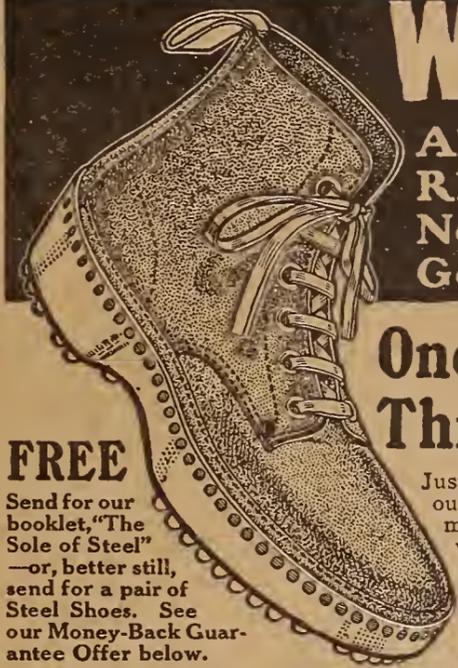
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Corn-Husking Time

NOVEMBER is not what you might call a cheerful month. The bright and pretty spring time, the long daylight summer, the flaming red-and-yellow autumn have passed away, and the year looks faded and draggled. The bare branches and the dead herbage seem waiting in a dumb chill for winter to come on—winter that is to make us prisoners for six months, with the outside cold for jailer.

Of all the twelve, November is the spookiest. For untold ages it has been the month to pacify the dead folks and keep them from coming back to haunt the living and terrify them out of their senses. This is a long story and should not be gone into here. It is a rather curious fact that Ragamuffins' Day, which is Thanksgiving Day as celebrated by the little boys and girls of New York City in mask and outlandish get-up, the boys dressed up as girls, the girls as boys, can be traced back to heathenish ceremonies to fool the poor spooks who feel lonesome and cold these nights.

But, after all, November is rather pretty when you consider the shocks of corn standing in the fields all over the country, as it were the tents of a great army enlisted not to destroy and pillage, but to fill the mush kettle of a great nation and to make hog meat nice and greasy. It is peculiarly an American army. The plant is a native-born citizen that never needed to take out first papers. It has grown up with the country, for it was originally a short grass with a mere nubbin on it. First off, women tilled it and got it going in the right direction, and then men took hold of it and developed it into a tall and stately plant with an amazing fruitfulness which looks as if it had only begun. And while you are thinking on that, take also this thought: That the wealth of the world has only come through men's taking up women's work. It was the woman that found the Fruit of the Tree of Knowledge of Good and Evil Things, and gave it to the man, so that the human race has become as gods.

* * *

It is so preeminently "corn" with us, that to say "maize" entails a mental effort, and we have to stop, when we are reading British books, and translate what they call "corn" into what we should call "wheat." Half the heart-breaking pathos of that poem of the Irish Famine that begins:

Give me three grains of corn, mother,
 Only three grains of corn,
 To keep the little life I have, mother,
 Till the coming of the morn.

is spoiled by the comic thought of the hungry child biting on the flinty field corn, hard as glass and about as nutritious in the raw state.

Corn is beautiful from the first shoots that stab upward through the brown earth in spring time, with the blades rolled like a school-girl's essay, to when its long green pennants clash and thrash and its tassels scatter their powder on the tender silk that used to look so like soft eating tobacco.

But after the time when "roasting ears" (which no one roasts) fail in the garden, and the long ears, full rowed and firm, mature, the plant's prettiness begins to fade. It's like the young folks who are at their handsomest in mating time, but who grow slab sided and clumsy footed, wrinkled and sallow and gray when, in a manner of speaking, their families have "set"—dignified, venerable, worthy of respect, the yellowish stalks and the old married folks, but scarcely pretty.

They'll be husking corn this month about now. It's a job, a lonesome job, and sometimes a cool and airish job. The Woman's Page in the Sunday newspapers has a lot of advice about how to keep the hands looking nice and pretty, what emollients to rub into the skin, what oatmeal will do, and lemon juice, and rouge buffed on the finger nails, but there never is a word to recommend corn husking for the hands. And that's curious, too, when you look into it.

Corn husking in these days is not the frolic of the old times. But before the era when the city opened up

like a bottomless gulf into which streams an endless tide of country boys and girls, by all accounts a husking bee must have been quite a doings. We can imagine Mose Enright and Pete Eccles (or whatever the names were of the captains that chose up sides) and them calling on those whom they deemed the spriest, and those who didn't hear their names until the last must have felt mighty sheepish to be thus pointed out as slow motioned and not much to be desired. In the bosoms of such must have flamed a sullen "I'll show 'em what I can do." Which isn't an evil thing in itself.

On such occasions, too, there must have been few things prettier than a nice red ear of corn, one way of looking at it. (This is mostly hearsay, but doubtless some of the "old settlers" can remember back and say for sure whether it is true, as has been reported, that the girls who helped at husking really did manage to get red ears into the pile of the best-looking young fellows.)

* * *

It must have been right interesting. There was good eating, they say, at the supper, and there is talk about pumpkin pie and cider kind of fizzy and excitable, which is a trick that cider has in the early part of November. Also, if one listens closely harkening to the past, one seems to catch the scraping of a bow upon well-rosined strings, sounding fifths—"empty fifths," the books on harmony call them—but laws-a-my! full as a tick of memories and anticipations of good times past and to come. And later, when the fifths were brought into clear assonance with each other, the shrill and merry E string with the melodious A string, the A string with the sober D string, and the D string with the loud and "gostering" G string, and the little funny business of nimble fingers all up and down the neck board and a bow that could fly six ways for Sunday had mingled with the last cry of "One more couple wanted," there came a tune that had tune in it, that you could pat your foot to— Yes, pull the corners of your mouth down. It was no doubt very wicked and sinful, and the young people would have been much better off at home and in bed, so as to be up bright and early the next morning, and feed the stock by lantern light, but— Well, it was a long time ago anyhow.

* * *

The country is as empty as a gourd these days, of young folks that once made it lively and full of fun. But there's no use feeling blue about it and shaking a mournful and despairing head. Maybe it won't be that way forever. If it could be arranged so that the products of the farmer's working time could be exchanged for products of the working time of weavers, shoemakers, machinists and all such upon an even-Stephen basis, hour for hour, the country wouldn't be such a bad place to live in. If just a so-so farmer could get a living from his farm amounting to, say, five thousand dollars a year, if the grass didn't exactly grow in Broadway, office rents in some of these skyscrapers would suffer a mighty come-down, which mightn't be bad for the country at large, either. And once more there might be corn huskings in America, who knows? and pretty girls with an eye out for red ears of corn and fine, upstanding young fellows, and fiddlers calling out "Dos á dos!" and pumpkin pie and cider, all fizzy and excitable.

What a pile of corn 'twould make if all the yellow ears this country grows could be heaped up into one heap. Yet big as it would be, it wouldn't be half as big as it might well be with no more work on no more land. On the average it's something like twenty-five bushels to the acre, and when you call to mind that one hundred and thirty bushels to the acre is not unheard of, and that the record yield is two hundred and twenty-five bushels to the acre, it is plain there must be all too many corn fields "yaller" and pindling with the weeds higher than the corn.

But it's no use raising twice as much corn if only half as much other things can be bought with it.

Doubtless it is true that the world market has only so much money to spend for corn. But ability to use and ability to pay are not exactly the same thing. It has been computed that if every adult man and woman in the country had each a common soldier's ration (which is by no means extravagant living), leaving the children out of it entirely, there would not be grain enough and meat enough in the country to supply the rations. Somebody must be going light on victuals, for this country is shipping out foodstuffs just as they shipped foodstuffs out of Ireland while the child was pleading, "Give me three grains of corn, mother."

It will be a long and lonesome job husking corn this year. It will give time for thought on many subjects. One good one would be: How to Increase the Home Market of the Farmer. The tariff was to do that, if you remember. It was to make prices a trifle higher, but then that would give profit to the manufacturer, thus enabling him to pay higher wages to the factory hands, who would then buy largely of the farmer. Somehow that hasn't worked out according to the specifications. The weak point seems to have been the wages of the factory hands. If every man and woman in the country had the ration of the common soldier (and the amount of grain and meat raised will not now supply that ration), to supply that ration would rather boom agriculture, wouldn't it?

EUGENE WOOD.

Back Talk to Lewis

Letters from Readers

EDITOR OF FARM AND FIRESIDE:—

I am a constant reader of FARM AND FIRESIDE, and although interested in agricultural work, the first thing I read is the article in each number written by Mr. Alfred Henry Lewis. To Mr. Lewis I would say that he is doing a grand and noble work. To say that scores of other men of his caliber are needed is putting it mildly. The man that digs up and exposes the rottenness of our present system is a blessing to his fellow men and must feel an unending joy in his work as the words of the message flow from his pen.

Ohio.

J. ALBERT SMITH.

EDITOR OF FARM AND FIRESIDE:—

Notwithstanding the scope of agricultural papers has broadened, I am quite surprised to see you have opened the columns of your paper for political discussion. An agricultural paper ought to educate the people along the lines of farming and not direct their attention to the political issues of the day.

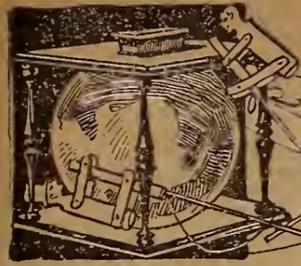
Almost every farmer takes a political paper, but I know a good many who do not take an agricultural production. The farmers, as a rule, know their needs and will find out by experience which political party will serve them best. While Mr. Lewis is a bright and versatile writer and amuses us with his criticisms and witticisms, yet I think almost every intelligent reader is acquainted with the facts he writes. Can't you or Mr. Lewis take up the monetary systems of Europe and tell the people something about them? Information of this kind will be greatly appreciated by the people just now.

Virginia.

E. W. ARMISTEAD.

(I believe you will agree with me that now, as much as ever in the past, the welfare and the interest of farmers, as well as all other citizens, is strongly influenced by and linked to political issues. If the farmer takes a political paper, the chances are nine to one that it is a confirmed party organ and places the party ahead of anything else.

We quite agree with you that the all-important problem of FARM AND FIRESIDE is the farm itself. At the same time, the great success that FARM AND FIRESIDE has made is, at least, partially due to its fireside end. It is our aim to build on to the backbone of the farm side of the paper a Home and Fireside Department which will be of keen interest and entertainment to every FARM AND FIRESIDE family.—Ed.)



Politics

By Alfred Henry Lewis



CONGRESS will convene next month. When that grave body has settled to its lines, my counsel is to write your member letters. Show him the way he should go; bid him walk therein.

It is better to write a letter than tell him what to do by word of mouth. It marks the difference between the eye and the ear. Were I to tell you of a man run over by a railroad train, you'd feel a conventional horror that might last a minute. Were you to see some unfortunate ground beneath the wheels, you'd jump about in your sleep for a twelvemonth. The great gate to the intelligence is the eye, and the written word is potent beyond the spoken word.

Write your congressman that the expenses of government are fourfold too high. He knows they are; but it will affect him not a little to discover that you, too, know they are. Where one dollar is publicly well spent, three are publicly wasted and worse than thrown away.

Let me tell you of the waste of a decade and a half ago. Not but that I might tell of present waste; but in doing so we'd step on divers governmental toes, and for the purpose in hand there's no call to do so. Precedent in the matter of public extravagance is as powerful as precedent in a court of law, and the waste of to-day is but the waste of yesterday with a handful of ciphers added.

What of that a decade and a half ago?

First a word concerning government itself, and a habit it has of not paying its honest debts. It owes millions for gold borrowed to fight the Revolutionary War. It even owes for the dome on the Capitol. I speak of these things, because if it were not for the money it wastes, the government might easily meet these honest claims, and still have money in its pocket instead of a hole and a deficit.

He who—being in its service—would have the government honest is punished. Take this hypothesis: Suppose the nation owed you one hundred dollars, or one thousand dollars, or one million dollars, and you didn't know it—wasn't by some fatuity aware of it. Suppose some treasury clerk, who did know it, told you. What would happen to the communicative, good clerk?

He'd be dismissed—butchered without benefit of clergy.

Why would the voluble, excellent clerk be dismissed? It is a rule of the department. Your clerk would have committed a crime worse than treason in telling you of your rights. No matter how griping may be your poverty, or how your withers may be wrung by want, the governmental instinct is to cheat you of your dues. It pays nothing it can lie out of, or back out of, or escape from in any fashion.

* * *

Leaving the treasury, and crossing over via Fifteenth Street and the Mall to the Agricultural Building as it was manned and equipped those fifteen years ago: Of all Mr. Cleveland's cabinet, I liked Secretary Morton of the Agricultural Department best. He was the most honest, the most intelligent, the most brave—bar General Gresham—of all that Administration.

Also, his instinct was to save.

And yet, what could one man do? Nothing! Secretary Morton saved in his department millions of dollars. Of what use? None. Did the people get it in a reduction of taxes? No. Was it still in the government weasel skin? Not at all. It was wasted and spent by somebody else. It was like stopping one leak where forty existed; it saved nothing. The money all ran out finally through the other thirty-nine.

Not one hundred feet from where Secretary Morton sat, saving money, was the agricultural "bug house." It is gone now—removed, I understand, to one of the many experiment stations. The star insect in that bug house was the basis of an expense account of twenty thousand dollars. And for all of the twenty thousand dollars that he cost, he wasn't much of a bug.

Secretary Morton himself told me the story of that high-priced insect. "My scientists heard of him," said he, "and argued that he was new to them. Nothing would do but he must be captured. They organized an expedition, and cut the bug's trail somewhere in the Rocky Mountains. This was in the Wind River country, the season, summer. They chased the bug to Yukon. Winter set in; the bug and scientists fell back before the Arctic snows. The bug doubled, scientists in hot pursuit. This time the chase led as far south as Panama. It was there the bug lost hope of escape. He made a straight wake for Washington, and was finally collared in the grounds about the Soldiers'

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

Home. He's out there in the bug house. The whole cost—north to the Yukon, south to Panama, across lots to the Capitol and the Soldiers' Home—footed up to twenty thousand dollars. Now and then, when I contemplate that bug, and reflect on his low and vulgar habits, I almost doubt if he's worth the money."

Those same hot-foot scientists chase similar strange bugs expensively to-day. The present is as bugful as the past.

* * *

Garden seeds are a good governmental thing, but Secretary Morton didn't believe in them. Congress passed laws to compel Mr. Morton to a belief in garden seeds. He bought enough to plant a truck patch four rods wide, and long enough—twenty-five thousand miles—to girdle the earth at the equator. Those seeds would have made a garden patch five hundred and twenty feet wide—almost two city blocks—the width of our continent.

Garden seeds, as I say, are a good thing. The system that handles them would make you weep. The majority of garden-seed congressmen leave orders with the Secretary of Agriculture to send their allowance to the party chairman of their districts, to distribute as political arguments showing why the congressmen would be re-elected.

Looking over the books for the last year of the Harrison administration, such encouraging figures as these were found: Secretary Rusk paid thirty-one thousand dollars for garden seeds, and then paid over fifty-two thousand dollars in clerk hire to pack them to send away.

They do these things now.

* * *

There was the Fish Commission. The first bill Mr. Carlisle as Secretary of the Treasury ever paid was one of three thousand dollars to buy a silver tea set for the Fish Commission. Did the members mean to take tea with the mermaids?

It was in the spring of 1895. The scientists of fish must needs make a shad roundup. They must lay in a stock of shad roe; the same to become—under their brooding—subsequent small shad, and distributed—these orphan shad—heaven knows where, and never heard of again.

The Fish Commission steamed off down the river, and assisted by a giant concourse of scientists in eye glasses and negroes in high hopes proceeded to spread its nets. It took all day—that haul. They got sixty-eight shad by corral count, whereof some thirty belonged to the gentler sex.

Also, they had a good picnic-like time.

These thirty shad cost the government about three hundred dollars. The Fish Commission might have bought three hundred roe shad of professional fishermen for a ten-dollar bill. But, of course, that would not have been scientific—nor like the Fish Commission.

* * *

These same enthusiastic tax eaters—they should be given the shark for a coat of arms, this Fish Commission—rented a tract of land down the Potomac for some scaly purpose or other. The land was worthless for all uses save as so much bank to the river. They paid a cent a year rental. That is, the sage Fish Commission paid a cent at first.

When the lease ran out, and after the purblind Fish Commission had erected thousands of dollars' worth of buildings, without one single provisional string tied to any of them to make the government safe in their putting up, the owner of the land demanded ten thousand dollars annually for a new lease.

And got it.

Otherwise he would have got the buildings.

This worthy board of spendthrifts borrowed a boat of a citizen. The boat, to put it extravagantly, might have been worth twenty-five hundred dollars when it was thus loaned to the Fish Commission. They then got busy. First they asked permission to lengthen the borrowed boat; then to widen it; lastly, "Could they put a new engine therein?"

"Certainly," said the crafty old sea-rover who owned the scow.

And with that, the Fish Commission fooled about, lengthening, widening, painting, re-engining that old tub until it came back to its owner worth fifteen thousand dollars.

Such was science, and the Fish Commission, fourteen years ago. Also, time hasn't changed the Fish Commission—much.

* * *

One Harrington—a scientist—came before Mr. Morton. Scientist Harrington was the weather prophet—the government storm king. He laid a memorial before Secretary Morton, elaborately setting forth in twenty-five hundred words of typewriting that the weather man at the Baker City, Oregon, observatory hadn't sent in a weather report for four days.

"And I recommend, Mr. Secretary," said Scientist Harrington, with that profound, deep-seated air that goes with your true scientist, "that our man at San Francisco be ordered to proceed to Baker City, at an expense not to exceed one hundred and fifty dollars, and discover and report why the observer has not transmitted his observations for those four days."

"Well," said Secretary Morton with a directness not at all scientific, "we'll do all that when ordinary means have failed."

Then the Secretary took a telegraph blank, and wired the delinquent: "Why haven't you sent reports for the past four days?"

The answer came promptly back: "Because a snow storm downed the wires. They were put up this morning."

Scientist Harrington was disgusted at Secretary Morton's lack of scientific method, and a groveling practicality that paid seventy-five cents for information, and got it at once, instead of one hundred and fifty dollars, with a scientific wait of two weeks.

* * *

Let me give you some further specimen gems of government thrift. The Interior Department, in the day I speak of, maintained an outfit of sleuths to discover timber thefts. Likewise a force of law sharps to recover damages for the abstracted forests. This law gang, devoted thus to the recovery of damages for stolen trees, cost sixty thousand dollars a year. The report showed that for an even million dollars' worth of timber filched, these same thunderbolts of jurisprudence recovered thirty-eight thousand dollars. Thus the account was made up: Lost, \$1,000,000 worth of trees; recovered, \$38,000; cost of recovery, \$60,000; total loss—after the recovery—\$1,022,000.

* * *

Here is another sample. Also, it is alive and kicking in its workings as you read.

Back in the Tom Reed billion-dollar Congress a subsidy bill went through, giving the old Inman, now made over into the American Line, "four cents a mile" for carrying the European mail. They were to have four boats.

The four American Line boats made fifty-two trips a year under whip and spur. Under the subsidy told of, at sixteen thousand dollars a trip, these fifty-two trips came up to \$832,000.

Before the subsidy went into effect—October 12, 1895—the mails to Europe were four each week. The total cost of these two hundred and eight trips a year—it was a question of weight carried—for the year ending July 1, 1895, was \$610,000. The estimate for the year ending July 1, 1896, was \$750,000.

Yet this excellent subsidy stepped in October 12th, and for fifty-two trips claimed \$832,000; and that, too, if only one letter a trip were sent.

Of course, the other three weekly trips must still be made and paid for—one hundred and fifty-six trips a year extra to and outside of the subsidy. These cost, under the old system of weighing the mails, hard by five hundred thousand dollars.

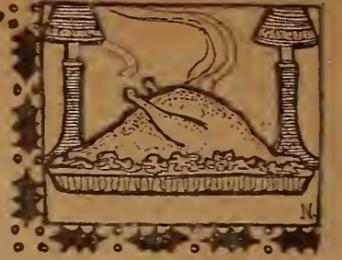
As an economical result we paid \$832,000 for fifty-two trips and \$500,000 for one hundred and fifty-six trips, making a total of \$1,332,000 for the two hundred and eight trips; that before cost only \$610,000.

It is such good things as the above that make this government, which fewer than fifty years ago, in 1860, cost less than fifty-five million dollars a year, or say one dollar a head, come now to one billion dollars a year, or nearly twelve dollars a head for every man, woman and papoose of population.



The Fall of the Chandler Pride

By Estelle M. Ochiltree



DAN scraped the mud from his heels and entered the kitchen door carrying two pails brimful of milk; as he set them on the table for Mary to strain into a row of shining crocks, the mistress of the house stepped briskly into the kitchen from the dining room. It was Miss Sophia's nature to be brisk about all that she did.

"Dan," said she, "I want you to drive the turkeys all in the barn lot in the morning and have them ready for the huckster when he comes; but catch that big wild hen turkey and shut her in the corn crib so you can kill her the day before Thanksgiving."

"All right, Miss Sophi," replied Dan. "The old gal's name is Dennis from this time to the insstink of her death."

Miss Sophia laughed and passed on through the house. It was a great rambling brick house full of delightful old furniture and kept as neat as a pin from garret to cellar. No one could look at the mistress and not realize that all she ruled over must be kept in perfect order, and no one knew this better than Dan, who had worked on the place all his life.

Miss Sophia was of medium height, with a plumpness of figure so often attained by woman past the "fat, fair and forty" age. Her face was good to look upon, for her complexion had almost the freshness of a girl. Her eyes were brown and well browsed and her soft brown hair was only threaded here and there with white. Her real Roman nose accounted for the generalship with which Miss Sophia had managed the large estate, which had been owned for generations of Chandlers, and of which she, as the last Chandler, was the sole possessor.

In the cozy sitting room of the big house a beautiful girl sat near a table, finishing a piece of needlework. This girl was Sophia the second. Between these two women there was the bond of mother and daughter, though the relationship was only that of aunt and niece. The younger woman was also the god child of the elder, and although their names were spelled the same, the neighborhood vernacular did not pronounce them alike. The elder woman had been Miss Sophi to everybody since she had passed her majority. The younger woman was distinguished by the name of "Sophy." She jokingly asserted that "Aunty" allowed folks to call her Sophy, so that she could be "sat upon" if necessary.

Sophy bit off her thread, folded her work and laid it on the table. Drawing her chair toward the fire, she said:

"Come, aunty, let's talk. I'm tired of work and there are such a lot of things to plan for Thanksgiving and John's visit."

"I am sorry that I am not so enthusiastic as you, my dear, but I cannot take much pleasure in the occasion when I am so soon to lose my little girl," and Miss Sophi sighed softly.

"Oh, aunty, don't talk that way. You are not losing me a single bit. I'll be here very, very often, and you shall come for long visits," protested the girl.

"We'll see, we'll see," replied the aunt, knowing too well that when her birdling began making her own nest, matters would be entirely different.

"Aunt Sophi, I want very much to ask you something. Are you in a real good humor?" and the girl curled up at the feet of Miss Sophi and pressed coaxingly the hand lying in her lap.

"Well, dearie, what now? A new hat, another dress, or is it some housekeeping patent? I believe I will turn you over to John empty handed, so he will know at once what a financial problem you are. Perhaps he will be willing to release his bargain before the knot is tied."

"Don't you ever think it, my best and dearest aunty. John doesn't go back on his bargains. No, it isn't any of the things you have mentioned, but something lots easier to grant than anything to buy," replied the girl, who had her own ideas of finances. "You know, dearie," she continued, "this will be my last Thanksgiving dinner as a girl. Next year I will be an old married woman, and I would just love to have this Thanksgiving like it used to be when I was a little girl, only we cannot have grandfather and grandmother with us, but—" She hesitated. "Aunty, let's have Uncle Jerry to dinner this once, p-l-e-a-s-e!"

The brown eyes flashed and their owner sat a little more erect in her chair. A slight frown made the brows seem heavier and the mouth took on a stern expression.

"Sophy," she began, "you ought not

to ask such a thing. You know very well that Jerry Morrison would not come if he were asked, and I am sure I never would ask him!"

"But, aunty," persisted the girl, "let it be my party and I'll ask him. I am sure he will come for me, for Uncle Jerry is always lovely to me." It was some seconds before either woman spoke, when the younger looked pleadingly up at Miss Sophi and impatiently asked, "Why, oh, why? Am I still a child that I who love you more than any other person, and who have loved Uncle Jerry all my life, should not be told why you dislike him so much?"

"There, there, my dear, don't get excited," was the soothing reply. "I have often thought I would tell you, but my courage has just as often failed. We never like to open old wounds, you know."

"Forgive me, aunty. You needn't tell me if it hurts you. I did not know there was any serious trouble between you and Uncle Jerry," said Sophy; then with a smile she added, "I always thought it was

been my lover ever since the time when we trudged through the snow together to the little schoolhouse at the corner. I think there had always been a mutual understanding between us, for I can just remember when we played 'keep house' and Jerry was 'my man' and I was 'his woman.' When old Mr. Morrison died and Jerry asked me to come over to his farm and live, to be his wife, and daughter to his mother, I consented. Just when I was in the happiest moments of my preparations, your mother, my only sister, died. On her death bed she gave you, her little orphaned child, into my keeping, and bade me never forsake you, and to teach you to be a good woman."

Miss Sophi paused a moment and seemed to be living in the past.

"How well I have accomplished my task John will have to answer some time in the future. My heart was almost broken when I realized what I had lost in my sister. When my grief had somewhat abated, Jerry began to plead again for our marriage, offering to take both

had a regular 'brain storm,' as present-day folks like to call fits of temper. As each day passed I grew worse, until I fairly hated Jerry for his neglect, and my mortification at not being able to explain to my friends the cause of his going away at such a time. I suppose I ought to have trusted him, but the Chandler pride overshadowed even my love.

"The night before Jerry came home father came down with pneumonia, and in a few days it proved fatal. The night he came home Jerry came over to our house to explain, I suppose, but I would not see him. I was busy with the sick. He came several times, with the same result. He finally sent me a note asking for an opportunity to explain. I wrote on the back of the note, 'No explanation is necessary. You can never explain to my satisfaction,' and sent the note back to him.

"He never came back, and I do not know to this day why Jerry took that trip. In all these seventeen years we have lived within sight of one another and I have never spoken to him, even when his mother died. I sometimes have felt a little ashamed of myself for being so stubborn, but I'm a Chandler. It's too late now, child, too late," and the brown eyes gazed half regretfully into the fire.

Very softly a pair of girlish arms wound around the neck of the elder woman and a tear-stained cheek pressed hers.

"I don't know how you could love Uncle Jerry once and then hate him. Do you mean to tell me, aunty, that you have hated Uncle Jerry all these years?" asked Sophy.

"No, my child, I am not quite so vicious in my disposition as that. In my fiery youth anger ranked in my heart a long time; it was followed by pride, the old, straight-laced kind, and later came the indifference which I still feel. The Chandler pride would hardly allow me to take the first step toward reconciliation, and I hardly think I care to be reconciled. Jerry has grown better looking as he has grown older, and has acquired wealth, as farmers often do, and I sometimes wonder why he does not give some good woman a chance to brighten his lonely home. I suppose he has almost forgotten the little love affair of ours, and if he thinks of me at all it is probably to congratulate himself upon having missed being the husband of a stubborn and strong-minded woman," and Miss Sophi set her feet rather emphatically upon the hearth, as if she took pleasure in her "stubborn and strong-minded" reputation.

Sophy's face was full of earnest thought; then suddenly she cried, "Why, aunty, how strange. Oh, I wonder if it could be? It surely must be," and she clasped her hands convulsively.

"Are you crazy, child? What are you thinking about?" asked Miss Sophi with little interest in the outburst.

"Why, don't you know," said Sophy, settling herself to tell her part of the story, feeling that perhaps she was solving a mystery, "that it was years ago, when John was just a boy, and about the time of your trouble, perhaps, that John's mother had typhoid fever? They took her to the hospital and left the little children alone at home. They lived in a strange community and their nearest relations were in the West.

"She worried so over leaving the children that the doctor asked her if she had no friend to whom they could be sent. She told him of Uncle Jerry. The doctor telegraphed him, and Uncle Jerry took the children to their relatives out West, all but John, and he put John in a family where he could be near his mother. All the time she was sick Uncle Jerry paid the hospital expenses and the house rent, so John's mother could have the family together again when she recovered. I always thought that was so good of Uncle Jerry, and I have been wondering if that wasn't the trip he took at the time of your wedding. Surely, aunty, you wouldn't have shut the happiness out of both of your lives for such a noble act as that, would you?"

Raising both her hands with a gesture of impatience, Miss Sophi put the matter from her by saying, "I tell you, child, I did not know, and I do not know. We ought not to have stirred this matter up when we want to be happy. Now you run off to bed and get your beauty sleep, for John will be here to-morrow."

Thus dismissed, Sophy kissed her aunt good-night and went to her romantic dreams, but Miss Sophi sat alone by the dying fire for a long time, and hers were

[CONCLUDED ON PAGE 21]



"Thus dismissed, Sophy kissed her aunt good-night and went to her romantic dreams, but Miss Sophi sat alone by the dying fire for a long time"

some silly dispute, like a line fence or a stray cow. But really, now that I am to marry John, I feel that it would be discourteous for us not to be friends with Uncle Jerry, for John's sake. You see, John has told me how much Uncle Jerry did for his mother and the little family after John's father was killed, and it seems such a generous thing for a man to do for the sake of one who was only a school fellow. Then John has planned such a dear little room for Uncle Jerry in our new house, and hopes to have him come to us often and stay as long as he pleases. Of course, you will be there, too, and think how awkward it would be for all of us with a breach between you two."

The plea was a strong one, and the elder woman gazed thoughtfully into the fire, realizing that the plans of these young people were only air castles, so far as her part in them was concerned.

"Sophy," she finally began, "I have not realized until just now that you deserve to know our story, and perhaps it is best for me to tell you the whole thing. I really do not know," she said reflectively, "the exact reason why I cannot speak to Jerry Morrison, for I never asked for explanations, but I do know that something he did long years ago has made my life almost a blank but for you. No girl, not even you, could have loved a man better or been happier in preparing for her marriage than I was. Jerry had

of us, for he soon learned to love our little girl. But I hesitated. I could not leave mother, and I could not go into a new home with you, and I would not leave you, though it was only to go across the creek. Time passed on, and Jerry was patient for a while. He came just the same every Sunday, and as often as he could through the week, and somehow I grew to feel that there was no need for haste. After you had grown to be of school age I felt that I could not put Jerry off any longer, and at his urgent plea I began again to prepare for my wedding. It was to be very quiet and unassuming, yet I did not conceal from my friends the fact that we were to be married. Just two days before the wedding Jerry disappeared suddenly, leaving no word for me. I felt sure that he would be back in time, and felt no uneasiness at first. But on the day set for the wedding I waited with a tumultuous heart, and no Jerry came, but instead there came a telegram stating he could not be there, but would explain later. The telegram came from a Western town. Men are very unsatisfactory in their statements, my dear, as I have learned in my dealings with them. Perhaps I would not read the message with the same interpretation now that I read it then. As we grow older we learn to read between lines and to draw upon good judgment for our conclusions.

"But I was young and hot headed. I

From the Joke Makers

The Pedestrian in 1910

CHUG-CHUG!
Br-r-r! br-r-r!
Honk-honk!
Gilligillug-gilligillug!
The pedestrian paused at the intersection of two busy cross streets.
He looked about. An automobile was rushing at him from one direction, a motorcycle from another, an auto truck was coming from behind and a taxicab was speedily approaching.
Zip-zip! Zing-glug!
He looked up and saw directly above him a runaway airship in rapid descent.
There was but one chance. He was standing upon a manhole cover. Quickly seizing it, he lifted the lid and jumped into the hole just in time to be run over by a subway train.—Cleveland Plain Dealer.

Fully Domesticated

A SMALL boy had gone with his mother to board for a fortnight at a farmhouse down in Maine.
At the first meal they found innumerable flies buzzing about the table. The small boy regarded them closely for a minute or two, and then piped out, much to the discomfort of the landlady, and the amusement of the boarders, "Mama, how tame these flies are!"—M. A. W.



Circumlocution

"Grandpa, if you were a little boy, and your ma had promised you a penny if you got your lessons right, what would you think was the best way to spell cat?"

On a Windy Day

AN ABSENT-MINDED gentleman was going along the street on a very windy day, when suddenly his hat blew off. He flew along the street, and after a long chase picked up what he supposed was his hat. Another bareheaded gentleman arrived on the spot at the same moment, and holding out his hand, said "Thank you."
"What do you mean?" asked the absent-minded man.
"Thank you for capturing my hat."
"But this is not your hat."
"Excuse me, it is."
"Where's mine, then?"
"Hanging down your back."
Then he remembered that he had secured his own by a hat guard that morning.—Exchange.

Omniscience

FOUR-YEAR-OLD Harry was spending the day with his aunt. Dinner was late, and the child began to grow restless.
"Aunty," he said finally, "does God know everything?"
"Yes, dear," answered his aunt.
"Every little thing?" he persisted.
"Yes, every little thing," was the reply.
"Well, then," he said in a tone of conviction, "God knows I'm hungry."—The Sunday Strand.

Avoiding Temptation

TOMMY—"Ma, I met the minister on my way to Sunday school, and he asked me if I ever went fishing on Sunday."
MATER—"And what did you say, darling?"
TOMMY—"I said, 'Get thee behind me, Satan,' and ran right away from him."—Judge.

Not Intentional

THE little girl was very fond of pleasant days, and at the close of a heavy rain storm petitioned in her prayer for fine weather; when, the next morning, the sun shone bright and clear she became jubilant, and told her prayer to her grandmother, who said:
"Well, dear, why can't you pray to-night that it may be warmer to-morrow, so that grandma's rheumatism will be better?"
"All right, I will," was the quick response; and that night as she knelt she said, "Oh, Lord, please make it hot for grandma."—Pick-Me-Up.

Misplaced Sympathy

BENEVOLENT OLD GENT—"I am sorry, Johnny, to see you have a black eye."
PROMISING YOUTH—"You go home and be sorry for your own little boy—he's got two!"—Philadelphia Inquirer.

No Time for Extras

TINY SISTER (rushing into big sister's room)—"Please hurry, Lulu; Mr. White is downstairs."
LULU (very grandly, while she dabs her face with the powder puff)—"Very well, dear; I'll be down."
TINY SISTER (nervously)—"Oh! please don't wait to shave!"

A Wise Boy

BOY (who has been naughty, and sent out into the garden to find a switch to punish him with)—"Oh, mummy, I couldn't find a switch anywhere, but here's a stone you can throw at me."—Punch.

No Reward

"How long a term does the vice-president serve, pa?"
"Four years, my son."
"Doesn't he get anything off for good behavior?"

Why Not?

The verse you write
You say is written;
All rules despite,
But not despitteen.
The gas you light
Is never litten.

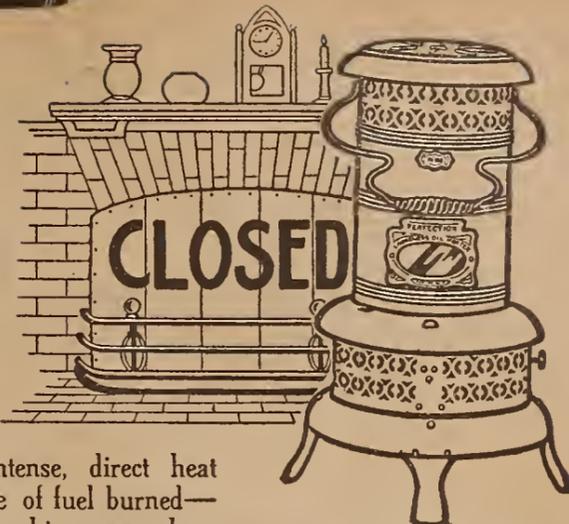
The things you drank
Were doubtless drunk;
The boy you spank
Is never spunk;
A friend you thank,
But never thunk.

Suppose you speak,
Then you have spoken;
But if you sneak,
You have not snoken.
The shoes that squeak
Have never squoken.

A dog will bite,
Likewise has bitten
With all his might,
But not his mittin.
You fly your kite,
But not your kitten.

—Harrold Skinner in Harper's Monthly.

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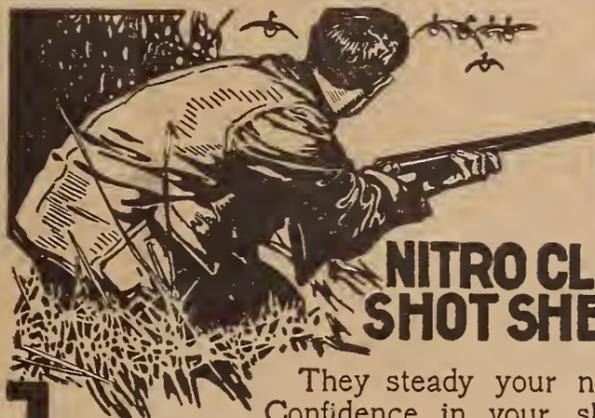
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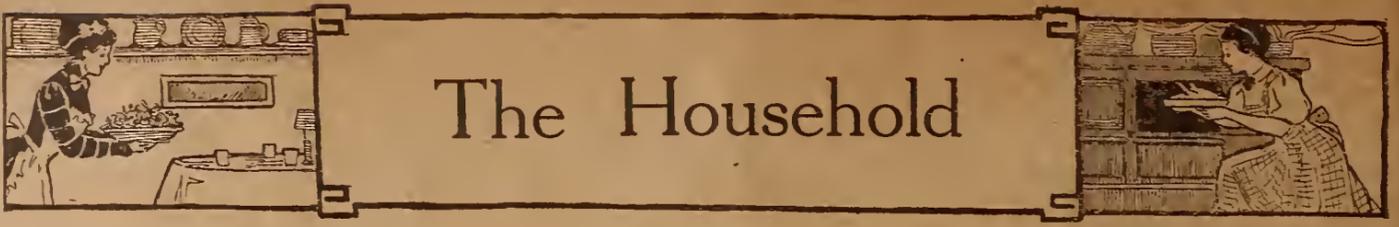
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The Household

How to Roast a Turkey

SELLECT a plump ten-pound cock turkey having smooth, dark legs, and the cartilage at the end of the breast bone soft and pliable. Dress, clean, stuff, truss, and place on its back in a dripping pan. Rub the entire surface with salt, and spread the breast, legs and wings with one third of a cupful of butter rubbed until creamy and mixed with one fourth of a cupful of flour. Dredge the bottom of the pan with flour, place in a hot oven, and when the flour on the turkey begins to brown, reduce the heat, baste with the fat in the pan, and add two cupfuls of boiling water. Continue the basting every fifteen minutes until the turkey is cooked, which will require about three hours. For basting use one half cupful of butter melted in one half cupful of boiling water, and after this is used baste with the fat in the pan. During the cooking turn the bird frequently, that it may brown evenly. Remove the string and skewers, arrange on a hot platter, and garnish as desired. The illustration shows an attractive garnish of cranberries arranged on skewers, strings of cranberries and celery leaves; also paper frills on legs.

GIBLET STUFFING—Cook the giblets (gizzard, heart and liver), and chop fine. Reserve the water in which the giblets were cooked, which should furnish two and three fourths cupfuls of stock. Split sixteen common crackers, and spread each half with one fourth of a tablespoonful of butter. Pour over the hot stock, and as soon as the crackers have taken up all the stock, add the chopped giblets, then season with salt and pepper. Be sure to have a well-made brown gravy, for if it is not appreciated when served with the hot turkey, it will be found of great use in warming over the meat or using for made-over dishes. Pour off the liquid in the pan in which the turkey has been roasted. From the liquid skim off six tablespoonfuls of fat. Return the fat to the pan, add six tablespoonfuls of flour, and stir until well browned, then pour on gradually, while stirring constantly, three cupfuls of boiling water. Let boil five minutes, season with salt and pepper, and strain.

French Potato Croquettes

Two cupfuls of hot riced potatoes, the yolks of three eggs, two tablespoonfuls of butter, one half teaspoonful of salt and a few grains of cayenne. Mix the ingredients in the order given, and beat thoroughly. Shape in balls, then in rolls, pointed at the ends. Roll in flour, and mark in three places on the top of each with a knife blade, to represent a small French loaf. Fry in deep fat, and drain on brown paper.

Scalloped Tomatoes

REMOVE the contents from one can of tomatoes, and drain the tomatoes from some of their liquor. Season with salt, pepper and a few drops of onion juice, and sugar if preferred sweet. Cover the bottom of a buttered baking dish with buttered cracker crumbs, cover with tomatoes, and sprinkle the top thickly with the buttered crumbs. Bake in a hot oven until the crumbs are a delicious brown.

Creamed Turnips

TURNIPS are best in the fall and winter; toward spring they become corky, and are then suitable only for stews and flavoring. Wash and pare turnips, cut in slices or quarters, and cook in boiling salted water until soft. Drain, mash, and season to taste with butter, salt and pepper.

Thanksgiving Desserts

STEAMED CRANBERRY PUDDING—Cream one half cupful of butter, using a wooden cake spoon, then add gradually, while beating constantly, one cupful of sugar and three eggs well beaten. Mix and sift three and one half cupfuls of pastry flour (once sifted) with one and one half teaspoonfuls of baking powder. Add alternately with one half cupful of milk to the first mixture, and stir in one and one half cupfuls of cranberries. Turn into a buttered mold, cover, and steam three hours. Serve with thin cream sweetened with powdered sugar and flavored with a slight grating of nutmeg.

PRUNE PUDDING—Boil one pound of prunes until the pit can easily be removed. This being done, chop fine, and mix with the yolks of three eggs. Put in a pudding dish and bake for thirty minutes.

To make a hard sauce, take the whites of the eggs and mix with butter and sugar. A little brandy may be added to the sauce. Serve hot, like plum pudding. This will make enough for six people.

PUMPKIN PIE—One and one half cupfuls of steamed and strained pumpkin, two thirds of a cupful of brown sugar, one teaspoonful of cinnamon, one half teaspoonful of ginger, one half teaspoonful of salt, two eggs, one and one half cupfuls of milk and one half cupful of cream. Mix the ingredients in the order given, and bake in one crust.



Steamed Cranberry Pudding

Cake Recipes

OLD-FASHIONED FEATHER CAKE—Beat into one half cupful of butter two cupfuls of sugar. Whip until it is like a white creamy sauce. Then add one cupful of sweet milk and three cupfuls of flour, and three eggs with the whites and yolks beaten separately. One half teaspoonful of soda should be dissolved in the milk, and two teaspoonfuls of cream of tartar should be mixed and sifted through the flour. Flavor with fresh lemon juice, and bake in jelly tins in a quick oven. If frosted it is still more tempting.

WALNUT CAKE—One half cupful of butter, one cupful of sugar, the yolks of three eggs, one half cupful of milk, one and three fourths cupfuls of flour, two and one half teaspoonfuls of baking powder, the whites of three eggs, and three fourths of a cupful of walnut meats broken in pieces. Mix the ingredients in the order given. Bake forty-five minutes in a moderate oven. Cover with plain frosting. Crease in squares, and put half a walnut on each square.

This cake is sure to please the younger members of the family.



The Toothsome Roast Turkey—the All-Important Feature of the Thanksgiving Dinner

Little Helps

ONE good way of cleaning flatirons is to rub them on green cedar.

Wash a stove with vinegar before polishing, and mark the result.

To prevent stove blacking turning brown, mix it with a little ammonia.

A little charcoal mixed with clear water thrown into a sink will disinfect and deodorize.

A teaspoonful of butter put into the water in which vegetables are boiling will prevent them from bubbling over.

In putting down oilcloth, matting or a strip of carpet, when you do not have the metal binding, try this plan: Cut strips of oilcloth one inch wide, and bind with that, letting it extend under one half inch, and lap over the same. Tack closely and it will last for months.

The Happy Housekeeper

IN ALL your work be systematic. Have a time and a place for everything. Adopt the best methods. Teach the children early to help, by the regular performance of daily tasks. Require order and neatness, beginning with the "wee tottler." Cook simple foods—few kinds at one time, but always deliciously prepared and daintily served. Use substantial foods and fruit, avoiding pastries and highly seasoned dishes. Vary the bill of fare. Insist upon the best home-made bread—the more good brown or oatmeal bread, the better. Make clothing simply, using good dark fadeless material for outer garments. Have all the conveniences about the house you can afford, but never live beyond your means. Have none but durable and useful furnishings. Discard all trapping and draperies that are simply for ornament. Use plenty of water internally and externally. Good food, pure water, fresh air and sunshine are much cheaper than doctors' bills and superior to any patent medicine. For success study your housekeeping as you would any other business. Make of yourself a ray of sunshine under each and every circumstance, and remember that a happy home is the only paradise on earth.

Ink Spots on Carpets

THE next time you spill ink on the carpet, try this remedy to remove the spots: First pour cold water on the spots, taking it up again with a spoon, which is pressed down into the pile of the carpet. Lay a cloth around the spot, so it will not spread. Then apply a weak solution of oxalic acid, sponging it up quickly. If the color is altered, apply ammonia water.

Baby's Crawling Rug

MAKE of a generous piece of thick dark felt. Then cut out animals in a piece of felt of another color, making eyes with beads, and sew these cloth animals through the middles very firmly onto the rug. Baby will crawl around on this and play with the animals for hours, and long after the crawling stage is passed will take pleasure out of these quaint animals and figures, which cannot, of course, be broken or destroyed.

To Make Cold Soap

DISSOLVE a box of lye in three and one half pints of cold water, and stir slowly into five and one half pounds of clean melted grease. Stir ten minutes. Pour into a mold, and let set twenty-four hours, then cut into squares.

Fashions for Big and Little Folks

By Grace Margaret Gould

THOUGH the new fashions are extreme this season, that is no reason why the average woman should discard them entirely, and say, "I'll cling to last year's modes; they are plenty good enough, and much better suited to me."

The new fashions should be studied, if for no other reason than to discover what the new line in dress means. For instance, it is very foolish for any woman who has any pride about her dress to pull her waist way down in front, and arrange her belt so that it will come to an angle there, at least two or three inches below her normal waistline, which was the vogue a few years ago, when there no longer is such a line in dress. If a woman does not care for the short-waisted style

of costume, there is no reason at all why she should wear it; but she should be careful to have her belt come at the normal waistline. That is, it is wise for her to avoid extremes, but it is unwise to thrust them aside entirely and claim she does not care to know about the new lines of dress.

The best style of dress at present is the cut-in-one gown. However, if this seems impracticable, try to get the costume effect, by having the waist and skirt of the same material, or at least the same color.

Some of the most charming gowns this year are of broadcloth with the waist portion of fancy net in the same color as the skirt, but trimmed with the cloth.



No. 1201—Shirt Waist Tucked in Clusters
Sizes 32, 34, 36, 38 and 40 inch bust measures.

No. 850—Apron With Round Yoke
Sizes 2, 4, 6 and 8 years.

No. 1213—Short-Waisted Single-Breasted Coat
Sizes 32, 34, 36 and 38 inch bust measures.

No. 1207—Thirteen-Gored Corselet Skirt
Sizes 24, 26, 28 and 30 inch waist measures.

These designs for a coat and skirt are in the very newest style. The single-breasted coat has a short-waisted effect, and the gored skirt is one of the newest corselet models.



No. 1017—Plain Tailored Shirt Waist
Sizes 34, 36, 38 and 40 inch bust measures.



No. 1219—Combing 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, two and three fourths yards of twenty-two-inch material, or one and three fourths yards of thirty-six-inch material.

No. 1220—Dressing Sacque With Scalloped Front

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-seven-inch material, or three yards of thirty-six-inch material.



No. 1217—Misses' Combination Corset Cover and Drawers
Sizes 12, 14 and 16 years.



No. 804—Plain Wrapper With Fitted Back
Sizes 34, 36, 38, 40 and 42 inch bust measures.

FALL CATALOGUE OF MADISON SQUARE PATTERNS

Our new Fall Catalogue cannot help but be invaluable to the woman who makes her own clothes. We will send it to your address for four cents in stamps. Order patterns and catalogue from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

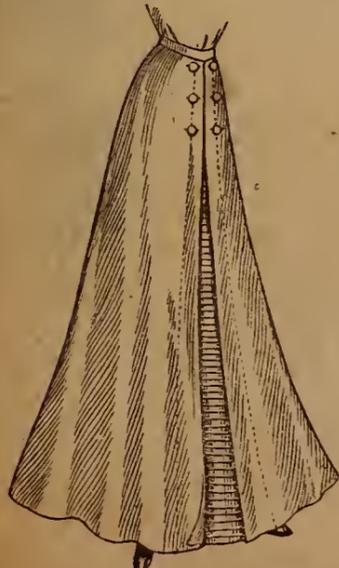
THE PRICE OF EACH PATTERN IS 10 CENTS

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

OUR LATEST LIBERAL OFFER

We will give any two of these patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern, for only 30 cents.

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No. 1205—Circular Skirt With Panel Front
Sizes 22, 24, 26, 28 and 30 inch waist measures.



No. 1161—Child's Rompers
Sizes 2, 4 and 6 years.

Come to Florida

Without Expense for Two Long Weeks



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The Trip of a Lifetime for You

Just think of boarding the superb solid-vestibule Pullman "Florida Limited" with our jolly party for a two-weeks sojourn in "The Land of Blue Skies and Eternal Sunshine." Think of being in the Sunny South next March, where flowers are in bloom and oranges are growing in profusion! Think of bidding good-by to the snow and ice of winter and going where it is so warm that you can go bathing almost every day right in the invigorating salt water of the ocean itself!

All this and much more you can do without a cent of cost to you, if you just seize a golden opportunity and give some of your spare time to doing a favor for FARM AND FIRESIDE. We are going to take the people who send us the most subscriptions to FARM AND FIRESIDE between now and February 15th, on this wonderful trip to Florida, paying all their railroad and Pullman expenses, hotel bills, meals on the trains—in fact, all their expenses from their very homes to Florida and back again, including the two whole weeks in Florida! First-class accommodations will be provided everywhere. Part of the time the headquarters of our jolly party will be at the beautiful hotel Ponce de Leon, pictured above—the most famous hotel in Florida and one of the finest in the world.

We Want Every Farm and Fireside Family Represented in This Wonderful Contest

We want all of our friends to have the opportunity to earn this beautiful trip. We want every FARM AND FIRESIDE family to try to have at least one representative in it. It is by far the most picturesque trip in America, and any one who is lucky enough to take it will have something to talk about and look back upon with pleasure as long as he lives. A child will be as safe on this trip as a full-grown person, for one of our managers will go along to personally conduct the entire party. He will pay all the bills, and it will be his business to see that every member of our jolly crowd gets from his or her home to Florida, has the time of his life there, and gets back again safely, well and happy. He will be with you constantly to look out for your comfort and welfare. Don't miss this great chance. See that some one from your family takes part. No one has a better chance than you. The trip will start March 3d. I can't tell you here one tenth of the good things about this great trip, or of the good times our jolly party will have, but if you will just send me your name on the coupon below, I'll tell you all about it in detail.

A Prize for Absolutely Every Contestant

You can't possibly lose in this great contest, for even if you shouldn't win a trip to Florida, you will win one of the dozens of beautiful Grand Prizes, or some other valuable prize sure—we guarantee that. And if you shouldn't be able to take the trip to Florida you can have a splendid \$350 Harrington piano (the exact kind pictured here) instead, without a cent extra. Five of these superb pianos are offered, as well as the five Wonderful Trips to Florida. And in addition to all the trips, the pianos, and all the other beautiful prizes, we will pay you in cash a liberal commission for absolutely every subscription you get. Did you ever hear of a fairer offer?



\$350 Harrington Piano. Five of These Superb Pianos Are Offered in This Contest



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How to Get to Florida

Absolutely the most important thing to do now is to cut out the coupon (or a postal card will do), sign your name and address, and send it to the Florida Man, FARM AND FIRESIDE, Springfield, Ohio, immediately. As soon as I hear from you, I'll tell you just how you can go on this trip with us, so don't wait. But if you want to get a good start, and make sure of a prize the very first thing, don't wait to hear from me, but get right out and get ten of your neighbors or friends to take FARM AND FIRESIDE at 25 cents each. Then you will be a prize winner sure and have a fine start toward Florida. You may keep 5 cents commission from each 25 cents, sending me only 20 cents for each subscription. Hustle and you'll be a winner! Write me to-day!

THE FLORIDA MAN
Farm and Fireside, Springfield, Ohio

CUT THIS COUPON OUT AND MAIL TODAY TO THE FLORIDA MAN

Nov. 10, 1908

Dear Florida Man: Please tell me all about how I can take the wonderful trip to Florida free of all cost. Also send me your Florida pictures and all the other things. I will send in ten subscriptions as soon as possible. Please save a place for me in the contest.

Name

Street or R. R.

Town

Date State

The Fall of the Chandler Pride

[CONTINUED FROM PAGE 16]

not dreams of the future, but regretful meditations on the past.

"So-phy! Where are you?" called her aunt from the lower floor of the barn the next afternoon.

"Here I am," answered a voice from the hay loft, "and you ought to see what a nice lot of eggs I've found, and so lucky, too, when eggs taste so of silver," and rapidly the little feet climbed over the edge of the loft and descended carefully to the floor, where she displayed her wonderful find of eggs.

"That is fortunate, sure," replied Miss Sophi, "but you go to the house and watch the bread in the oven. I let Mary go to town with Dan. And now that the troublesome turkey has worked her way out of the corn crib and gone dear knows where, I must go find her, so she can be killed and dressed early in the morning."

"Let me go, aunty, I'll find her in a jiffy," and Sophy prepared to lay down her eggs.

"No, I'll go. It won't take long. Besides, John will be here about seven, and you'll want to look your prettiest, and that takes a girl lots of time nowadays," and pinching the girl's cheeks in loving caress, Miss Sophi passed rapidly out the gate into the meadow lot and made her way toward the willows along the creek bank some distance away.

Sophy had dressed herself in her prettiest frock. It was now growing late, and she walked anxiously to the gate looking for her aunt, but Miss Sophi did not return. "Perhaps aunty," reasoned the girl, "had gone to a neighbor's, or something may have happened to her." Finally, in almost alarm, she put on her wraps and started down the road, not knowing what to do or what to expect.

Miss Sophi followed the turkey tracks through the meadow and across a corn field, then lost them in a clump of bushes near the creek bank.

A little corn that she carried in her apron for coaxing purposes was thrown into the bushes, accompanied by a coaxing call, but no turkey responded.

She stepped softly around the bushes and leaned over the fence, looking up and down the creek. Sure enough, there was Madam Turkey strutting across a little peninsula jutting into the water.

With a smothered exclamation of impatience, Miss Sophi prepared to climb the fence. How well she remembered that fence—it was of the "snake rail" variety, and because Jerry Morrison's sheep had jumped it a time or two, the "Chandler pride" had placed a bristling barbed wire along its top.

Carefully gathering up her skirts with the apron that contained the corn, she climbed to the top rail.

By this time either her plumpness or the excitement of the occasion shortened Miss Sophi's breath. Pausing and balancing carefully, she made her calculation. If she could only keep her skirts from catching on the wire she could put first one foot, and then the other, over the wire and jump into that pile of sand just to the left of those rocks.

Just as Miss Sophi had chosen with her eye the place to land her feet, the top rail turned; her feet flew into the air, and the poor woman's head landed in the place she had chosen for her feet, and her body struck the rock pile. It would have been laughable if that had been all; but with a part of her skirts clinging to the barbed wire, something had to give away. Of course it was the skirt, but at the same moment the loose rail and two others came tumbling upon the prostrate form.

She struggled to rise, but a great pain caught her in the back, and the foot that was turned under her gave an awful twinge.

"Oh, dear, oh, dear, what shall I do! I am afraid I'm hurt," groaned the poor woman.

All the effort she could summon could not extricate her.

What should she do? Suppose no one came to look for her and she had to lie there all night!

If she could only make Jerry hear her she would call, no matter how humiliating it might be. Jerry—dear old Jerry, how unjust she had been to him. What if that trip had been an errand of mercy! How ashamed and self-condemned she felt.

The pain in her heart was terrible, and the rails were bearing down on her back like bars of lead.

She finally called for help several times, but no one heard, and the echo came back in helpless answer.

A slight rustle sent a thrill of hope to her heart. What could it be? It

might be a snake. Or suppose it was that old black ram! Cautiously the footsteps approached, and just as Miss Sophi's nervousness was about to give vent in a blood-curdling scream of terror, a pick of her ragged apron assured her of the presence of Madam Turkey.

Fear changed to indignation. How exasperating to have the cause of her accident and suffering so near and not be able to wring her neck. If only the turkey were human and could carry a message, Miss Sophi could forgive her; but there was no hope in that direction.

Darkness was closing in on the little valley, when the prostrate woman thought she heard a distant call, then a cheerful whistle. She raised her head from the sand, and listened. It came again, and must be nearer. She tried to answer, but her voice did not carry far. Again it came. Some one was calling cows. Nearer and nearer, until just across the creek some one called, "So, Brindle!" and she knew it was Jerry! In spite of her helplessness her stubborn pride almost overwhelmed her, but an unconscious struggle gave her such pain that she cried out, and with the cry the Chandler pride was conquered.

"Who's there?" came in answer to her cry.

"It is I, Jerry, Sophi. Come quickly. I am hurt!"

The summons had come at last! And as Jerry sang out, "Coming, Cushla," he leaped from rock to rock as fast as he could.

"Cushla—" Oh, what a bound her heart gave. She had not heard her old pet name from Jerry's lips for seventeen years.

With a bound of joy Jerry leaped a fallen log and a seventeen-years trouble rolled from his broad shoulders as he bent over his old sweetheart.

"Dear heart!" he whispered half to himself as he gently extricated her from her painful and embarrassing position. In vain he tried to support her so she could walk; but she could not put her foot to the ground or straighten her back. Making a pillow of his coat, he tucked it between her back and the log against which he placed her, and bidding her wait patiently, he started for home. Never had he covered the distance between the creek and the barn so swiftly, and never was harness thrown on a horse faster than Jerry threw it on old Dobbin. Hooking up to the little spring wagon, he threw in a lot of blankets and made his way back to the sufferer.

There she lay just as he had left her, except that she was unconscious. For the first time in her life Miss Sophi, the strong minded and strong nerved, had fainted.

Jerry might have thrown water in her face and revived her; but Jerry did not know about fainting women, and if he had, he probably could not have denied himself the pleasure of carrying Sophi's helpless form to the wagon and laying her gently on the bed of blankets. When he had done this he carefully tucked a blanket around her, then audaciously stooped and laid his bearded face against hers. As if ashamed of the caress, he leaped to his seat and cautiously guided old Dobbin out to the pike.

When about half way to the house he saw the almost flying figure of Sophy coming toward him. There was alarm in every step, and a frantic and frightened face looked up to tell her story. Anticipating her, Uncle Jerry gave her his hand, and said:

"Climb up, Sophy honey. I guess you might well be scared. I found Sophi down by the South corn-field fence under a bunch of rails. I think she is badly used up. Sit down there and rub her head. I think she's fainted, poor girl!"

The doctor had come and gone, the broken limb had been set and the sprained back bolstered to partial comfort.

Nothing more could be done, so Jerry buttoned his coat collar and stepped into the yard to unhitch Dobbin.

"Oh, Uncle Jerry, wait," and Sophy ran out to the hitching post where he stood, and said coaxingly, "You'll eat Thanksgiving dinner with us, won't you, Uncle Jerry? You know John and I couldn't bear to be alone. We'll set the table in the south room, where the double doors open into aunty's room, and she can be with us, if she can't sit at the table. You'll come, won't you?"

Uncle Jerry dug the toe of his boot into the loose gravel, and without looking up, began a hesitating reply.

"Why, why—little girl, I don't know." Then with a knowing wink he looked at her, and said, "I might not be altogether welcome!"

"Uncle Jerry! How can you talk so!" Then returning the wink, she tossed her head and laughed. "I'll risk it. Will you?"

He hesitated a moment, and then called back as he drove away, "Yes, I will."

Dan, who was both remorseful and revengeful, was taking pleasure in decapitating and viciously pulling the feathers from the troublesome turkey.

As he scattered the feathers about him, while Mary milked the cows, he confessed:

"I ain't been so bored in years. I let this old jade out of the corn crib day before yesterday, thinkin' it was only human to do it. Never could bear to see anything shet up, an' now in lettin' her out I've shut Miss Sophi up for weeks, an' made her suffer, too. I thought I could ketch this jade whenever I wanted her at night."

"Miss Sophi is so darned forehanded, though; she's one of them kind of forehanded wimmen that's allus so afraid of missin' trains that they git ready an' stay two hours at the station."

"Tried her forehandedness on this here turkey, an' come mighty near bein' a funeral here stid of a Thanksgivin' dinner. But say, Mary, did you ever see the beat of the way things is turnin' out? Them two people ain't spoke since I was a kid, an' to think it 'd be Jerry that 'd find Miss Sophi! Mighty good thing she was flighty an' didn't know nothin'. She'd 'a' had duck fits if she'd 'a' knowed that Jerry held her bare foot while the doctor set her ankle."

"An' to think how muddy her face was, an' her han's, too! Oh, oh, oh, my oh, my, how mortified she'd 'a' been if she'd 'a' seen herself."

Dinner was over, Madam Turkey had paid the penalty of her escapade, and in spite of the invalid's presence the dinner had been enjoyed. Sophy made both a charming hostess and a tender nurse, so thought John as he drew her into the parlor when Mary began to clean the dinner table. And Sophy went willingly, gladly, for two reasons: First, she longed for a moment alone with her John, and second, she wondered in her romantic mind what would happen if they left Uncle Jerry to care for the invalid.

Jerry picked up a paper and sat down by the window. (No one but Mary ever knew that the paper was upside down.)

As the door closed behind the young people, Miss Sophi's heart seemed to sink clear to her broken ankle, and her embarrassment was intense. But Jerry was paying no attention to her, so she need not mind so much. She had not been so close to him in years, and a furtive glance revealed to her the few gray hairs on his temples, and she noticed the crow's feet were showing quite plainly about his eyes. Gradually she grew calm, then very thirsty. Reaching cautiously for the tumbler on the table by her bedside, she just as awkwardly knocked it over.

In an instance Jerry was at her side; without a word he filled the glass, slipped his arms under the pillow, and gently raising her, put the water to her lips. Replacing the tumbler, he deliberately sat down on the edge of the bed and took hold of her hand. She turned her face toward the wall and the color mounted to her temples.

"Sophi Cushla," he began, "there's nothing the matter with your arms, is there?"

"No, Jerry," was the weak response.

"Well, then, Cushla, put them right around my neck like this, tight. That's right, honey. Now repeat after me solemnly, for I'll never let you go till you do. Now say it. I. Sophia."

"I, Sophia," came softly from the pillows.

"Forgive you, Jerry."

"Forgive you, Jerry," she repeated.

"Because."

"Because."

"Because I have loved you all these years."

"Because I have loved you all these years," was the feeble response.

"There, now," and leaning nearer, with a twinkle in his eye, "it don't look like there was a thing the matter with your mouth, either. Is there?" And not waiting for a reply, Jerry took the sweet face between his hands and covered it with the pent-up kisses of seventeen years. It is needless to say that they completely demolished the Chandler pride.

A door opened softly, and two heads peeped cautiously into the room. The sight caused John to put his arm around Sophy the second, draw her from the door, and deliberately follow Uncle Jerry's example.



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An Automobile Builder

IT ISN'T every boy who, when he wants an automobile, is smart enough to make one for himself. And yet that is just what a fifteen-year-old California boy has recently done.

To have an automobile all for his own has been something that Brice Cowan, of Los Angeles, California, has been just longing for. Being an American boy with grit and push, he decided to make one. Now, Brice Cowan, though he is but fifteen years old, has very little time to himself, as he works for a large dry-goods shop in Los Angeles, and it was only his spare time that he could use to work on the automobile. He made good use, however, of this spare or play time of his, and now has just completed, after working for eighteen months, an automobile that for speed, hill climbing and in every other respect is truly a marvel.

The auto, which he has named the "California Midget," is six feet long, weighs about three hundred pounds, and has a speed, demonstrated by a number of actual tests, of from twenty-five to thirty miles an hour. It has climbed with perfect ease hills of thirty-per-cent grade, and has carried over ordinary roads the weight of three passengers.

The "Midget" is designed somewhat after the large factory-made touring cars. It is provided with a three-horse-power Aster engine, a friction transmission and a double-chain drive, with nine speeds forward and three on the reverse. It is air cooled, the control is through an electric-light switch, and the differential operates perfectly. There are brakes on the rear wheels, and in every other respect the machine is complete. It carries two gallons of gasoline and will run twenty-five miles on each gallon.

Master Brice is employed regularly as the driver of a delivery wagon for one of the city's large dry-goods stores, and only his spare time was spent in the building of the auto. The total cash expenditures amounted to about one hundred and fifty dollars, all of which was earned by the boy. With the exception of the Aster engine, the entire machine is of his workmanship, including even the wheels; and the engine itself had to be rebuilt to a great extent so as to conform with the peculiarities of the "Midget's" make-up.

Because of his lack of mechanical training, the boy experienced many difficulties in its building, but his persevering nature

Vacation for Horses

THE real friend of the horse is the one who takes thoughtful care for his comfort—his feed, his grooming, his housing, his rest, his well being in every way.

But too many owners are modern Shylocks, in that they demand of the horse the last possible ounce of the pound of flesh they have given him in food.

A horse may come from his work at night thoroughly "tired out" and his muscles may be exhausted of normal strength, but if he is properly cared for and fed he will be ready in the morning for another day of work.

But the constant daily exhaustion of the horse's working capacity year in and year out without other intermission than the Sunday rest will prove a wear and strain that will gradually but surely consume his stamina and vitality faster than the forces of Nature will build it up. The horse needs a protracted rest at intervals to enable him to regain a normal physical condition after long-continued labor.

In fact, the horse needs a vacation if he continue long at his best, just as much as a man; and really, more than man. When a man has a headache, a backache or any one of a hundred different aches or pains, he either does not work at all or he regulates and moderates his work in accordance with his indisposition. It is different with the horse; he is put to work whether he feels fit and ready or not, unless he is so ill that Nature cries out in openly evident signs of suffering.

It is easier, perhaps, for the farmer to arrange a vacation for his horses than for any other class of men employing them. Some take advantage of every opportunity to give them a rest during the working season at such times as they can be spared from the fields without delaying the work; others do not, but rather lay awake o' nights planning how the horses may be worked full time every day. The man who plans how to give his horses a real "vacation"—not idleness, standing knee deep in neglected stalls, steaming with the choking fumes of ammonia, but with shoes pulled off and feet free out in range-wide pasture fields, where they may play and stretch and roll, just eat and sleep and dream—will have young old horses, ready and willing



Fifteen-Year-Old Brice Cowan in the Automobile Which He Made Himself

at length, after nearly eighteen months, overcame them. He is now planning the construction of even a more complete and larger auto than the "Midget." In the meantime he expects to remain a delivery boy for the dry-goods store.

Befri Seed from India

INDIA has sent the United States Department of Agriculture sample seeds of a novel leguminous plant, the befri, an annual, growing something like a common pea, but in very small pods. It flourishes in black soil and does not require much water. Befri contains 21.13 per cent of albuminoids, whereas Indian wheat contains but 13.15 and oatmeal sixteen per cent of the same constituent, so that this Indian seed is credited with being fifty-six per cent more nutritious than wheat. It is generally ground into flour with less rich grains or grass seeds and made into a kind of bread.

and capable of doing a good day's work long after the accepted days of their "prime."

Last summer the post-office department at Washington issued an order to the effect that thirty days' vacation would hereafter be given to every horse employed by the department in that city, and they will be turned loose in spacious pastures down in Maryland to cavort or doze at their will, building up new muscle and flesh and taking on new energy and an added lease of life.

The far-sighted, practical men who are large horse employers in the cities have done much in the way of vacation rests for their stables of valuable animals, not because of any motive induced by sympathy or tender-heartedness, but because it paid them for the investment in "lost" working time, in renewed vigor and a longer lease of serviceable working life—because it pays in dollars and cents. Try it! R. M. W.

The Letter Box



Statue of Liberty

DEAR BOYS AND GIRLS:—How I wish you all could have been with me one day last week when I went down to see the wonderful Statue of Liberty. You have all heard of the Statue of Liberty, and I dare say you have all seen pictures of it, but you can form no idea of its magnitude from a picture. It really doesn't seem large at all when viewed from the Battery, but on approaching it in the little steamboat which plies between the Battery and Bedloe's Island, in New York Harbor, on which the statue stands, it seems to grow larger and larger.

It is said that Auguste Bartholdi, the sculptor of the statue, used his mother as a model when making the figure. It stands upon a pedestal which is 154 feet high. The statue itself is 151 feet high, making it 305 feet from the ground to the torch. Think of an arm forty-two feet long, and twelve feet thick, and a finger eight feet long!

I climbed to the forehead of the statue, and found a dozen people there. From a distance it would be impossible to believe that the forehead could hold more than three or four! The elevator goes only as far as the top of the pedestal, and from there one must climb a spiral staircase in order to reach the top. The Statue of Liberty is a wonderful piece of work, being the largest colossus in the world. By the time I had gone up to the top and down again, I was very tired and quite ready to go home. Mary and Gertrude were with me, and we all voted that it was an afternoon well spent.

I have told you as much about the Statue of Liberty as I have room for, but I haven't told you half the things I should like to. To all of you who are interested I would suggest that you go to the library, if there is one near your home, and read more about it. Find out when and why it was erected, in commemoration of what, and other points of its history.

Now about the contest. All the cousins seemed to like the last drawing contest so well that I am going to give them another one. Do the very best work you can, and be sure to make your drawing larger than it is in the picture. Do not roll the drawings, but send them flat.

You will notice on the opposite page that I have printed some poems especially suitable for Thanksgiving entertainments. I am doing this for the benefit of you boys and girls who will be called upon to recite at your school or Sunday-school entertainment, for I remember, when I was a little girl and had to recite, just how hard it was to find a poem that I liked.

I want to tell you how pleased I was with the good work you did in the last drawing contest. I hope you will all do as good and even better in this one. I want every one of you to try, for don't you think the prizes well worth your efforts? Always faithfully,
COUSIN SALLY.

Monthly Prize Contest

FOR the five best pencil or pen-and-ink copies of the picture of Captain Betty on the opposite page, Cousin Sally will give prizes of splendid water-color paints in boxes of Japanned tin.

The contest is open to all of the boy and girl readers of FARM AND FIRESIDE who are under seventeen years of age. Be sure to write your name, age and address on your drawing.

All copies must be sent in by November 20th, and should be addressed to Cousin Sally, care of FARM AND FIRESIDE, 11 East 24th Street, New York City.

DEAR COUSIN SALLY:—Ever since the Young Folks' Department started I have been an interested reader of all the short stories I found there, and I want to write and tell you how much I enjoy them.

The city where I live is said to be the prettiest of small places in Wisconsin, but it is mostly the places near here that are referred to when speaking of beautiful Baraboo.

About three miles south of us there is a lake, which is almost entirely surrounded by high bluffs covered with large rocks piled so as to form a Turk's head, a doorway and several other things. This is a very pretty summer resort. Another beautiful place near here is the Dells of the Wisconsin River.

I am fifteen years old and would be pleased if any of my new cousins would write to me. I would be glad to exchange post cards with them.

LILLIE SCHADE,
Baraboo, Wisconsin.

Here is a little pioneer story by Esther O'Brian (one of the cousins) which I am sure you boys and girls will be interested in reading.

A Long Night

A STORY OF PIONEER DAYS IN CLINTON COUNTY

In the old days, when there were no handy barrels or sacks of flour already ground, people had to take whatever they had, generally corn, to a mill, to be ground.

They often had to go many miles on horseback with their corn tied to the saddle.

It was in this way that "The Mill Boy of the Slashes," Henry Clay, the great orator, rode.

One day, my great-grandfather, a comparatively young man, started out on horseback to one of these mills at Champlain. He was to be gone all day and far into the night.

My great-grandmother, a young woman with a child about six months old, was to be alone for that length of time. That night, as she lay upon the bed beside the baby, she heard a distant howling far off in the woods.

But howls were no novelty to her, for she had often heard howls in the woods, so she paid no attention to this; but to her alarm, the cries gradually grew louder, and she fancied that the animal (whatever it was) was coming nearer the house. Then she heard a scratching and clawing beneath the bedroom window.

Looking quickly up, she beheld a huge cat-like head looking in at the window with great green eyes.

She was naturally very much frightened, but in a moment the animal went away, and again proceeded to make night hideous with its yells, leaving great-grandmother half dead from fright.

In the morning, when her husband arrived, they saw the tracks of what he called a lynx in the soft snow around the house. The next day the settlers, including great-grandfather, and with an old Indian hunter, commonly called "Pete Injun," as leader, organized a hunting party and gave chase to the animal, but as this species is migratory, and as the animal had such a long start, they failed to overtake him.

Post-Card Exchange

HERE is a list of some of our young readers who would like to exchange post cards with the cousins:

Vivien Chapman, R. R. No. 5, Box 45, Monroeville, Indiana.

Lottie M. Dunnigan, R. F. D. No. 3, Box 45, Belmont, New York.

Claire Thompson, R. F. D. No. 1, Franklin Furnace, Ohio.

Anna Gallagher, R. F. D. No. 1, Box 64, Franklin Furnace, Ohio.

Pearlie Brammer, R. F. D. No. 1, Box 28, Wheelersburg, Ohio.

Bernice Butt, Granville, Ohio.

Nellie Ward, R. F. D. No. 2, Pierceton, Indiana.

Gertrude Somers, R. F. D. No. 4, Alcott Station, Denver, Colorado.

Gertrude Scott, R. F. D. No. 2, Sunbury, Ohio.

Avis I. Lawson, R. F. D. No. 3, Weston, West Virginia.

Bessie Randall, R. F. D. No. 6, Freeport, Ohio.

Ruth Coltrane, New Market, North Carolina.

All cousins wishing to exchange cards, address Post-Card Exchange, care of Cousin Sally, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Young Folks' Department

Thanksgiving Recitations

Dolly and I

Dolly, it's almost Thanksgiving. Do you know what that means, my dear? No? Well, I couldn't expect it; you haven't been with us a year. And you came with my aunty from Paris, far over the wide blue sea, and you'll keep your first Thanksgiving, my beautiful dolly, with me.

I'll tell you about it, my darling, for grandma's explained it all, so that I understand why Thanksgiving always comes late in the fall, when the nuts and the apples are gathered, and the work in the field is done, and the fields all reaped and silent, are asleep in the autumn sun.

It is then we praise Our Father, who sends the rain and dew, whose wonderful loving kindness is every morning new. Unless we'd be heathen, Dolly, or worse, we must sing and pray, and think about good things, Dolly, when we keep Thanksgiving Day.

But I like it very much better when from church we all go home, and the married brothers and sisters, and the troops of cousins come, and we're ever so long at the table, and dance and shout and play in the merry evening, Dolly, that ends Thanksgiving Day.
—Mrs. Margaret E. Sangster.

Thanksgiving Day

'Twas a brave little band of Puritans
That settled in Plymouth town,
And they said when the leaves were falling
And the grass growing rusty and brown,
We have garnered a wonderful harvest,
Thanks to our gracious Lord,
Let us praise Him by setting apart a day
To thank Him with one accord.
That was long ago. Oh, the fleeting years
Seem stretching so far away,
Since Governor Bradford, of Plymouth town,
Appointed Thanksgiving Day.
That was the first Thanksgiving,
Yet still we appoint the day,
And try to honor and keep it
In our Puritan fathers' way.
—From "Holiday Entertainments," The Penn Publishing Company.

The Wooing of Silver Tail

"I wonder," said the squirrel,
"Now do I really dare
To ask old Madam Silver Tail
To give her daughter fair,
To wed a humble Red Coat?
I'm clever and I'm spry.
I'm young and strong and healthy,
Yes, I think that I will try."

He hastened to the pine tree,
And gave a timid tap.
"Creep in," cried Little Silver Tail,
"Ma's at her daily nap."

Now Silver Tail was lazy,
She loved a good meal, too.
"Suppose you wed my daughter, sir,
What am I going to do?"

She keeps the house, collects the nuts,
And mines the hidden store;
She strokes my back and combs my tail
And waits upon the door."

"Oh, gracious Madam Silver Tail,"
Said Ruddy, bowing low,
"Each day throughout the winter,
In sun or wind or snow,

I'll bring a goodly feast for you,
So let your lassie go,
Six walnuts and six hazel nuts,
Six chestnuts in a row."

So Ruddy and sweet Silver Tail
Were wed next day at noon.
They've gone to Squirrel Island now,
To spend their honeymoon.
—Margaret Wentworth Leighton.

Oh, Look at the Moon!

Oh, look at the moon,
She is shining up there;
Oh, mother, she looks
Like a lamp in the air.
Last week she was smaller
And shaped like a bow,
But now she's grown bigger
And round like an O.

Captain Betty's Bravery

By Christine Babcock

BETTY was riding slowly along the country road. Little was she thinking of her surroundings, so occupied was she with the one idea—the approach of the British forces.

Had not her grandfather said the night before that if the enemy arrived within three or four days, and help was delayed, General Wayne, who was stationed there at Hopewell, would not be able to withstand the attack?

Suddenly Betty sat erect on her horse. Where was she? Try as she would, she recognized no bush nor tree along the wooded road. Surely she was not lost! But that was just what had happened. She could find nothing familiar about her to show her the way home.

Betty was only thirteen, but who would not be a bit surprised and perhaps frightened at finding herself in such a fix? What is more, on turning a bend in the road she saw herself actually riding into the camp of the British army.

A thousand ideas rushed through the mind of this little rebel, but the first thought of all was one not for her own

safety, but for that of her home and General Wayne. Surely, she thought, he knew nothing of the nearness of the enemy. She would like to have turned and tried again to find her way home to give the alarm; but a rough hand was already holding her bridle, and a man's gruff voice was telling her to dismount and to go to General Clinton as a prisoner of war.

Dazed and astonished, she did as she was told, and was received none too pleasantly by the General. But when he learned that she was no spy and that she had only accidentally stumbled into the camp, he sent her to a tent, where she was to be kept a prisoner until he deemed it best to send her home. "Perhaps," he thought, "after she has recovered a little we may be able to worm some news out of her concerning General Wayne's and Washington's position."

It was the second night of her imprisonment in the British camp, and Betty lay awake on her little straw pallet. Was the story which she had told the General such a very bad lie, she wondered, seeing that it was for the safety of her home and town? For General Clinton had questioned her the day before, and this daring lass had accidentally, or so it seemed to him, let escape the news of the approach of the American army—which of course was not true. But a bold plan was forming in her mind, and little did she care about the penalty always inflicted at home for telling a lie, if she could but delay the enemy's attack upon General Wayne.

Suddenly a scratching at the back of her tent attracted her attention. What was her joy to see the form of her own dog Gip! Faithful fellow that he was, he had tracked her there and was overjoyed at finding his mistress safe and well.

Suddenly a wild idea seized this little maid. "Gip, down, sir! down, sir!" He obeyed. "Lie still, sir! till I come back!" and she let fall the edge of the canvas.

Running to the table, she searched for a piece of paper. There was none to be found! But her eyes fell upon her handkerchief. Snatching it up, and seizing a pencil that her guard had accidentally dropped in her tent, she crawled out into the moonlight by her dog, and hurriedly scribbled the following note:

DEAR PAPA:—The British have caught me. The camp is pretty near the bridge over the river. The forces are three thousand strong. General Clinton is going to surprise General Wayne as soon as he can. Don't worry about me. I am safe in God Almighty's hands.
BETTY.



"Betty herself started the lumbering coach on its race to the city"

She tied the handkerchief around his neck and under his collar and then commanded him firmly in her low, sweet voice, "Gip, home, sir! Quick, Gip! Quick!" She watched him disappear through the bushes, and then crawled back into her tent and cot.

It was the fourth night of her imprisonment when Betty, crouching behind a bush by the General's tent, was anxiously listening to the captain's loud words. "I tell you, sir, that lass knows what she's about. Do you suppose she doesn't know what she's saying? Today's the third time she's hinted that the rebels under Washington are approaching, and to-day's Friday the thirteenth, too, sir!"

"As you like, as you like," answered General Clinton; "but before we shift our position, I am going to seize the mail coach, which passes at twelve tonight. By thus cutting off all communication I hope to capture Hopewell. We will not attack it, however, till it passes the bridge, for around that bend is the most advantageous spot, and—" But that was enough for Betty.

She stole back to her bed, where she lay thinking for a long while. So far her plan of detaining the attack of General Clinton had succeeded; but if he should capture the coach— Her grandfather had said that by that mail news of Washington's position and promise of some aid for General Wayne would reach the city. If General Clinton should find those despatches— But she must prevent that.

She looked out of her tent. At last had come her chance! Her guard was off duty, revelling with the other soldiers about the campfire, so she could creep out unseen. Stealing behind her tent, she pushed ahead through the underbrush. Once or twice she thought she heard footsteps behind her, and her heart stood still. But after half an hour's careful crawling she reached the space where the horses were tethered. Creeping up to her horse, she managed to untie his rope, even though her hands were small. But how was she to get her horse away without the soldiers hearing his hoofs resound upon the twigs and rocks. Taking off her petticoat, she tore it in four pieces. These she carefully wound around his feet. Thus arrayed she led him cautiously through the bushes. Once or twice she stopped to listen, but heard only the discordant strain, "For He's a Jolly Good Fellow," coming from the direction of the camp. So, after going a considerable distance, she jumped on her horse's back and galloped off.

During the days that she had spent at the camp she had located its position well enough, and so correctly directed her horse toward the pike road where the expected coach was to pass. Once there, she turned directly toward the north, and urging "Beauty" to his fullest speed, raced along. How long she rode she never knew, but as she reached an open space in the road, the coach rumbled up. When the three men, sole occupants of the coach, learned that she was a friend, they listened attentively to her story. "Now," she concluded, "if you will follow my plan, this coach can safely reach the city to-night.

"Here's a fife, which I picked up when my guard wasn't looking. Now, the British soldiers are really expecting the arrival of the American army. If you should approach the camp playing 'Yankee Doodle,' I am sure they would all run. Besides, they are all drunk, and in this condition they would hardly think of investigating and seeing how large a force was drawing near. In the confusion which would follow the attack on the mail coach would be forgotten, and I could safely drive the coach on to the city."

"And, miss," eagerly interrupted Joe Brown, the driver, "there are two fine drums in the coach which we could use. 'Twould be better to have more music, don't you think?"

"That's just what we want, Joe," she answered delightedly. "And you know that side road which leads around the hollow. 'Twould be much better for me to drive there, wouldn't it?"

So all four rode along together for a considerable distance. Then the men left, taking with them Betty's horse. Betty herself, turning the coach horses off on the side road, started the lumbering coach on its race to the city.

It was quarter past one when General Wayne was awakened from a restless sleep by hearing his name loudly called.

"Who's there?" shouted the General. "Betty Alden, General," answered a little voice.

"Betty Alden! But I thought you were imprisoned in the British camp?"

"So I was, but I've escaped." Betty told her story in as few words as possible. "And here's the mail," she ended up. "Perhaps there is some good news from General Washington."

"Good news indeed, my brave Betty," he said, after reading it through. "General Washington will probably arrive here to-morrow with fresh troops. God bless you, Betty!" and he caught her up and kissed her.

"But I must call all my soldiers and the good men of the town to prepare them, must I not, Captain Betty? Will you wait here a second?" and he strode off in the direction of the fire hoops.

Within fifteen minutes all the men of Hopewell, including Betty's father, were hurrying to the common. But before the last one had come, a man dashed up on horseback. It was none other than Joe Brown on Betty's horse, bringing the good news that the British had fled in great disorder and had pitched camp about twenty miles further on.

Joe was immediately stormed with questions, and when the true story was known, all called for Betty.

General Wayne lifted her up on top of the mail coach.

"Three cheers for our brave little rebel! Three cheers for our Captain Betty!" he shouted.

And all joined in with good will. "Three cheers for our Captain Betty!"

The Greatest Number

Of Farm and Fireside Ever Published
Will Be the Beautifully Illustrated
November 25th Thanksgiving Issue

This will mark the beginning of the Great New FARM AND FIRESIDE—the farm paper that is going to be better than it has ever been thought possible to make a Farm and Family paper. **You cannot afford to miss it.** We have added many new editors, whose striking ability and thorough experience mean helpfulness and interest to our readers this winter—a very treasure house of it. In the November 25th number will be the first of the new

Special Fireside Magazine Features

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Other New Features

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GET THE BIG THANKSGIVING NUMBER

FARM AND FIRESIDE, High Street, Springfield, Ohio

Tom Overton's Thanksgiving Joke

By Mary Foster Snider

"WHAT in the world are we going to do? Mother in bed for days and Aunt Eleanor's already on the way for Thanksgiving with us!" Pretty Rita Overton sank into an easy chair as she spoke and pressed her two hands against her throbbing brows.

"We'll have to hire some one to do the cooking, Princess, that's all," her brother Tom said lightly. "With old Ann to do the housework and a good cook in the kitchen you need not worry."

"We cannot," Rita said with decision. "Dad's almost worried to death over money matters now—I heard him tell mother so the other day."

"Yes, things must be pretty tight. Can't we—no, dad is the only relative they have left here—we can't arrange for them to go anywhere else, can we?"

Rita shook her pretty head seriously. "Quite impossible. I should not mind so much if Charlie Duffield were not such a miserable tease. He will be down upon my housekeeping deficiencies mercilessly. Don't you remember? When he was here four years ago he was always making sarcastic remarks about my valuable assistance in the house."

"He did it only to tease you. You paid him back richly by refusing to answer any of the letters he has persisted in sending you. He certainly seemed to feel rather down over that!"

"Not a bit of it! It was only more of his nonsense." She went slowly out of the room. Tom smiled as his eyes followed her charming, dainty figure.

"What a darling she is!" he said softly to his mother a little later. "Any other girl with half her charms would be abominably conceited, but Rita—she hasn't the remotest idea that Charlie Duffield has been in love with her all these years, that he is coming now solely and wholly to try to win her. Jove, I hope she will like him! He's the only man I know fit for our princess. But here she comes. What's your news? You look jubilant! Is it a gold mine?"

"I am jubilant," his sister said with her musical little laugh. "I have just remembered that I can cook that dreaded dinner very well myself."

"Nonsense, child," said her mother. "No nonsense at all, sweetest of mothers," the young girl said gaily. "You've kept everything a bit difficult or disagreeable away from me so unselfishly that I had almost forgotten the cooking lessons we had at college. Oh, laugh if you like, you horrid boy, but I really was a pretty fair cook in those days, and I don't believe I've forgotten it a bit."

"But an inexperienced girl like you to cook a Thanksgiving dinner for a dozen—it would wear you out completely. You would not know even where to begin!" Mrs. Overton said soberly.

"Oh, yes, I shall. Ann can do all the disagreeable parts, you will direct operations from here, and this horrid, lazy boy shall help."

"You can press Charlie into your services, too, if they arrive in time," Tom said mischievously.

"That will depend entirely upon his behavior," Rita said serenely, and even Tom's sharp eyes failed to notice the deepening of the pink in her soft cheeks. She was by no means as unconscious as they all believed her. Child as she had been, in those days her brother spoke of, Doctor Duffield had not always taken such pains as they believed to hide the state of his heart from her, and she was by no means as indifferent as she pretended.

"Here's a joke," Tom said laughingly, a day or two later. "Charlie just telephoned from New York, and when I told him we had a new cook, that she was as pretty as a peach and twice as full of spicy sweetness, he said that settled it, as he intended to marry and settle down at once, and my description suited him exactly. He insisted that even if she is a cook, he intends to offer her his hand and heart as soon as possible after his arrival."

"There would be no possibility of even a cook refusing him, of course," Rita said disdainfully.

"Faith, I don't know who would. The girls were all crazy about him when he was last here, you remember."

"Nonsense; it was all pretense." She was silent a moment, then she glanced up with sparkling eyes. "Tom, he has no idea who the cook is? You are sure? Then make him keep his word—make him propose to—to the cook!"

"There will be no need of coercion—he could not be kept from it. Oh, it's mischief you're plotting. Out with it, then, young woman."

"You may send him to the kitchen just before the lights are turned on," Rita said demurely, as they separated.

Rita was flushed and sparkling and prettier than any picture when some hours later she greeted her aunt, Mrs. Bruce, and Doctor Duffield. The young man's pleasant manner was graver than of old, and his warm, intent glance set the young girl's pulses throbbing as in all her sweet young life they had never throbbled before. As the day wore away Rita grew more and more shy of him. Mrs. Bruce was with the invalid, and Tom and his father were at the office, so Rita and the young physician were quite by themselves. Later, when the young girl rose to turn on the lights, he rose, too, abruptly. "No, not yet, Rita, dearest," he said unsteadily. "You know—you must know—"

"No, no, I don't. Let me go, please!" Rita exclaimed almost piteously, with a frantic effort to break away from him.

But the young man had seen her blushing, radiant face, and he lost his self-control a little. He caught her close to his heart. "Yes—you do know," he said brokenly. "And—you care, too! No, no, you shall not escape me now—after all the years I've waited—and my very first opportunity, too!" Rita felt the tumult throbbing in his very finger tips, and in the half dusk his lips found hers again and again. She was his own and Doctor Duffield realized it with a passionate thanksgiving it is given to few men to experience. She had not stirred in his fond embrace when Tom's step was heard in the hall, and then she broke away from her lover and fled to the kitchen.

"Well, have you kept your word and proposed to our cook yet?" Tom demanded laughingly.

"I am just on my way to do so," Charlie Duffield said evasively, turning rather sharply away as the lights were switched on, and he marched straight after Rita to the kitchen. The girl's slim figure in the dusky room was scarcely discernible. The young man's hands were trembling as he turned her gently about to face him. "Darling, perhaps I should give you more time—I've been away so long—but, I can't wait! Promise to be my wife, and—very, very soon!" He waited breathlessly for her answer; then it came—but it was not his sweetheart's shy, exquisite voice.

"Doctor Duffield, you have taken me by surprise. I had no idea—but I will not keep you in suspense! It is—yes—I think." The girl's clear, sweet voice was as calm as if she were answering the most ordinary question. As her head drooped, uninvited, against his shoulder, the young man was frozen with horror; then the light was suddenly turned on, and he saw Rita facing him. Her rosy bloom had faded quite away and her dark eyes were wide with mingled fear and indignation.

"Rita, it is a miserable mistake," he cried sharply, scarcely knowing what he said in his maze of fear and embarrassment; but as he spoke, Rita fled from the kitchen.

"Oh, never mind Rita," the pretty girl so nearly in his arms said reproachfully. "Charlie, I never dreamed you were really in earnest. Oh, I am so—so happy!" The young man had recognized her as a young lady with whom he had had a very pretty flirtation during his former visit to the Overtons.

"Ah, so you have kept your word and proposed to the cook," Tom's voice broke in blandly. "I congratulate you, old fellow!"

Doctor Duffield turned sharply to confront him, and the pretty girl at his side, with one swift, laughing glance into his stormy dark eyes, ran from the room.

"This is your doing," he said furiously, beads of perspiration standing on his white, wrathful face. "You gave me to understand that Rita was your cook for the time—you—Oh, it is awful to have been tricked into making such a fool of myself!"

"Don't excite yourself, Charlie. I never said Rita was the cook, Bessie Dunstan came to help us out some time ago." Only a few hours before—but Tom did not explain that.

"But you knew I thought it was Rita—you know I've thought only of her all these years! Heavens—"

"Then all you've got to do is to explain to Bessie." Tom said airily.

"I know that," the other exclaimed savagely. "But Rita is angry with me! And with good cause! To think I could be such an unutterable cad as to make a joke of it!"

"If you gentlemen will vacate the kitchen I will see about dinner," Miss Dunstan said demurely. She had returned unnoticed by Doctor Duffield.

"One moment, Miss Dunstan," he began hurriedly, but she interrupted him gaily: "Not an instant, until dinner is over. We are disgracefully late now."

Tom determinedly drew him out of the kitchen, and the unhappy young man stood in moody silence at the library window until dinner was announced. To his dismay, Rita did not appear. Every attempt Doctor Duffield made at an explanation was very effectually thwarted throughout the evening. The next morning the two pretty cooks each found a letter on the kitchen table addressed to herself. One was a passionate prayer to Rita to be forgiven for his unutterable stupidity, and the other a delicately worded explanation to Miss Dunstan of the mistake Doctor Duffield had made.

The latter was gravely returned to him by Tom. "It won't do, Charlie," he said seriously. "Rita told me of your note to her, and we inferred that you had written to Bessie in an attempt to draw back from your engagement. You can't do it, old fellow. At least, not here! She is our guest, and you cannot force such a mortifying position upon her."

"I will not endure it for another hour," his friend said sternly. "You purposely deceived me, Tom Overton. You knew I loved your sister—not for one moment will I act as if I ever even thought of another woman as my future wife! Miss Dunstan must be told at once."

"For heaven's sake, defer it until evening," Tom said imploringly. "The day will be spoiled for every one if you don't."

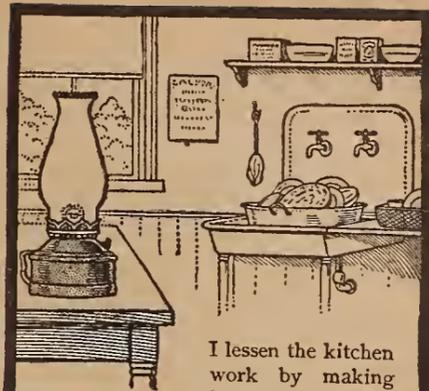
But Doctor Duffield was obdurate, and Tom had to resort to more than one eloquent fib before he succeeded in gaining his promise to defer the explanation.

Rita scarcely glanced at him during the breakfast hour, but Bessie was very gay and almost affectionate in her manner to him, while Tom seemed to be enjoying himself quite unreasonably. By strenuous efforts Tom kept the doctor from the house until just before dinner time, and then he very effectually prevented the word of explanation remorseful Rita had been waiting to give her lover.

The dinner was perfect, but none of the young people seemed to be happy.

Tom said at last laughingly, "I am afraid this dinner is not the Thanksgiving feast it ought to be to some of us. Explanations must therefore be a little earlier than I intended. First, Bessie wishes you all to congratulate her, as she has at last won my promise to marry her in January; second, our new cook, Rita, is to be congratulated in cooking us such a passable dinner." As Tom stopped speaking Bessie sprang from her chair and ran out of the room.

"Shame, Tom, to tease her like that. As if we did not all know that you had almost worried her to death before she would promise to marry you!" Rita said, warm reproach in her voice and eyes as she slipped away to comfort her friend. With a hurried apology Doctor Duffield went swiftly after her. Tom waited only long enough to explain the joke he had played on his friend, and the difficulty he had experienced in prolonging his agony, with Rita so anxious to explain, then he, too, went out. It took him some time to make his peace with Bessie, and then they had to hunt up Rita and Doctor Duffield, who, judging from their radiant faces, had found explanations most blissful.



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Sunday Reading



Cheerfulness of Religion

TO BE able to rest securely in the knowledge that God is love and that He rules the world, to know that in communion with God and companionship with Christ is cheer and courage—what wonderful comfort is there! Jesus bade us "be of good cheer," and however dark the day and hard the way, our troubles will all be made lighter if we trust fully in the Lord and His loving-kindness. What a beautiful soothing word is loving-kindness! It expresses, more than any other, the tenderness of God's love for us and His fatherly care of us.

We all know that stars, which from a lofty height are very often indiscernible, may sometimes be seen from the bottom of a deep pit. So are many things learned through sorrow and disappointment which could be learned in no other way. We need a little affliction in our lives, just as a tree needs winter—a time to collect sap for future blossoms and fruit.

I remember a story that I heard a very long while ago, and it has always cheered me. Perhaps it will help you. In a very desolate and dreary little village lived a beautiful youth who chafed at his dull surroundings and longed for something better. There was only one redeeming feature in the landscape, and that was a glorious, towering mountain covered with pine trees. At the very top of this mountain stood one gigantic tree all alone. Since a child it had always been the ambition of this youth to climb the mountain right to the very roots of the lone pine tree, but the road was said to be dangerous and almost impassable. However, one day the beautiful youth started out. The way was rough, but he toiled on, and when weary and sore footed, thought of the tree that he had determined to reach at the top of the mountain. At last, after a hard struggle, he reached the top, and then what grandeur spread before him—such glorious distances and colors all harmonizing, as he had never dreamed of. Even the ugly little village seemed beautiful through the soft, golden haze. And the youth was content. So it is with our lives. We should set a high standard for ourselves and look toward it always, not back at the dull, meager life which we have lived—and, above all, "Be of good cheer."
 B. V. A.

What to Read

IF YOU are downhearted and discouraged, read the twenty-seventh Psalm. If there is a chilly sensation about the heart, the third chapter of Revelation.

If you do not know where to look for the month's rent, read the thirty-seventh Psalm.

If you feel lonesome and unprotected, the ninety-first Psalm.

If you find you are losing confidence in men, the nineteenth chapter of I. Corinthians.

If people pelt you with hard work, the fifteenth chapter of John.

If you are getting discouraged about your work, Psalm 126 and Galatians 6, 7, 9.

If you are out of sorts, the twelfth chapter of Hebrews.

Contentment

CHRISTIAN contentment is the cheerful acquiescence of the soul to the will of God, in all conditions and under all weathers. It is the habit of the mind, just as faith is the habit of a healthy Christian. Like faith, it grows by practice, and like faith, it is learned from God's word and is matured by experience.

Contentment is visible in all the little, unnumbered events of every-day life. It is patient not only under death strokes, but under petty vexations and wounded words and neglects; it doesn't worry over hard seats or boring visitors or stupid servants or a crying child. So rich is it in God's promises and the sweet smiles of the Master and a good title to heaven that it does not mind wearing a coarse coat and to trudge on foot toward the better country. It wears the herb called "heart's ease" in its bosom; it finds a cool spring to drink of in the lowliest vales of life, and catches grand outlooks from the summit of every steep hill it climbs. As it treads along its patient path it chants John Bunyan's quaint, simple song:

I am content with what I have,
 Be it little or much;
 And, Lord, contentment still I crave,
 Because thou blestest such;
 Fulness to me a burthen is,
 As I go on pilgrimage.
 Here little, and hereafter bliss,
 Is best from age to age.
 —Theodore L. Cuyler, D.D.

Be Sympathetic

WE MUST all realize that this life is full of sorrow, and if you personally have had the good luck to escape your share of it, you are a very fortunate person indeed.

But do not, on that account, allow yourself to grow cold hearted and unsympathetic to others.

Those poor others! Their lot is often so hard, so lonely, so full of misery.

We are here to "heal the wounds and bind the broken heart," and the only way we can do this is by being kind, loving and sympathetic.

A few words of love will do more to help a sufferer than money, sometimes.

For heart sickness is much harder to help than hunger and poverty. Show interest in others; try to help them; go out of your way to lighten the burden of the heavily laden.

"Do not hesitate to whisper your kindly thoughts in their ears. Don't pass on the 'other side;' if you are strong, then be merciful," says "Woman's Life."

Remember that we all look at life from different standpoints, and what might appear like a grain of mustard seed in your path to you is an almost insurmountable obstacle to your weaker sister.

The more she shrinks, the more necessity for you to step in and help her on her way with genuine sympathy and loving sisterly words and acts.

Loving God

The shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind. This is the first and great commandment.—St. Matthew xxii, 37.

No man can truly love his neighbor as he loves himself until he has first learned to keep this first and great commandment. No easy task will this be, but that it is not an impossible one is testified by the lives of unnumbered thousands who have lived and in all ways done their best. "Fear God and keep His commandments, for this is the whole duty of man," was the text of the great preacher hundreds of years before Christ came. To-day we teach our children that they were made to know God, to love God and to serve God. It is true that "perfect love casteth out fear," but as with the infant races in pre-Christian days man had first to learn to fear God, so even to-day that element of fear is needed which is without apprehension but full of reverential awe. We cannot love God until we know Him. In our infancy we know Him by faith. In manhood we enter upon a more intimate knowledge of Him in the daily school of experience. In maturer years we say with certain confidence, "We know Him in whom we have believed." We do this because He has made himself known to us in a thousand loving ways. As Father, Mother, Lover, Husband, Friend; as ruler of our destiny and guide of our devious pathway; as a shadow from the heat and a refuge from the storms which fret the days of our earthly sojourn.

Let us learn and labor daily truly to get our own living, doing our duty in that state of life unto which it has pleased God to call us. So let us school ourselves in loving gratitude to our God in whom we live and move and have our being, loving Him as He draws us on, worshiping Him, putting our whole trust in Him, honoring His holy name and His word and serving Him truly all the days of our life.—Rev. Charles Mercer Hall.

What of Your House?

THERE is many a household that goes to church without bringing the church back into the house. But if Christ is really the head of a household, the home of that household ought to be just as much his dwelling place as is the church. Is it so of your home? When Paul wrote to Philemon, he sent greetings also "to the church in thy house." There are such houses to-day—houses where the joy and the love and the good fellowship are so far above the ordinary that people love to enter them; and when they leave, they feel that they have had a taste of heaven. It is only a matter of making Christ King

Trust

Build a little fence of trust
 Around to-day;
 Fill the space with loving work,
 And therein stay.
 Look not through the sheltering bars
 Upon to-morrow.
 Good will help thee bear what comes,
 Of joy or sorrow.
 —Mary Frances Butts.



From Stereograph Copyright, 1904, by Underwood & Underwood, New York

This picture shows the Mohammedans of Calcutta on an important prayer day. Note the difference between the Indian mode of worship and our own. The worshippers are bending in prayer, touching the forehead to the floor. This is the Mosque of Prince Ghulam Mohammed, the most noted Mohammedan temple in Calcutta.

The Mother Doctor

By Hilda Richmond

MOTHERS, especially the mothers on the farms, have to be able to doctor little and big patients often, for though the telephone is a great convenience in calling the doctor, many times something must be done at once. Then, too, the little wounds and stubbed toes are not considered important enough to bring to the real doctor's attention, and green apples are apt to cause many disturbances that the mother must look after. For the really trivial things a knowledge of some good home and store remedies is all that is necessary, but for the important ones there should be no delay in getting the doctor.

The very first thing to do for every wound, great or small, is to thoroughly cleanse it with boiled water—not hot water, remember, but water that has been boiled and cooled. Blessed is the mother who keeps a kettle filled with boiling water at all hours of the day! Boiling water is necessary for so many things, but many housekeepers feel that their whole duty is not done unless they have the kettle emptied and turned upside down on its own particular shelf after each meal. Bathe the wound with water as hot as the sufferer can stand, and let it bleed freely. This does not mean that a great deal of blood should escape with nothing done to stop it, but in the cases where a bit of glass, a nail or some sharp instrument has made a little wound. Hot water is very soothing and also lessens the danger of blood poisoning.

For sprains and bruises hot water is also very helpful. If the skin is not broken the water need not be boiled and cooled, but ordinary hot water as hot as the patient can stand should be applied. Many times the inflammation is reduced at once and the pain eased as if by magic by the simple application of hot water, where cold would only annoy.

For burns, cool applications give relief, and some sort of remedy like soda or apple butter or starch should be applied, to keep the air from the skin. If a child is burned, the best thing is to wrap up the place, to exclude the air, and put the sufferer to sleep. Rest and quiet and the soothing lotion will do wonders even for a little baby.

Arnica, witch hazel, camphor, vaseline and alcohol should be included in the list of home remedies to be used by the mother doctor. Alcohol quickly cleanses a wound if no hot water can be obtained, and it also cools and relieves the skin in sickness. Camphor is an old and tried remedy, both for internal and external use. It should never be made from wood alcohol and camphor gum, as this preparation is exceedingly dangerous.

Of course, all home remedies, however harmless, should be kept out of reach of the children.

This will often save the busy mother a great many heartaches.

And another thing every mother should do is to educate the children on the subject of taking medicine and having their little wounds dressed. In some homes it takes the whole family and all the gifts that can be mustered to induce the little ones to swallow some simple dose, and often the mother must prepare the medicine five or six times because the naughty child manages to upset it with his kicking and struggling. All children, even very small ones, can be taught to think they are little soldiers if only the parents take a firm, decided stand. If a child must take a nasty dose, explain just what it is, without a bit of deception, and encourage him to have it over quickly. A lump of sugar to take the taste out of the mouth is all right, but the coaxing and buying some mothers indulge in is calculated to spoil the children utterly.

Stomachache can be relieved quicker by a hot-water bottle or hot plate applied to the trouble than by drugs. Catnip, spearmint and peppermint teas are harmless and bring good results. Blackberry juice boiled down with a little sugar to sweeten it is an excellent home remedy for a loose condition of the bowels, and every mother should have it constantly on hand.

A little care will often ward off trouble, and the mother should always be on the alert to keep her little flock healthy. Simple remedies for constipation should be found in foods rather than medicines, as fruit and certain vegetables will keep the bowels in good condition if properly used. The mother doctor must keep her wits about her and be calm and cheerful, for the child is then easily managed, and the little disorders incident to childhood do not upset the whole household when they come.

How to Shampoo the Hair

TO HAVE beautiful hair it is necessary to understand it and take good care of it. Many heads of hair that are really beautiful are so badly taken care of and poorly dressed that they are never even noticed. Every woman can make her hair pretty and have it admired if she will only give it a little attention and study. The first step is how to wash the hair. This can be done only by using a good shampoo mixture. Make a quart preserve jar full of the following mixture. It will keep for months, and may be used by any one in the family at any time:

Half a large bar of pure white soap, one quart of water, two ounces of lime water, one ounce of bay rum, and the yolk of one egg, well beaten.

Boil the water and the soap together until soft, then add the other things when nearly cold.

When you are ready for a shampoo, take half a cupful of this mixture and dissolve with half a cupful of boiling water. Apply to the scalp without wetting the hair. Rub in thoroughly, and keep on rubbing until your head is a great mass of foam. When this has been done satisfactorily, all that you have to do is to rinse the hair two or three times and it will be found to be perfectly clean.

Care of the Eyes

IN DOING any kind of work the light should come over the left shoulder, for only when light is at this angle is it possible either to prevent a shadow being cast by the hand, or having the light in the eyes. It is better to sit with the back directly to a strong light, with the work in shadow, than to be directly facing it. Light must fall on the work that is being done, not on the sight.

Health and Beauty Hints

EVERY slightest disorder of the teeth or mouth has its inception in the micro-organisms carried to the mouth by the air we breathe or in our food and drink. Cracking nuts with the teeth and biting thread are very bad habits and are always likely to mar or destroy the enamel. Use a firm tooth brush.

To make the eyebrows grow, use the following: Three ounces of red vaseline, one ounce of tincture of cantharides, one ounce of Jamaica rum and five drops of oil of rosemary. Mix thoroughly, and apply to the eyebrows every night for a month. A small brush should be used—an old tooth brush will do.

To prevent the hair from falling, have the ends of the hair clipped carefully each month, and rub the following tonic well into the scalp with the tips of the fingers: Tincture of nux vomica, one ounce; spirits of rosemary, two ounces; alcohol, two ounces; apply several times a week to the roots of the hair.

Oil of peppermint can be used for several afflictions with good effect. When applied externally for neuralgia or rheumatism it will prove effectual. It is also beneficial for gastric complaints. Place a few drops on a teaspoonful of sugar placed in a tumbler, and half fill with water. Take immediately after meals.

The eyes are often the first part of the face to show the advance of time, and they should receive every consideration. A weary, hard look is apt to steal over them, and the much-dreaded swelling underneath, which is so terribly aging. The eyes are covered with minute muscles and nerves, which are very delicate and susceptible and are quick to show the effects of reading or working in a poor light. If the eyes are tired and heavy, bathing them in a weak solution of boric acid is helpful; salt and water is also good.

"A special movement I give to reduce the hips," says a gymnasium teacher, "is to raise the right and left leg alternately on a line with the waist, repeating the movement about twenty times with each leg. It seems simple enough, but the average woman wants to stop when she has done the movement about five times." Another exercise which will help to reduce the size of the hips and waist is to bend slowly at the waistline, arms hanging in front until the tips of the fingers touch the floor. Then, after straightening the body again, place the hands upon the chest, throw them outward on a straight line with the shoulders, then down. The legs should be kept stiff in both exercises.

A PRIZE FOR YOU

Two beautiful full size 16x20 pictures and a package of ten handsomely colored post cards given FREE to all answering this advertisement in good faith. Write to-day.



Wouldn't you like a PRIZE of this handsome, elegant, attractive set of dishes? Of course you would. The set consists of 42 pieces embellished with YOUR INITIAL IN PURE GOLD, making the whole set the pride and joy of every housekeeper fortunate enough to possess it.

YOU CAN WIN THIS PRIZE AND IT WON'T COST YOU A CENT. We are giving the dishes away for a very little effort. Think how nice to have this dinner set in your china closet! Think how proud you can feel to have them on the table when company comes!

SPLENDID PRIZE! This 42 Piece Gold Monogram Dinner Set CAN BE YOURS IF YOU ACT UPON THIS OFFER PROMPTLY.

This set is just as shown in the illustration. This daintily decorated, embellished, gold initial dinner set, elaborately decorated with wild roses with green leaves and foliage, every piece trimmed with coin gold, the next thing to Haviland china, which is owned by multimillionaires, equal to a set costing many dollars in your local stores—this PRIZE PREMIUM is YOURS for a little of your leisure time. Your initial in gold is put on as shown above. This dinner set will be the pride of your home and you can WIN it easily by a little pleasant effort.

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Just fill in carefully the coupon below and send it to me, and I will take pleasure in writing you just what to do. I have such a splendid, liberal proposition to make to you that I know you will be delighted to have a chance to get an elegant, beautifully decorated 42 PIECE GOLD MONOGRAM DINNER SET and the HANDSOME TEA SET PLATED WITH COIN SILVER when you see how easily it can be done.

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I know that if you get our prices—and see our quality you will not even think of buying any other make. Let me show you how much you can save.

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"In the Back Office"

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Thousands of our big FARM AND FIRESIDE Family were active members of our Merchandise Payment Club last year. Many call it the "Money-Making Club," and in some respects that is a better name, for never have our readers had such a great opportunity to make and save money as we now offer through our Merchandise Payment Department.

We are sending out this fall hundreds of thousands of Merchandise Payment Reward Lists and Circulars, showing hundreds of beautiful rewards that you can get for yourself or your home, without a cent of cost to you, by just giving us a little time in your spare hours. We want you to see that every one of your neighbors is a subscriber to FARM AND FIRESIDE, and we will reward you liberally for every subscription you get.

If you haven't received one of these Reward Lists already, won't you drop us a postal and let us send you a beautifully illustrated one with nearly three hundred pictures, absolutely free? We want to put one of these Reward Lists in your home, because we know you will like it, and that it will save you many dollars every year. Write for one to-day, to Merchandise Payment Department, FARM AND FIRESIDE, Springfield, Ohio.

Our Thanksgiving Gift to You

In the November 25th Thanksgiving Number of FARM AND FIRESIDE there will be inserted a superbly lithographed double-page picture in six colors. Do not confound this picture with the cheap printed color pictures. This one has been lithographed especially for FARM AND FIRESIDE. It was painted by one of America's foremost artists and the size is 14 5/8 by 20 5/8 inches. It will reach you in perfect condition for framing.

But here is the point: This splendid Thanksgiving Number containing this beautiful picture, Lady Troubridge's great novel, "The Soul of Honour," the new Magazine Features, and the helpful farm articles, will be sent only to those of our readers whose subscriptions are paid up. If your subscription has expired or will soon expire, a blue mark below will tell you. See that it is paid up immediately, by accepting one of our offers on page 24. You will then be sure to get not only the great Thanksgiving Number, with the beautiful colored double-page art-proof picture, the great novel and all the other good things, but other colored pictures, also, which will be inserted in other numbers of FARM AND FIRESIDE this winter. Don't delay. This is your Last Chance before the price of FARM AND FIRESIDE goes up.

A Trip to Florida

is the dream of almost every one, but how few of us can afford it? Now is the chance of your lifetime. FARM AND FIRESIDE is going to give the five of our readers who send us the most subscriptions between now and February 15th, a trip to Florida, absolutely without cost. All railroad, Pullman car, meals on train, hotel, transportation and other necessary expenses from your very door to Florida, during the two weeks our jolly party will be there, and back again to your home, will be completely paid by one of our managers who will personally conduct the entire party. A ten-year-old child will be perfectly safe on this splendid trip, because our manager is going along for the sole purpose of looking out for the safety, comfort and welfare of every one of our happy tourists. We want every FARM AND FIRESIDE family to have a representative in this wonderful contest and to have a chance for this glorious tour to "The Land of Blue Skies and Eternal Sunshine."

Read more about it on page 20.

A BLUE MARK

in the square below indicates that your subscription has expired or expires this month.



Please renew it promptly, before the price of FARM AND FIRESIDE goes up, by accepting one of our offers on page 24, so that you will not miss FARM AND FIRESIDE's big Thanksgiving Number. We are going to make a better paper than ever before, and you will save money by renewing your subscription now.

Agricultural News-Notes

The three principal egg-receiving centers are New York, Chicago and Boston.

The walnut crop of California is likely to be one fourth larger than that of last year.

The 1908 fruit crop in Maine promises to be the largest of any during the past twenty years.

A two-hundred-acre guinea-pig and turtle farm has been started at Barrington, near Chicago.

As to experiment stations, every farm is one, and the wide-awake farmer is a successful director.

The pecan crop of Mexico is about one hundred carloads each year. The nuts are larger, but have a thicker shell than those grown in Texas.

Prof. G. L. McKay has given up his chair in the Iowa Agricultural College to become Secretary of the National Dairy Manufacturers' Association.

The first beet-sugar factory was established in 1795 (one hundred and thirteen years ago) by the chemist Achard. It was located near Berlin, Germany.

The people of the United States are consuming each year three million and fifty thousand sacks of coffee. This is over two fifths of the total world production.

The bureau of publicity of the Texas Cotton-Seed Crushers' Association has made a unanimous report in favor of the use of cotton-seed meal as feed for hogs.

Brazil now has a Minister of Agriculture. He is endeavoring to have all railway lines post the current prices of all grain crops daily at each railway station.

Statistics go to show that the hens of the United States produce as much wealth in six months as is yielded by our iron mines in the entire year.

Bellefontaine is one of the wool centers for the state of Ohio. On July 17th there were shipped to Eastern markets from that point ninety thousand pounds, valued at \$20,800.

Georgia was the state to first enact laws relating to the purity of foods. In 1907 forty state legislatures in this country enacted laws based on those of the general government.

The scientific farmer was once much ridiculed by those who relied mainly on hard work. Now, however, it is seen that science allied with intelligent practice is beginning to double the yield an acre.

The apple industry in Tasmania (south of Australia) is assuming great proportions. The shipments made to Great Britain require twenty-seven large steamers. The estimated value of the crop is \$1,125,000.

There are two hundred and seventy agricultural Co-operative Credit Societies in Ireland. There are about twenty thousand members. As the average amount of a loan to a member rarely exceeds twenty-five dollars, it shows that the small farmers are the ones who receive the most benefit from the organizations.

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Low Fares to the Cheap Lands of the

Rock Island SOUTHWEST FRISCO

November 17th Dec. 1st and 15th

Plan to go on one of these days—take advantage of the low fares offered by the Rock Island-Frisco-C. & E. I. Lines, and see for yourself the opportunities that are open to you in the Southwest. The trip will not cost you much. These special low-fare tickets over the Rock Island-Frisco-C. & E. I. Lines will permit you to go one way and return another, without extra cost. As the Rock Island-Frisco Lines have over 10,000 miles of railway through the best sections of the Southwest, you will see more of the Southwest than you could in any other way, and will be better able to decide where you want to locate.

Ask the ticket agent in your home town to sell you a ticket over the Rock Island-Frisco-C. & E. I. Lines, either through Chicago, St. Louis, Kansas City, St. Joseph, Memphis or Birmingham, according to your location. If you will write me a postal and tell me where you want to go, I will tell you the cost of a ticket, and will send you a complete map-schedule, showing time of trains, together with illustrated hook.

You can see the big crops the farmers down there are getting on low-priced, but fertile land. You will understand then how the farmers are getting independently rich in a few short years. You will find men who get 30 bushels of wheat to the acre off land that cost from \$5 to \$25; and those who get 40 to 50 bushels of corn, or 60 to 80 bushels of oats, or three to four cuttings of alfalfa, a ton to the cutting. Farmers enjoy all the advantages you have been accustomed to, such as nearby markets, rural free delivery, telephones, telegraph, schools, churches, etc.

They enjoy a genial climate, where they can work outdoors and make money every month in the year. They do not have long feeding periods for their stock—neither do they have to build expensive shelter for them.

Fertile land is low priced in the Southwest only because the country is not densely peopled, but just as surely as the sun will rise tomorrow, the price of land will go up as the population increases. The men who buy now will soon find the value of their land as high as that in Illinois or Iowa.

Let me send you some interesting books about the Southwest. They will inform you of opportunities waiting for you there, and will open your eyes to new possibilities. Write for free copies today.

JOHN SEBASTIAN, Passenger Traffic Manager,
1853 La Salle Station, Chicago, 1853 Frisco Bldg., St. Louis

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"YES, I'm covering every roof on the place with Amatite. When I once got Amatite on one of my buildings I was impatient to get it on all the others."

That is the experience of everyone who uses it, because Amatite is its own best advertisement.

Not only is the first cost of Amatite low, but its real mineral surface does away with all the bother and expense of painting.

Once you have finished nailing down Amatite according to directions, you have a roof that will give protection for many years and which will require no attention whatever to insure it from leaks and trouble.

The busy farmer of to-day cannot afford to have his stock and farm products suffer because of leaks, nor can he spend time on repairs and painting.

For these reasons thousands of successful farmers all over the country are buying Amatite. They realize that painted roofings are out of date.

Amatite is as far ahead of the "painted roofings" as the farm implements of to-day are in advance of those used by our grandfathers.

FREE SAMPLE

To the progressive farmer we say—Send for a Free Sample to-day and get in touch with the best ready roofing made.

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NEW YORK PHILADELPHIA CHICAGO BOSTON CLEVELAND
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NEW ORLEANS ST. LOUIS LONDON, ENG.



Vol. XXXII. No. 4

Springfield, Ohio, November 25, 1908

Terms { 1 Year, 24 Numbers, 25 Cents
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The Work of the Forest Service Management of a National Forest

It is difficult for the general public to understand the tremendous earnestness with which the government is prosecuting its recently determined policy of preserving and promoting the forests of the United States. It is also difficult to understand how a work of such great and wide-spreading importance could have been neglected throughout all the years until almost the present moment. Almost, but happily not quite, it is a case of locking the door after the horse had been purloined.

It is only within the last ten years that forestry has received any attention whatever in America. Previous to that time landscape gardening was a recognized vocation, but it was practised almost wholly in producing ornamental and artistic effects. Nature, it was supposed, was amply able to take care of the forests and supply us indefinitely with all that was needed in the way of lumber and wood. Nature, however, has her limitations, and the country is facing the unpleasant truth that the forests, like the vast buffalo herds, the myriads of prairie fowl, and other elements of the aboriginal period, impregnable in their native environment, but unable to withstand the wanton onslaughts of civilization, are in a fair way to perish from the earth.

National forestry had a small beginning some ten or twelve years ago. The government has always owned vast tracts of forest lands, especially in the West, and these, like the public range, were considered common property, free to any one who cared to make use of their products. Originally, the idea in designating forest reserves was to protect the timber from the depredations of unauthorized persons. At first a solitary supervisor was appointed to look after the reserve, such supervisor being usually a man unskilled and uncaring for forest preservation, but commanding sufficient political influence to secure the position.

From this small beginning the forestry service has developed into a finely organized and well-disciplined force, doing work of the most varied and practical character. It was soon found that simply guarding the forests and preventing the

unlawful cutting of trees was not sufficient—in fact, was of little utility. Forestry must not merely preserve; it must propagate and promote; and that called for skill and a deep knowledge of the whims and vagaries and hidden laws of Nature. It was to fill that need that forestry had its inception as a profession within the United States.

The forestry department of the government rapidly learned many things. One was that the task of forest planting was much more difficult than had ever been supposed. The expedient of scattering seed in suitable places—places which had

maintained in the West for the propagation and growth of coniferous forest trees. Of these, the largest is at Halsey, Nebraska, from which seedlings literally by the millions are shipped annually to the different national forests throughout the country. In addition, nurseries are maintained in Colorado, and at Salt Lake City, Utah, Garden City, Kansas, San Bernardino, California, and two in New Mexico, one at Fort Bayard and one near Las Vegas. These different stations are necessary, owing to the wide range of climate to be served. Seedlings from a warm climate are unable to with-

stand the severe winters of the North, while Northern-grown seedlings perish during the hot, dry summers incident to the Southwest. Experiments are being constantly made to determine which of the many conifers are the best adapted to propagation. In New Mexico the greatest success has been had with Austrian pine and Scotch pine.

During the autumn season of each year, forest guards and rangers in all parts of the country are commissioned to gather seed for the planting. A favorite method of doing this is to rob the stores collected by industrious squirrel

families, as the cones clinging to the tops of high trees are rather hard to secure. Under the influence of heat, the scales of the cone separate, each contributing two seeds for the nursery beds.

At the nurseries it has been found necessary to promote the first year's growth under shelter—a sort of an artificial imitation of the branches and foliage which protects the young seedlings in the forest. Large areas are covered with a light latticework of thin wooden material, through which the sun filters, and under this cover the seed is sprouted in long beds about four feet in width. Some form of artificial watering is arranged, and the young plants spring up with all of the vigor of their native heath. After the first year the seedlings are transplanted, with the care and diligence of an orchardist, to similar beds in the open, where they become hardened to the assaults of the weather. There they grow in peace for another period of two years, when they reach their majority and are sent out into the world, or rather into the woods, to shift for themselves.

At the end each individual tree is dug up, carried to the desired locality, usually a tract where lumbering or fire has destroyed, wholly or in part, the former growth, and carefully planted. This would seem an impossible task, but many workmen are engaged and the operation is multiplied by thousands each season, the effect being already apparent in areas of young pine growth which promise much for the future.

After the final transplanting the foresters do not attempt further care and protection, excepting the general oversight and attention accorded to the forest as a whole. Of course, many of the young trees fall victims to the elements and to the ravages of natural enemies, but once firmly rooted, a three-year-old stands a good chance of surviving and growing into a splendid tree, capable of administering to the needs of mankind.

Even in the nurseries the young plants are in constant danger of destruction. The rabbit and rodent horde are a constant menace, and an unending warfare is waged with traps, poison and every



Good Forestry

The Mature Trees Have Been Cut, the Valuable Wood Selected, and the Timber and Tops Collected and Piled for Removal

once supported dense forests—was simple, but it availed little or nothing. Such of the seed as found a lodgment and sprang up quickly went the way of the uncared-for orchard. Rabbits, gophers, squirrels, mice and even birds preyed upon the tender young shoots, roaming stock trampled, and the extremes of weather added the final touch. Not one seedling in a thousand survived and grew to proportions where it could take care of itself. It was found that the forester must adopt the methods of the orchardist, and that is exactly what he has done. Eight stations, or nurseries, are now

stand the severe winters of the North, while Northern-grown seedlings perish during the hot, dry summers incident to the Southwest. Experiments are being constantly made to determine which of the many conifers are the best adapted to propagation. In New Mexico the greatest success has been had with Austrian pine and Scotch pine.

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known device for their control. Then, too, a number of diseases have developed which attack and injure the seedlings. The worst of these is a form of mildew which follows in the wake of damp weather and requires spraying with chemicals in solution. The forester in charge of a nursery has need of infinite patience and a deep understanding of the ways of Nature. A vast amount of small detail work is necessary, and every process must be executed with the greatest care in order to safeguard the life of the tender young seedlings. Both in the nurseries and the forests it is the constant study and endeavor to work with Nature; to encourage and assist her efforts in reconstructing the forests. In many places the former fine growth was ruthlessly butchered by lumbermen having but the one idea of a present profit. Care and foresight would have continued the life of the forest, but as the case stands, a new life must be engendered by means of the seed and the nursery. Such cases are pitiful, and show that the forests, which to our imagination seem massive and indestructible, are in truth mortal to a high degree and readily yield their lives to mismanagement and cruelty.

The practical workings of a national forest are of considerable interest. The supervisor, once a politician, is now a trained forester and a man of recognized executive and business ability. He has comfortable offices in some town adjacent to the forest, where he maintains a general oversight and attends to the correspondence, reports and detail work. Usually he is provided with a clerk and stenographer. His office is provided with filing cabinets, desks and a safe, and the walls are covered with large maps showing in detail the exact areas which constitute the forest.

Under the supervisor are an assistant supervisor and a number of rangers and guards of varying grades of authority. It is the duty of the rangers to patrol the forest, and their time is spent almost wholly in the saddle. They must guard against fire, the encroachment of stock and the depredations of timber thieves. Each forest has a number of cabins scattered here and there, all upon a telephone circuit leading from the supervisor's office, where the rangers live, visiting the headquarters at intervals. The pay of a ranger is one hundred dollars a month, from which he must furnish a horse and subsistence both for himself and horse. Every man connected with the forest, from the lowest guard to the supervisor, is under the civil-service regulations, and secured his position in a competitive examination.

The average national forest transacts a considerable volume of business and has a considerable revenue. The revenue comes from grazing fees, timber sales and a number of special uses. Of the moneys received, twenty-five per cent is returned to the county and state in which the forest is located. During the past year about four hundred and forty-seven thousand dollars was distributed among the different Western states, the amounts ranging from three hundred and thirteen dollars to Arkansas to seventy-five thousand dollars to Montana.

Firewood is free to those who gather it properly and haul it away for the use of the surrounding communities, but a stated charge is made for trees suitable for sawing into lumber. On one mountain forest in Arizona a sawmill is operated at a point one and one half miles above sea level, and the lumber is carried by a flume nearly ten miles in length to the plain below. The lumber finds ready sale in the farming communities and mining districts of that section. Every tree, the cutting of which is permitted, is first selected and marked by a ranger, and to put the ax on any other tree would be a very serious matter for the offender. So strict are the regulations that not even a Christmas shrub can be removed without first securing permission from the supervisor and having some one in authority select a shrub for cutting.

The forestry department expresses its willingness to assist and co-operate with any one anywhere in the care and growth of timber.

EDMUND G. KINYON.

Management of Sandy Soils

SANDY soil is the easiest of all soils to cultivate, and when it can be maintained in a high state of productiveness it offers numerous inducements to the agriculturist. The plant food contained in sandy soil is in a form easily accessible to the growing plants. The soil is easy to work, it does not crust over or bake, it is warm and very friable, and can be worked sooner after a rain than other soils.

In discussing the matter of managing sandy soils I shall confine myself to the use of means which are within the reach of the average farmer, for sooner or later in all agricultural enterprises the one great question must be settled, Does it pay?

Do Artificial Fertilizers Pay?

The working of sandy land is no exception to this question, and for that reason I will dismiss the question of using artificial and commercial manures and fertilizers; for though none can doubt their value when rightly used, yet my experience and observation has taught me that they cannot be profitably used on sandy soils until after we have furnished an abundance of humus-forming material to the soil. There may be some special crops that will bring sufficient returns so that the owner will be justified in applying such expensive fertilizers, but to speak from the standpoint of general farm crops I believe that the expense will be greater than any possible increased returns.

A sandy soil rightly managed may be made the most productive of any kind of soil, but we must be constantly furnishing it with humus-forming material if we are to maintain its capacity to produce profitable crops. We have found that by plowing under clover and other legumes and by using a fertilizer rich in potash and phosphoric acid sandy land can be made to produce profitable crops of corn and potatoes when it would fail to produce good crops if a high-priced complete fertilizer was used with no legume plowed under.

Plowing Under Green Forage Plants

All plants of heavy annual growth may be profitably plowed under to increase the humus content of the soil; but the leguminous plants, to which clover belongs, have so far proved most satisfactory.

When clover is rightly managed it will

without injury if not pastured too close, as the cattle will avoid the ripened heads and feed on the tender grass underneath.

When the clover sod is plowed late in the fall and the land is planted with some hoed crop the following year, and this followed with small grain and clover, it will require but little clover seed to get a good stand. It is easier to get a stand of clover on land where it is grown frequently, as the ground becomes thoroughly filled with seed in the proper condition to grow.

There is no more serious disappointment in farm management than to fail to get a good stand of clover. To increase the chances of success the ground should be plowed in the fall, in order that spring grains may be sown at the earliest possible moment. It is of little use to sow small grains late in the spring, for they must get a good start before the heat and droughts of summer come on and before insect foes begin their depredations.

Clover seldom fails to catch when it is sowed on wheat or rye fields in March. The seed becomes swollen and germinates at the earliest possible moment, and when once it gets its roots in the soil it makes a vigorous effort to grow.

Corn stubble should be fall plowed, and preference should be given to small grains which are adapted to seed after. Wheat, barley and rye are better with which to seed clover than oats.

The Use of Cover Crops

All of the time sandy soil is not occupied by a growing crop there is a constant loss of fertility, and the management should be planned so that it is covered at all times by either clover, wheat or some other growing crop. They improve the action of the soil toward heat, light and moisture and prevent the fertility from evaporating and washing down out of reach of the plant roots.

Manuring Sandy Lands

The management of manure on sandy land is an important matter. It should be carefully saved, and great pains should be taken to increase the amount and quality. It may be applied to the hoed crop in the rotation, but should not be put deep into the soil. I believe that the greatest benefit will come from applying it as a top dressing to the clover. When we lift the clover crop we are getting under the very center of gravity of the whole farm. If the clover crop

Superphosphate as a Fertilizer

SUPERPHOSPHATE, also called dissolved bone or dissolved bone phosphate, is a fertilizer valued mainly for its available phosphoric acid. The phosphate rock is first ground to a very fine powder, called floats; then it is treated with sulphuric acid, in order to dissolve a part of the lime and render the phosphoric acid available for plant food. The superphosphate is valued only for the phosphoric acid which it contains, although it carries nearly fifty per cent of sulphate of lime, which has long been recognized as a valuable indirect fertilizer, on account of its influence in rendering available, inert mineral fertilizers already in the soil. This part of the superphosphate is not considered by the purchaser, and in reality I doubt whether a majority of the farmers know that they are applying sulphate of lime or land plaster to their land when they apply superphosphate.

Many agricultural writers recommend the use of phosphate and potash goods, which is probably the best for some localities; but there are many places where the phosphate goods alone will give as good results at a less cost. As an illustration from my own experience, I went to a car of fertilizer last fall and selected a load for wheat containing fourteen per cent available phosphoric acid, at a cost of seventeen dollars a ton. The agent was recommending a fertilizer for wheat containing ten per cent available phosphoric acid and five per cent potash, costing twenty-one dollars a ton. As he desired me to make a test of his potash goods, he put in a bag at the same price as the superphosphate alone. I put this fertilizer containing the potash in the fertilizer box of my wheat drill, and when it ran out I put in the superphosphate goods without changing the quantity to the acre.

When harvest came I could not tell any difference in the appearance of the wheat, either with or without the potash. Several farmers looked at it, and it was agreed that if there was any difference in the wheat it was in favor of the wheat without the potash. The drill was run so that a part of the fertilizer of each kind was applied to a rather stiff clay soil and a part to a sandy loam. The fertilizers did not show any difference on either of the soils. The only difference that appeared was in the cost of the two kinds of fertilizer. The one with potash cost four dollars a ton more than the other.

But some will say, "Does not the wheat crop need potash?" Certainly it does. It takes more potash from the soil than it does phosphoric acid. However, I am inclined to the belief that the sulphate of lime in the superphosphate has a greater influence on the crop growth than it is credited with. Scientists tell us that sulphate of lime renders potash already in the soil available. It also has the power of absorbing and holding ammonia. If there is potash in the mineral formation of the soil, the superphosphate fertilizer has the power of rendering it available. If it is not in the soil, of course it must be supplied.

The influence of wood ashes on crop growth is no safe guide to determine whether potash is needed in the soil, as many suppose. Wood ashes contain five times as much lime as they do potash, and usually about one third as much phosphorus as potash.

Farmers have generally learned to depend on legumes to furnish the nitrogen, and apply only phosphate and potash.

A practical test will determine whether the potash will materially increase the crop production; and where the test is not favorable to the potash, it will reduce the fertilizer bill considerably to leave the potash out and use superphosphate alone. There are usually thousands of pounds in the surface foot of every acre of land of the very same material that is purchased in commercial fertilizer. The phosphoric acid is usually the insufficient element of fertility, and the important question with many is how to render the fertilizer already in the soil available. The superphosphate supplies the phosphoric acid and helps to render plant food available.

A. J. LEGG.



Rangers' Cabin in Crook National Forest, Arizona

accomplish all that other plants possibly can, besides adding large amounts of nitrogen to the soil, to be utilized by future crops. Where clover will not thrive, cow peas, alfalfa and other legumes may be profitably utilized.

Crop Rotation on Sandy Land

The best crop rotation to adopt, in view of the necessity of increasing the amount of humus in the soil, will be one in which clover is grown at least one year in three. The ground should be seeded with clover every time it is sown to small grain.

What, clover and some field crop, such as corn or potatoes, will make an ideal rotation of crops for sandy soils. This rotation, if clean work is made of it, will produce uniform results, varied only by the kind of weather or season. The clover fields may be pastured in the fall

is improved, the whole farm is brought up with it.

The practise of hauling the manure direct from the stable to the field is fast gaining in favor among the best farmers. There is less loss and we get the benefit at once instead of allowing it to lay in the yards a year before it is applied. It is essential to success on sandy soils as well as other soils that we keep plenty of live stock to consume all the forage grown on the farms. I have endeavored to recommend no processes which are expensive or laborious, but what I believe to be within the reach of ordinary farmers.

If the cultivation of sandy soil is made profitable for general farming, it must be done along these economical lines, for laborious and expensive systems are out of the question on an ordinary farm.

W. MILTON KELLY.

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Henry

"THE BETRAYER"

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The Pineapple Industry of Hawaii

THE territory of Hawaii, Uncle Sam's new possession in the center of the Pacific Ocean, has a number of very profitable agricultural industries. One of these is the growing of pineapples, an industry that has already reached large and creditable proportions, but that offers still greater possibilities for the future. And although in Uncle Sam's broad domain there are many localities that offer inducements of a like character, this new territory, with its perfect adaptability to pineapple raising, promises to become an especial Mecca for the small-scale farmer.

The larger portion of the pineapple crop is of course sold to the local canneries. There is always a ready market, and the price paid, which does not fluctuate to any great extent, is good, ranging from twenty-five to thirty dollars a ton for ripe fruit. Pineapples may be thus disposed of in any quantity, and the small grower stands an equal chance with the man who may possess an eighty-acre field. It is estimated that the canneries this season will handle about one hundred and fifty thousand cases of canned fruit, which is valued at nearly half a million dollars. In addition to this output by way of the canneries, hundreds of tons of the fresh and better grade fruit are shipped to the markets in the United States proper and elsewhere.

The yield of pineapples an acre varies with the size of the fruit and the number of plants to the acre, ranging from ten to twenty tons. There are three methods of planting in vogue, and it is these methods that regulate quality and quantity. Where it is the object to grow fresh fruit for shipment the plants are set out in rows six feet apart, twenty-four inches intervening between the plants of each row. This means that an acre of ground contains about thirty-six hundred plants. The crops set out in this way can be cultivated with horse labor, and the fruit produced is of extra fine quality. For canning purposes smaller and more uniform fruit is desired, and to bring this about two methods of setting the plants are followed. One is to set the plants throughout the field in rows two feet apart each way, and the other is to set them in beds of five rows each, two feet apart each way. Between each of the beds spaces of four or six feet intervene, which afford convenience in gathering the ripe fruit. Where the planting is done after the first method, with only an occasional roadway, the plants will average about ten thousand to the acre, and where set in narrow beds there will be from six to eight thousand plants to the acre.

Pineapple Lands, Canneries and Crop

The center of the pineapple industry of the territory of Hawaii is Wahiawa, on the island of Oahu, and about thirty miles from Honolulu. Thousands of acres of table lands here spread out in all directions, and it is said that on an almost unbroken area of thirteen hundred acres more than three million pineapple plants are growing. But while this is considered the center of the industry, all the islands of the Hawaiian group have lands available for pineapples, and small growers are to be found in all farming localities.

The pineapple lands are at an elevation of from sea level to fifteen hundred feet above. The fruit requires a rainfall of from forty to sixty inches, which is most beneficial when delivered in frequent light showers. The land is plowed to a depth of ten or twelve inches, and the cultivating of the crop consists in keeping the soil between the rows in good condition and free from weeds. Good drainage is essential, and protection from strong winds quite necessary. It requires two years for the first crop to mature, and after that a ratoon crop matures the next year, and sometimes a third crop the fourth year. If the plants are in a healthy condition, however, from seventy-five to ninety per cent of them may be expected to yield during the first harvest season.

The canneries of the island, by which the larger portion of the crop is handled, are well-regulated institutions, and throughout the canning season hundreds of young people find employment in them. The tin plate from which the cans are made enters the canneries at one end and the pineapples at the other, and therefore a cannery not only cans the fruit, but makes the cans as well.

The tin plate is imported in packages fourteen by twenty inches in size. It is here cut into strips varying in width according to the size of the cans desired—two-and-one-half-pound and gallon cans. From the machine that does the cutting the tin strips pass on to another that does the "forming," which automatically turns them into their round shape. The next and last process is the soldering, which is also done by machinery. To can the last season's crop of pineapples it was necessary to import

about twelve hundred tons of tin plate, from which three hundred thousand dozen cans were made.

To prepare the fruit for the cans several processes are passed through. First the tops are removed, then the fruit is peeled, washed in warm water, and lastly sliced. It is now ready for the cans, and after the testing for leakage, the cans are labeled. They are next packed in boxes of two dozen each, after which they are ready for shipment.

The pineapple crop for this season is considered good, but the growers say that next year's output will be nearly double what it is this. This is an industry, in fact, that promises to continue to grow until the present output will have been doubled many times. The quality of the Hawaiian-grown pineapples is considered superior to that of any other grown in the United States, and while the fruit finds its way to nearly all markets, the largest part of it is shipped to this country. This is especially true in regard to the fresh fruit. The variety principally grown is the Smooth Cayenne.

Pineapple lands can be had on the islands of Hawaii, Maui, Molokai, Oahu and Kauai at a purchase price of from thirty-five to seventy-five dollars an acre, or leased at from five to fifteen dollars.

CHARLES ALMA BYERS.

At Butchering Time

BUTCHERING time upon the farm is no more the disagreeable task of our pioneer days, for with the growth of modern farm conveniences this department has as well kept pace, and with modern arrangements two men will now do a large farm butchering and have it over with in an ordinary day, rather than several men working until far into the night to complete the task, as it was performed in bygone days. Then there need be no heavy lifting, for with windlasses and various methods of lifting by blocks and pulleys any sized animal can be easily hoisted.

One convenience that is especially essential with the present-day butchering and scarcity of fuel, and which has taken the place of the inconvenient back log and open fire which smoked the workmen's



A Pineapple Field in Hawaii Near Honolulu. The "Pines" Ready for Gathering

eyes almost out, is the arch and scalding pans for large jobs of butchering, or sheet-iron fire pots for ordinary work. These latter arrangements are very popular in this section, and not only do they come in good service at butchering time, but as well in case of boiling off a batch of apple butter or home-made soap, they do not endanger the women folks by the sweeping flames of fire often occasioned by high winds.

When the size of the kettle to be used is determined, usually of quite large size for general purposes, a jacket made from heavy sheet iron or light boiler iron is formed about the base of the kettle at least eighteen inches from the ground, and making a sufficient fireplace beneath it for building a good fire. With a door cut into the front of this jacket, and a place in the rear near the top fixed for a stovepipe joint, one of the handiest conveniences about the farm is made.

This cooker can be set upon the ground in any sheltered location, or if the day become stormy before the task is completed, it may be removed to an outdoor building or shed, where the lard may be rendered out without any smoke or danger from fire sparks, as a few joints of pipe can be added to the flue and run out through the roof or side of the shed, and the work proceed as though no ill-weather conditions existed.

Water may be heated for scalding in half the time that is required with an open fire and with a great saving of fuel. Then there is no danger in burning the lard or having it boil over into the fire, as a steady fire is always maintained.

GEO. W. BROWN.

Building for the Future

"I WISH more of our people would build permanent homes on their farms and stay there," said an old farmer, as one of his neighbors rented his farm to a tenant and moved to town. "How much better a neighborhood would be if one knew that every one in it was located there to stay until called over the river," he continued. "One would then know who his neighbors were and what they were. My father told me many a time that in the old country a farm was held and farmed by one family for generations. There are not ten people in this neighborhood that were here twenty years ago. A few of them have moved to town, but most of them have gone West, South or North. Only one, so far as I can learn, has done better than he was doing here. Some have moved several times, and still are not satisfied with their location. People generally are a queer, restless lot, not much better than the old tribes used to be."

The old man is very nearly right about people being a "restless lot." Most farmers appear to be land hungry until they get considerably past middle age, then they are either in debt up to their ears or ready to sell out and move to town, where they loaf about the streets and idly gossip and argue about matters that are not worth a moment's time. I know a few sturdy old men who have built up beautiful homes on their farms—not great, barn-like houses with a dozen empty rooms, but neat, modern houses containing all the conveniences one who is getting well along in years could wish for—and they are spending their last days there in peace and comfort. As one said to me: "Some of our neighbors are moving into town, but wife and I do not care to leave our old shade trees, our song birds, the pure air and water we have here for anything we can get in town." They have a closed carriage with glass in front and at the sides in which to drive to town when the weather is inclement and they wish to attend some entertainment, and an easy-riding buggy for fair weather, and, unlike most farmers, they drive the rig to a livery stable, and their horse is cared for prop-

many who have worked so hard to attain that one thing, but some of us have to suffer disappointment. As I ride over the country and see so many broad acres lying in the sunshine, and beautiful groves where the shade of the trees falling on the greensward makes them cooling and inviting, I somehow feel that things are not yet arranged just right for mankind. But these things will gradually work out in God's own good time, and we can but bow quietly to His will."

Only a few days ago a farmer who has lived in town about three years said: "I don't like living here in town, but I can't go back to the old farm because the house is not fixed up so well to live in as the one I now occupy. In fact, there are very few of the conveniences there that we have here. The great mistake I made on the farm was in not fitting up our home to make living in it enjoyable. The house is so near the highway that there is no room for a lawn. There are no shade trees worth mentioning. The house is neither nice to look at nor conveniently arranged inside. In fact, everything is on the temporary, makeshift order, about the same as on most other farms. If I had my life to live over again I would arrange things on the farm so as to make the place one that we would want to stay in as long as we live. But the opportunity to do that is gone, so far as I am concerned. We will have to make the best of things as they are. But I certainly made a great mistake."

Attractiveness of the Farm Home

A young man writes from Iowa, stating that he has just bought a farm without any buildings on it, and he does not wish to make the mistake so many have made in building and arranging their homes. So far as the buildings are concerned, he says he will have to be governed by his purse, but he wants to build so that he can improve as he gets able. Then he wishes to place the buildings, especially the house, so that the entire outfit will not only be convenient, but also attractive, and increase in attractiveness as the years go by. He wants to build a home that he will not want to leave when the days of his greatest activity are over. He is wise.

Nothing adds more to the attractiveness of a farm home than a good lawn with groups of three or four trees here and there. Trees like sugar maple should be planted singly. And one must remember that when they get up they make a dense shade. Ash trees are late about leafing out, and they shed them early. They are useful near the house, where one wants sunshine in the spring and autumn and shade in summer. Don't plant trees in rows on the lawn. They look much better here and there, just where you think you would like to have some shade.

The road leading from the highway should run alongside the lawn and on to the barn, and have a switch running back of the house, so that coal and heavy articles can be hauled to the coal house and near the kitchen door. Between the house and barn is a good place for cherry and plum trees. The first part of the house erected will most likely be used as a kitchen when the addition which will be needed is added, therefore space should be left in front of it for this addition.

To the west and north of the farm buildings should be planted the groves and windbreaks, which will also supply fence posts and much other wood needed on the farm. I would plant liberally, because one will find use for lots of timber, while as a windbreak and shelter for stock such a grove will pay well for the land it occupies. The older these shelter belts grow, the better one will be pleased with them. And the young man who plants them will live many years to get the benefit of both the posts and the shelter from bitter winter storms they will afford. If one fronts to the east, as he says he can if he wishes, I would have the barns and other buildings north from the house, and a good grove to the west of all the buildings. I merely offer the above as a general outline for him to work on, but he will find the main points right. FRED GRUNDY.

Jingles for Farmers

The loafer loafed around the store,
And at the tavern, too;
At the workhouse he is staying now,
With plenty of work to do.

Peter Putter still putters 'round
About his little place;
His neighbors say, "None can be found
His handiwork to trace."

Young Farmer Thrift is doing well,
His tools are up to date;
He's adding to his bank account
With the help of his frugal mate.
M. L. PIPER.

erly and hitched up again when they are ready to return home. These people worked hard and economized closely through the morning and high noon of life, and now are spending its evening comfortably and quietly, knowing that they have done their full share of life's work and earned well their reward.

Longing for the Country Home

Not long ago I was waiting in a station for a train that was about an hour late, and a business man came in, and while we waited we had quite a chat. He was raised on a farm, and like many other boys, was crowded off and went to the city. He had worked hard and climbed up slowly, until now he is beginning to get a little ahead. He is a little past middle age, and he says his chief ambition is to get enough ahead to buy a small farm, ten to forty acres, not far from some village, and to spend his last days there. He said: "You may scarcely believe me, but I have been taking one agricultural, one horticultural and a poultry journal the past ten years just to keep in touch with the progress of country matters. It has been a hard, uphill struggle with me to get up to the position I now occupy, and I shall be only too glad to step down and out when I am ahead sufficiently to get the little quiet country home I want. I am acquainted with more than fifty business men who have the same longing for a quiet home in the country that I have. Some of them will get it, but more of them never will be able to. It seems a little sad that the longing for a little piece of God's green earth to spend one's last days on will be denied to so

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Farm Sanitation

IT is a lamentable fact that farmers often fail to understand the importance of observing proper measures for the protection of their families against those dreaded diseases which have their origin in the accumulated animal and vegetable matter in a state of decay found around many farm premises, until they have made an appearance and taken some loved members. This often occurs through the ignorance of the farmer in regard to the danger from such sources. In cities and larger villages such matters are regulated by legislation and the requirements of health officers in the performance of their duties, but in country towns there is practically no supervision of such matters, and possibly such supervision would not be practical, but there should be frequent and earnest effort put forth in calling attention to the danger of neglect in this direction.

In the practise of medicine much importance is now attached to the prevention of diseases, and the services of a physician in the early stages of a serious disease have often been successful in warding off what would have been an incurable case if attention had been delayed. Some one has suggested the advisability of employing physicians by the year instead of when disease appears in the family, which perhaps will never be generally adopted, and yet there is more than a grain of common sense in the idea. There should be some one to call the careless farmer's attention to the sink drain that is breeding death-producing germs and distributing them through the atmosphere; to the decayed vegetables in the cellar; to the cellar drain that is closed by some obstruction; to the barn cellar with all its poisonous bacteria and disease-breeding attachments; to the pollution of the water supply by the drainage from various sources, and to the decaying animal and vegetable matter where it will contribute to the unhealthfulness of the surroundings. While a physician employed by the year might not make personal inspection of these disease-breeding sources, he would constantly keep the farmer's attention upon the danger from such conditions and cure the people by keeping them healthy. It is not probable that this practise of employing physicians by the year will come into use, and yet the family physician, above all others, seems to be the person to whom we naturally look in the country for education along this line.

We boast much about the healthy conditions attending country life, yet we are forced to admit that sickness and death have invaded farmhouses in the midst of pollution through the carelessness of the farmer in attending to the matters we have named. If a person meets death from the discharge of firearms in the hands of another, it is murder, but if from some disease caused by sink drain or other pollution through the owner's carelessness, it is looked upon as a dispensation of Divine Providence. The crime in the latter case is no less than in the former. It is a stain upon the glorious reputation of the healthfulness of the country homes that such conditions are occasionally allowed to exist. In the absence of legislation reaching such cases there should be a constant effort made by all individuals and associations having for their object the advancement of the interests of the rural sections to impress the absolute necessity of proper and effective farm sanitation, and to educate the people in this important matter.—National Grange.

The Value of Paint

NO FARM building should go unpainted for a long time. A little paint applied as soon as needed will do much to preserve the wood and even soft stone. We have seen stone that had worn away under the work of the elements, leaving standing out in bold relief the letters that had been painted on it and had been constantly repainted from time to time when needed.

The wearing away of wood under the effect of the sun, the wind, the rain and the frost is sometimes quite rapid. The paint fills the pores and excludes the moisture, the air and the frost. The cells of the wood are thus preserved intact for a long time.

The simple ingredients of paint are white lead and linseed oil. The mineral fills the pores and the oil dries and holds it in place. While the combination lasts the moisture is excluded and the cells of

the wood are protected from attack of fungous diseases.

When no paint is used the growth of minute fungous forms of life are accelerated. Some of these forms are too small to be visible to the eye, even when they grow in masses. They send their filaments into the cells of the wood and gradually eat it away. We say the wood has rotted.

There are dry rots and slimy rots, but both are the work of the minute forms of life. The dry-rot forms are hardest for us to realize, for we associate rotting with slime forms. But dry rot is a life process as much as any other. Where oil and white lead exist, these minute plants cannot exist and the wood is thus not attacked.

Some of the fungoids that attack wood live best in the air and some live best without air. Those that live without air are rated as belonging to the anaerobic bacteria. If a house is built so that air cannot get into its sides at all, these bacteria begin their work and prove to be very destructive, far more so than the bacteria that live in the open air. Therefore the carpenters say that ventilation should be given to every part of the structure, and they are right.

We hear it said that "the moisture got in and rotted the timbers." But moisture cannot do any rotting. The moisture made it possible for the bacteria that live in the air to multiply and attack the timbers. Therefore the rotted beams resulted. Air-using bacteria are able to work only in moist conditions. They cannot work in all water or all absence of water. Too much water destroys them, and so does dry air.

The paint protects against both families of bacteria so long as it entirely covers a thing. Therefore the use of paint is an economy. It should be used again and again, as often as there appears to be a demand for its use. In fact, it is better to use it before it needs to be used rather than to wait until its need becomes apparent. It is probable that a house painted often will require no more paint in a long term of years than it will if the owner waits until the paint is all worn off before applying new coats. In such a case at least two coats, and perhaps three, will be required.—The Farmers' Review.

Winter Stock Feeding

STOCK feeding this winter will require good business management to make a profit, with the price of feeds as high as they are and as they are likely to be for the next year to come. As fall approaches, bringing the time of feeding nearer, the business farmer will do a little calculating. He will take an inventory of the amount of feed he will have at his command and will estimate how many head of stock he can profitably carry through the winter. Then he will be ready to dispose of those he cannot use to advantage. He will avoid keeping more stock than he can feed with a profit and will know how much can be fed per head each day with the best results. Such men will come through the winter ahead of the game.

An animal to make the greatest gains at the least cost must be fed liberally. This does not mean extravagantly, that is the method pursued by many, but all they will clean up each day. They must be given enough to supply the functions of the body and more for the laying on of surplus fat. And in this respect the animal that starts in the fall in good condition will pretty likely make better returns for the feed given than the one that has been half starved in the fall before feeding begins and is in a thin condition. Pastures are short in the fall and stock are apt to find insufficient pickings unless there is some additional feed given. This often results in stuff going into the feed lot a little the worse for lack of the attention they should have received. So we would say that fall feeding in preparation of the winter feed lot is almost as essential as the winter feeding itself, for it puts the animals in condition to start right off and make good gains.

The fall is the time to sell all surplus stock. Keep only what you want to winter over and those that are to be fed for the market in the spring. Circumstances will determine whether a farmer can afford to buy feed other than that he grows on his own place. Buy in the fall, for feeds are cheaper then than it will be in the winter, and stock will sell for a better price in the fall than it will later

on in a half-fat condition. Prices of cattle and hogs are very good at the present time, and from existing conditions one would be led to predict that they will be higher next spring and summer, so that the man who has the feed and can fit out a bunch of cattle and hogs this winter should come in just right next spring. But he must do some good engineering to feed sixty-cent corn and make a profit above the selling price of the corn. Where he will be ahead, however, is in keeping the fertility on his farm, which is, after all, one of the paramount values of livestock feeding.

In conclusion, we would say, cull as closely as possible and adjust the feeding operation to the amount of feed available. Don't overstock and then find before the winter is over that you have more stuff to feed than you have feed for.—The Farmer's Guide.

Horses on Alfalfa

THERE seems to be an almost universal opinion among horsemen, and especially among those that are raising heavy horses, that no other grass or combination of grasses equals or even approaches the value of alfalfa as a pasture for horses; and from an economical point of view it certainly has no equal, as it will furnish so much more feed an acre than any other grass. It will not only pasture more horses an acre, but it will produce horses of greater weight, larger bones and stronger muscles.

A horse that has been reared in an alfalfa pasture and fed a light ration of alfalfa all winter makes one of the finest horses to be found in any market today. To produce a horse of the highest type, with the cleanest bone, the best-developed muscle, the best temperament and the greatest action and finish, nitrogenous feed must be used, and in no other feed can this most essential element of nutrition be so cheaply and so abundantly supplied as it can by feeding alfalfa.

The most successful producers of both heavy and light horses are to-day using alfalfa extensively in the development of their young horses. Its value for this purpose is not recognized by the Kansas feeder alone, for after seeing Kansas alfalfa-grown horses, Eastern breeders, where alfalfa cannot be grown, are sending their colts to Kansas alfalfa fields to be developed as they could not be at home.

A majority of horse owners are inclined to waste hay in feeding horses—that is, they feed more than is necessary for the maintenance of the horse and more than he can economically take care of. This is true of other kinds of hay as well as of alfalfa.

Either heavy or light horses that are doing regular, steady work should not, if one wishes to feed economically, have more than one pound of hay per hundred pounds of live weight. That is, a thousand-pound horse should receive ten pounds of hay a day and a fifteen-hundred-pound horse fifteen pounds a day.

A fifteen-hundred-pound horse that is doing steady work should have about four pounds of hay with his morning feed, the same amount at noon, and about double the amount at night. Many horses will eat thirty or forty pounds of hay a day if they have free access to it. If a horse is allowed to eat such quantities, half of it is wasted, and if he is eating that amount of alfalfa hay, it is worse than wasted, for it does the horse an injury. From two to two and one half pounds of digestible protein is all that an ordinary horse can utilize in a day, and in one hundred pounds of alfalfa there are eleven pounds of digestible protein. This fare of alfalfa if too heavily fed is likely to cause kidney disorder, and may even be responsible for abortion in pregnant mares that are fed too liberal a ration of it. If it does not cause abortion, weak, unhealthy foals will be the result.

Have alfalfa fed judiciously to pregnant mares, heavy or light work horses, and it is beneficial and should be used wherever it is obtainable, but it should never be used as the exclusive roughage. Some objection is made to it on account of causing looseness of the bowels and making the horses soft and easy to sweat. This is due to their having it in too large quantities. Alfalfa hay should be fed as part of the grain ration rather than a roughage. If fed in this manner its use will be found very satisfactory.—Kansas Agricultural College Bulletin No. 155.

The Manure Spreader

THE manure spreader as now built and put upon the market is an efficient and durable article of farm machinery. Of course, it can be dispensed with and its cost is considerable, but the question remains, Will not a spreader prove a paying investment? Is it not a labor saver and will not its use add immensely to the value of the manure? Now all these questions are answered positively in the affirmative by every one who has used a spreader to any considerable extent. With the spreader manure can fittingly be spread upon a meadow, new or old, spring or fall, a thing most desirable and which cannot be satisfactorily or well done by hand. Again, a given quantity of manure applied to any crop with a spreader will certainly yield far better returns the first year than when applied by hand, and doubtless this is true as to ultimate results.

In applying manure by hand it is often applied so thickly in spots as to actually damage the crop to which it is applied, a thing not likely to occur with a spreader. Hand spreading results largely in large, tough and dry chunks which for the first year yield no substance to the growing plants, no humus to the soil, and which are, for the time being, not only quite useless, but a no inconsiderable hindrance to proper cultivation, while the spreader not only best, but thoroughly, prepares the manure for its immediate use by growing crops.

But the question remains, Will the spreader prove a paying investment, after all, to the average small farmer? If he has a very hilly farm, or if he keeps little stock, no. If he has a level farm, keeps ten or more head of stock and a good strong team, yes.

However, spreaders should best be purchased by associations of six or more neighboring farmers. If seasonably used one machine can well do the work required for twenty quite good farms. The spreader purchased should carry from sixty to seventy bushels, should be furnished with very wide tire, not less than five inches, and to handle easily should track.

To comfortably run such a spreader on a fairly faced farm requires a good twenty-eight-hundred-pound team, although such a team will, on a level farm, easily enough handle what the manufacturers call a three-horse machine.—M. M. Burnham in The Farmer's Guide.

Fall Methods for the Control of Insect Pests

INSECTS live over in almost all stages, and the fall and winter furnish a good season for reducing their ravages the following year. It will be well to bear the following points in mind to aid in this work:

Dispose of all rubbish. Many insects which hibernate in the adult stage seek rubbish of all kinds. Here they are protected from the severe change in the weather which is so detrimental to their constitution and escape the prying eyes of their bird enemies. All rubbish should be consigned to the compost heap or plowed under to furnish humus for the soil. Stuff that cannot be used in this way should be burned.

Clean out the ditch banks and fence corners. Cut close and rake up all these places.

Fall and winter cultivation of the ground will help to dispose of grasshopper eggs and cutworms. If the ground is kept fallow during the fall, cutworms will disappear before the spring crops come up.

Disk the alfalfa. It will break up or bury the pods of grasshopper eggs and be a help to the plants. It will be well to disk all dry, exposed places where the grasshoppers have been abundant during the fall.

Make an examination of the spraying apparatus, and if necessary give the orchard a winter treatment. At any rate, be ready for the spring work.

Examine the seed peas. If they are weeviled, put them in a tight box and fumigate with carbon bisulphid at the rate of four ounces to each bushel of peas. The fluid should be put in a shallow dish over the peas, so that the fumes will flow down over the mass.

Examine the chicken roosts and pour kerosene oil over them if the mites are troublesome. This should be repeated at intervals of every few weeks until cold weather sets in.—S. Arthur Johnson in Colorado College News Notes.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Poultry Houses

POULTRY is found thriving and yielding good returns in so many different styles of houses that it is difficult to lay down any hard and fast rules. The tendency at present is toward cheaper houses with better ventilation. The hot-house style of housing poultry during the winter has not been satisfactory, many of the houses being damp and the air in them anything but agreeable. Disease has been quite common and the results in many cases have been disappointing.

To the plans given herewith there are no doubt some objections, but there are strong points in each, and they are giving good results at this station. The two most important things to be arranged in poultry-house construction are fresh air and sunlight.

Poultry houses should be so arranged as to admit plenty of sunlight, especially in the winter months, as it assists very materially in warming the house and making the fowls cheery. It also dries up moisture and is one of the best agencies for killing microbes and disease germs. Windows should be arranged to come well up under the front. This will permit the sun to shine well toward the back part of the house. Winter is the most important time for plenty of sun, and as it is lower in the heavens during the winter months, hence the importance of having the windows higher. At least one third of the front of a poultry house should be glass or open to the sun. It should face the south or southeast. Windows should be arranged to slide back or to be removed in some way. On bright, mild days no covering is necessary over the opening; on windy or cold, stormy days a muslin curtain should be used, unless very cold, when the windows may be kept shut, to prevent the combs being frozen. By getting the fowls accustomed to the conditions as cold weather approaches they are better prepared to stand lower temperature with no injurious results.

Houses with the straw loft absorb the moisture and are much cooler in summer. Their chief fault is the accumulation of dust and sometimes rats and vermin.

On several poultry plants, to lessen labor, flocks of from fifty to one hundred, sometimes more, run together in a long house. These are fed by the hopper system, allowing the birds to help themselves. Several report just as good results by this method of handling laying stock. Every hen should be allowed from four to six square feet of floor space.

Each bird of the Plymouth Rock, Wyandotte and such breeds requires about nine inches of perch room, Leghorns, etc., about eight inches and Cochins ten inches. Roosts should be made low or near the floor. Fowls of the heavier breeds cannot fly high, and those of the lighter breeds frequently injure the soles of their feet in jumping from high perches, causing bumblefoot. When dropping boards are used they should be moderately low down to admit easy cleaning. Dropping boards should be made of matched lumber and should be twenty inches wide for one roost and three feet for two, the first being placed ten inches from the wall. Most poultrymen prefer roosts two by three inches wide, with edges rounded slightly. Nests are usually made from twelve to fifteen inches square. If placed near the floor they are apt to induce egg eating. Dark nests prevent this.

Cement floors are the cleanest, and if properly constructed are dry and warm and give good results. Six inches of coal cinders pounded down close, with some fine material on top—sand will answer—and one to one and one half inches of sand and cement (one cement to two sand), will make a strong enough floor for a poultry house.—Pennsylvania College Station Bulletin No. 87.

In Catalpa Plantations

GREATER skill and attention to details are required to grow catalpa profitably than perhaps any other tree. In the first place, the seed of young trees must all be of the particular species known as hardy catalpa; the others, for production of wood, are not worth the planting. The soil must be rich and rather moist, and must not contain too much alkali. Whenever the young trees are making a low branching growth, so that they will be unsuited for posts or poles, they should be "cut back"—that is, cut off close to the ground—when two or three years

old, just as if they were large enough for market. Several sprouts immediately spring up from each stump and grow vigorously, and the competition for sunlight stimulates height growth and encourages natural pruning. This enables the tree to form a straighter stem with fewer branches. At the end of the season the sprout is nearly as tall as the three-year-old tree would have been.

The many disappointments in growing catalpa are attributable largely to unfavorable site and stock of an inferior kind of catalpa. Crooked, limby trees also often result when the trees are not cut back; and where the limbs, after attaining some size, are broken off, decay enters and the heart rot, so injurious to the tree, begins.

When trees are cut back the plantation must be sprouted, either by removing the undesirable sprouts while green or by cutting them out the following winter with an ax. All but the strongest one or two sprouts are removed.

After ten years under best conditions the first crop has gained the size at which it can be cut most profitably for posts. Each tree should then produce one first-class post, worth twelve or fourteen cents; one second-class post, worth eight cents; and two or three stays, worth three cents each. From the small and crooked limbs considerable firewood is secured, which, in a large plantation, is sawed into stove lengths and piled convenient for shipping at the same time that the posts are sawed. After all material of value has been removed, men go through the plantation with long poles, which are pushed ahead of them under the brush. When a considerable amount has been collected, the pole is tilted upright, forming a neat pile of brush, for burning. The plantation is thus kept free from obstructions. A vigorous root system has now developed, and future crops are grown from sprouts in eight years.

In catalpa, heart wood forms early. This is in marked contrast with some woods—black walnut, for instance, which contains but little heart wood until after the tree is fifty years old. On account of its tendency to mature early, catalpa is especially adapted for wood crops of short rotation. Other favorable qualities are its speedy growth, its power of enduring frequent cutting back, and its light weight. The wood is strong, straight grained and durable.

The Yaggy plantation, four miles northwest of Hutchinson, Kansas, comprises five hundred acres of catalpa, and is one of the most successful and profitable in the country. The trees are planted at intervals of four feet, in rows six feet apart, or eighteen hundred to nineteen hundred to the acre. Thus, if each tree yielded posts to the value of thirty cents, an acre would yield \$544.50 every six years. This does not include the firewood. Excellent shipping facilities are afforded by two railway lines, which run through the plantation and have established a station which is named for Mr. Yaggy. Connection is made with other railroads at Hutchinson. Mr. Yaggy estimates the income from his plantation for the first crop to be as follows (the seedlings were home grown): Interest on the investment, not included in these figures, should be considered.

Investment	
Cost of land per acre (first year)....	\$22.00
Cost of seedlings per acre (first year) ..	.80
Cost of transplanting per acre (first year)	3.20
Cost of cutting back per acre (third year)	2.50
Superintendents, implements, fire guards, etc., at thirty-five cents per acre per year.....	3.96
Cutting and marking per acre.....	20.00
Total	\$52.46

Returns	
Value of posts per acre.....	\$315.21
Value of firewood per acre.....	12.00
Total gross returns per acre.....	\$327.21

The Yaggy plantation is cut by the strip system. A total of sixty-two and one half acres is cut annually, but the strips are so distributed throughout the plantation that the openings are not conspicuous. The farm contains also three hundred acres of apple trees, but catalpa is counted the surer crop. A year ago the late freeze almost completely destroyed the apple crop, and to offset its

loss a double portion of catalpa was harvested.

While it is true that no other forest tree except eucalyptus has been grown in large plantations with so great profit as catalpa, it is equally true that, with the exception of cottonwood and black locust, none other has been the source of so great disappointment. Catalpa can be grown profitably only with a beforehand knowledge of the habits of the tree, and a care that the site and the market are favorable; after that there should be the exercise of as good management and as strict attention to detail as would be required to run any other factory and storehouse combined. That is the practice of forestry.—Forest Service.

Hand Separators

THE farmer or dairyman who handles the milk from five or more cows for profit in butter making or cream selling should own a hand separator.

The hand separator working under favorable conditions leaves from one fiftieth to one twentieth of a pound of butter fat in one hundred pounds of skim milk. The gravity and the dilution (water separator) systems of securing the butter fat will leave, under the most favorable conditions, from one third to three fourths of a pound of butter fat to each one hundred pounds of skim milk.

The farmer who handles the milk from ten cows which produce eighty thousand pounds of milk a year should not lose over forty pounds of butter fat in the separator skim milk. By the water separator (dilution) or gravity methods there would be a loss of two hundred and seventy-five to six hundred pounds of butter fat a year. Figuring butter fat at twenty cents a pound, there would be a loss between the hand separator and the other methods of from forty-five to one hundred and ten dollars a year. Thus the saving in one year would pay for the separator, and it would be good for many more years of service.

Advantages of the Hand Separator

The machine not only secures practically all the butter fat, but it delivers the skim milk in a sweet, warm and undiluted condition ready for the calves or pigs.

Less labor and dairy utensils are necessary than with the other systems.

The cream is of uniform richness. It has removed much of the fibrous and foreign matter.

The milk has had no chance to absorb bad flavors and odors from standing around, and the cream is produced in excellent condition.

There is a gain in the quality as well as the quantity of the butter obtained.

City dairies can improve the quality of their milk very much by running it through the separator and afterward mix the skim milk and cream before bottling it. The milk is not only aerated, but many of the impurities are removed, thus making it sweeter and giving it better keeping qualities.

Size of Separator to Buy

Hand separators may be procured in sizes varying in capacity from one hundred and fifty pounds of milk (eighteen gallons) an hour to twelve hundred pounds (one hundred and forty-four gallons) an hour. The prices vary from about forty dollars for the smaller size to one hundred and seventy-five dollars for the larger size.

The capacity of the machine an hour should not be less than fifty pounds for each cow milked. A ten-cow herd would then require a five-hundred-pound-capacity separator; and an eighteen-cow herd, a nine-hundred-pound capacity.

Make of Separator to Buy

There are many makes of good separators now found on the market which are sold as cheaply as many of the poorer ones.

Buy a standard machine—one that has a good recommendation and is known to be durable and reliable.

Don't buy the average "catalogue house" machines. They often do good work, but as a rule do not last long enough. Many of them are cheap in construction as well as in price.

Buy a well-known machine—one that is guaranteed in construction, material and clean skimming.

Secure the machine from a "near-by" reliable agency.—H. M. Bainer in Colorado College News Notes.

Individuality of Hogs

INDIVIDUALITY is a big word, but is equally as big a factor in live stock. You may have heard the word frequently and wondered what it means. Or you may know its meaning and possibly overlook its importance. If either case be true, allow me to persuade you not to discredit individuality.

By individuality we mean the qualities and the characteristics of the particular individual. You cannot expect to make equal gains with the same feed on all hogs. To the man who says that one hog is as good as another, I will say that this is a mistake and is shown to be so from the nursing litter to the drove of finished feeders. In the litter there will be pigs that will grow out and outshine the rest of the litter, while others will be runts. Hogs will feed out differently. Some will grow faster and feed better than others. This is all owing to individuality. Each farmer favors some particular breed of hogs. Some new breed comes along and he decides to try it. If he chances to get hold of good individuals, he praises the breed and probably makes a change; while, on the other hand, if he has made the test with poor animals, he denounces the breed and declares it to be worthless. I don't know why this is, but it seems that farmers expect one hog to do as well as another under similar conditions, irrespective of individuality. It is very common to see men making a test of two different breeds with animals of very different quality.

One animal may feed more profitably than another, yet be smaller at the close of the feeding period. Thus we see that ability to utilize feed to profit and to digest a large quantity are two different characteristics.

Then two hogs may make unequal gains, yet be equal in the rate of profit. This is due to the fact that one hog is destined to become a bigger hog than the other. As an example of this I recall an instance when a farmer wanted to try the Duroc-Jerseys. He was a fancier of Poland-Chinas and had some very large and good sows of that breed. He procured a small, inferior sow of the breed to be tested, and in time put her pigs in the pen with pigs from a Poland-China sow twice the size of his red sow. When he sold the bunch they were of two distinct sizes. They had kept up their particular standards very regularly, but the Durocs were from a smaller sow and of less quality, hence showed it in results. You wouldn't expect a small mare's colt to weigh the same as a large mare's colt at the same age. Men will forget and expect the small sow to produce a progeny that will grow with the progeny of the large sow.

I was one day wandering through the piny woods of southern Alabama. I came upon a farm home and found myself in the presence of the farmer who was watching his pigs eat near the barn. They were a razorback sow and a litter of eight. The pigs showed unmistakable signs of good individuality. They were by a well-bred Berkshire boar and were far superior to the dam. The man was thoroughly convinced that there was something in individuality. He told me that the stock of the quality of the dam took about two years to weigh two hundred pounds and consumed almost as much feed as well-bred hogs would eat to attain a weight of twice that amount, which they would easily reach in a year. It was not because the pigs were of the Berkshire stock that they were good, but because their sire was a good individual. Had the sow been bred to a razorback she would have produced a litter of razorbacks of slow maturity.

You have known certain farmers to get a fever for better hogs. They invest in good individuals, paying two or three times as much as they would pay for common stock. Then came a lot of ridicule from his neighbors. His hogs may show a decided improvement which these pessimistic farmers credit to good care. It is not all in the feeding and care, for you have noticed a great difference in different individuals of your own herd. Then they may say, "My hogs are as good as the other fellows, and mine are not registered." If it had not been for these "silly" breeders that bred up hogs by careful selection and mating these less progressive farmers would be breeding scrubs.

It is good individuality that makes some hogs famous.—E. J. Reed in The Inland Farmer.

Gardening---By T. Greiner

Bugs in Beans

A subscriber wants me to tell him how to keep bugs out of beans. That is easily done. Don't plant beans with bugs in them. If you plant buggy beans you are quite sure to harvest buggy beans. Seedsmen now send out no seed beans except what they know to be free from live weevils (bugs). Their beans—or most of them—are treated for weevil before being sent out.

The treatment consists in exposing them, in a closed vessel, to the fumes of bisulphide of carbon. The home-grown seed beans are more usually the ones which contain live weevils. This insect will even breed in closed seed bags, and live for more than a whole year in and on dry beans in a box or paper sack.

Examine your seed beans thoroughly before storing them. If you find live "bugs," put the beans in a tight box, keg or crock, and place a saucer containing a tablespoonful (more or less) of bisulphide of carbon upon the beans, then cover the receptacle tightly, and keep covered for twenty-four hours at least. This will "fix" the weevils. This treatment should be given soon after the beans are gathered.

Wood Ashes for the Garden

An Iowa lady reader asks, "Are clean hard-wood ashes a good fertilizer for common garden vegetables? Are they good for strawberries and other small fruits, such as grapes, gooseberries, currants, etc.? Should they be applied as top dressing or be worked in with the soil?"

Our friend says nothing about the soil she has, whether of a sandy or clayey character. But while sandy soils are usually more in need of potash applications (the main ingredient of plant food in wood ashes) than are clay soils, it is ten to one that fall applications of wood ashes, whether unleached or leached, but especially unleached, will show big results on all your garden crops, especially small fruits of all kinds. They may be applied to the soil at any time, broadcast, and worked into the soil with plow, cultivator or hoe. The quantity is likely to have more influence upon results than has the mode of application if evenly distributed.

Gathering Seeds

The advice of one of our readers to gather plenty of seeds, especially of good specimens of pumpkins, melons, cucumbers, etc., is good enough. If we have more than we can or will use ourselves, no harm is done, for the surplus can most always be sold to neighbors at a price that will remunerate us well for the trouble. We should be very careful, however, to have the seeds properly labeled, and to be sure of their quality. It would not work well to sell seeds to a neighbor that would not give good vegetables.

Storing Sweet Potatoes

A Nebraska lady reader reports that she has a moderately warm cellar, in which she proposes to store some sweet potatoes. She asks for some information about it.

In the first place, the potatoes should be dug before even the lightest frost has touched them. Always handle them with great care, so as to avoid bruising. The lightest bruise will lead to decay. The potatoes should always be stored in a moderately warm and perfectly dry room, whether cellar or garret.

The following method is given in Fitz's little book on sweet-potato culture: "I have a dry-goods box which holds twelve or fifteen bushels of potatoes. I set this box against the stovepipe upstairs, and line it inside—bottom, sides and ends—to the top with twelve or fifteen thicknesses of newspaper, carefully breaking the joints. The box is now ready for the potatoes. Dig them when ripe and before they get injured with cold in the patch, and take them upstairs. You can let them lay a few days before placing them in the box, or put them in as you take them up, if they are dry. Do not put anything on top of the potatoes except the lid of the box, and that must not fit tight until cold weather. You can easily tell if the lid is too close, as the potatoes will sweat, and moisture will gather on the under side of the lid and even on the potatoes. I have kept sweet potatoes in this way perfectly sound from year to year."

Good Melons

Yes, we had them, melons in full supply from August to October, water-melons and muskmelons, and of choicest quality each. With good land (not necessarily very sandy, either) and warm location it is no trick to raise melons, no more than it is to raise cucumbers. But when I raise melons I want the best. It is just as easy to raise melons that one can eat and enjoy without an extra allowance of sugar or other flavoring, as to raise the flat and insipid things usually found in our markets.

In my own locality I need an early melon. Otherwise a large portion of the crop might not get ripe before frost. For watermelon I again planted Triumph of Asia, also a melon, seed of which was sent me from Georgia under the name "Greer's Improved Long Green." The latter is surely "long green," large and of excellent quality. Although a little late for us here, I shall plant a larger number of hills next season. It is really a handsome thing. My Triumph of Asia varied very much in color of the skin. I had very light and very dark colored specimens, and some striped. Probably they got a little mixed with another sort the year before. But all got ripe, and all were sweet and rich; delicious, in fact. In size they are small to medium; none very large; but even the smallest were good enough to be eaten with keen relish. It was a feast for the children, and often for the neighbors' children.

Here is one of the links in the chain of opportunities to make home attractive and to leave in the memories of the young people a picture of the joys of country life that time and age will not easily efface. By all means, plant melons, and plant freely of them.

What varieties of muskmelon shall we plant? There are many that are good; some very large, some small. For the home gardener, quality must be first consideration. I had the Hoodoo, a melon much praised for its quality. It is comparatively new. I think this is the third year I have had it. It surely is sweet and rich. But on my soil it is a weak grower. The melons are all of about the same size, and all very small. Neither is lack of size made up by number of specimens. We have as good melons that are more productive. I shall discard the Hoodoo for that reason.

I also had Milwaukee Market, a medium-sized, smooth, round melon having a light-green skin and thick flesh. In quality it is not up to the mark of home requirements. Neither did it seem to be very productive. It will go with the Hoodoo. Then I had a melon, seed of which was obtained from a Michigan gardener. I don't know its name yet. It made very thrifty vines and set melons freely. These did not ripen so early as my other sorts, but they are of fair size and very uniform, oval in shape, meat thick, and quality A No. 1. I shall plant them again.

Gold Coin, recently introduced, a melon originated in my own county, was planted more largely, as I knew it to be good and reliable. It is oval in shape, thickly netted, thick meat, of good quality, and decidedly productive. There was hardly any noticeable variation in the size and shape of the Gold Coin in my patch this year. And finally I had the Emerald Gem, our old favorite. This is just as good and just as reliable as ever. I planted it more largely than any of the other sorts. This is because I am always sure of getting the whole crop ripe even in an unfavorable season. The patch was planted late, between rows of early peas that were then beginning to bloom. After the peas had been picked, the vines were removed, and the melon vines soon covered the ground. The seed had been gathered by myself the year before, from specimens grown not far from Gold Coin, and we had a nice mixture, of all sizes, but almost all good in quality. The ground was "just covered" with those melons, and every specimen got ripe. I think we will have to look around a good deal before we can find a melon that is more uniformly rich and sweet than the little Emerald Gem.

All my melons have salmon-colored flesh. Personally I prefer it to green flesh. But we had an occasional green-fleshed specimen, and usually found the quality all right. In some markets green-fleshed ones are the ones most in demand. If we had to plant but one variety, in the home garden, however, I believe it would be Emerald Gem.

Early Cabbage

A New Mexico reader desires to sow cabbage seed now in open ground to raise plants for an early crop next spring. I am not sufficiently acquainted with the New Mexico climatic conditions to say whether this is feasible or not. Early Jersey Wakefield is probably the variety best suited for a trial. Here we sow seed in flats under glass, or in hotbed, in February to make good plants for early setting outdoors. Probably in New Mexico plants may be grown outdoors and transplanted in proper season.

How much seed is required to raise ten thousand plants? Bailey's "Horticultural Rule Book" names one fourth of a pound of seed as required to plant an acre of cabbage. The ten thousand plants set two by two feet would just about cover an acre, or more if set further apart. But I know I raise more than twenty-five hundred plants from an ounce of seed. One of the seed catalogues says an ounce of seed will give four thousand plants. That is more like it. But I would be disappointed if I were to get less than five thousand plants, and possibly less than six thousand plants, from an ounce of cabbage seed. According to my figuring, there are about ten thousand seeds in an ounce.

Tarred-Felt Collars for Cabbage Maggots

An Indiana reader asks me what I mean by tarred-felt collars which I advise to use on cabbage plants to protect them from the root maggot. These collars are cut out of common tar paper or "tarred felt," either round, square or octagonal, with a slit from the outside to the center. This collar is slipped around the stem of the newly set plant so as to enclose it entirely, the collar lying flat on the ground and giving to the maggot no chance to work down to the ground, where the stem is soft. So the maggot has to stay on top of the felt to perish. The device is quite effective, and I believe the best and simplest way to prevent maggot injury.

A knife or die has been devised by the late Professor Goff for cutting these octagonal collars out of sheets of tar paper with one clip and without wasting any material. This is described in our modern garden books.

Garden Notes

FRESH stable manure should never be used in the culture of root crops. It is not too soon to store the necessary quantity which will be needed for these crops next spring. When fresh manures are applied to parsnips, beets and other root crops, the tendency is to produce large tops with small roots.

Too many farmers depend upon weeding hoes for the care of the home garden. The tillage can be performed with so much greater ease and speed by the use of hand wheel cultivators. All vegetables should be planted in rows, thus making tillage an easy matter. There are many good forms of hand cultivators on the market.

Col. John A. Woodward, of Howard, Pennsylvania, prides himself upon the earliness of his garden. The work is started in the fall. The ground to be devoted to the earliest crops is plowed or spaded, and rows intended for such crops as peas and potatoes thrown up into ridges. The following March, furrows are made on the crown of the ridges and planted with peas or early potatoes. These ridges dry out early in the spring, thus enabling early planting, which is of greatest importance with the vegetables named.

Plant food used in the forcing of greenhouse crops should be in a highly available condition. The Connecticut Experiment Station has found that nitrate of soda is valuable when skilfully applied to various greenhouse crops. The investigations brought out the fact that yield, size and even color of tomatoes are materially affected by the use of nitrate. Heavy losses have been sustained, however, by the use of nitrate of soda and other chemicals in growing crops under glass. The greatest care should be exercised and growers should become well informed on this subject by reading the literature of different experiment stations.—The National Stockman and Farmer.

Protection of Flowers

FOR the better protection of flowers a frost-proof cellar should be used in which to store them. Cannas, dahlias and gladioli should be cut within a few inches of the ground after they have been nipped by the frost, and until cold enough to freeze the ground they should be left undisturbed. With the exception of gladioli, when they are dug up, let the soil on the roots remain. When placed in boxes, label them plainly, and place them where the sun will shine on them, covering at night or when it rains. When thoroughly cured, place them in the cellar, and cover with soil or dry sand. Bedding geraniums should be dug before frost, and either tied together and hung to the roof of the cellar, or placed in boxes and stored in the cellar or a frost-proof closet. Don't give water unless the stalk seems to be withering. The idea is to keep them dormant until March.

Oleanders and other potted shrubs should be placed in the cellar and given water only a few times during the winter.

After the ground freezes give a mulch of coarse manure to the roses, spring-blooming bulbs and irises.

Use corn stalks or evergreen boughs as a mulch for the pansies, pinks and sweet williams. The mulch suitable for that which dies entirely down through the winter would smother all that retain their leaves through the winter. For these there is nothing better than evergreen boughs, but corn stalks will do.—Journal of Agriculture.

Asparagus

THE kitchen garden can have no greater addition than a bed of asparagus, and in most sections of the state it is not so late but that plantings may still be made.

A deep, loamy soil is best suited to asparagus culture, and it can scarcely be made too rich by the addition of well-rotted stable manure. The manure should be plowed or spaded in deeply and the soil put in the best of tilth. After the ground has been thoroughly prepared, furrows are made, preferably running north and south, and four feet apart. The plants are set from three to four feet apart in the row, depending upon the richness of the soil, and from four to six inches below the general level of the ground.

By taking pains to start the bed right it should last at least twenty years. While the outlay will be small, it is difficult to imagine any other feature of the garden that will afford more satisfaction, and no farmer or any one else with a "garden spot" can afford to do without it. The bed can be started this fall as well as to wait until spring, when there are so many pressing duties.—Colman's Rural World.

Strawberry Plants

THERE are, we suppose, some market gardeners who do not give their strawberry beds any care in winter, trusting to the matted foliage to protect the roots, or to fortunate weather. With an ideal winter, snow falling early and remaining until well into spring, this practise would do, the beds coming out in good condition. But the "ideal winter" is seldom realized; and even if protected by snow during the severe weather, the beds are apt to be exposed in early spring and subjected to alternate freezing and thawing, upheaving and breaking the roots.

The wiser market gardeners keep their beds or fields cleanly cultivated until freezing weather sets in, then cover them three or four inches deep with straw, swale or marsh hay, or whatever may be the cheapest mulch available. In the spring, but not too early, this mulch is raked off the rows into the alleys between, and allowed to remain there until after fruiting time, keeping down weeds and retaining moisture. Some growers treat their plantations of raspberries and blackberries in the same way.—The Country Gentleman.

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Fruit Growing---By Samuel B. Green

Mulching Trees

P. D. G., Glenwood, Minnesota—There can be no question but what all our trees winter best when their roots are somewhat protected by mulch. This is especially true of trees that are liable to winter kill. I think it would be a good thing for you to dig the sod away from your spruce trees to a distance of several feet in each direction, and then to mulch during the winter. It would also be a good plan for you to mulch your apple trees. In the case of the latter, when mulched, the mice are very apt to be injurious by girdling the stems. On this account the trunks of the trees should be protected by wrapping with wire netting or boxing with wood or with a mound of earth. There is no necessity of putting on this mulch until after severe weather sets in, although there is no objection to doing it early in the season.

Injury to Apple Twigs—Pollination of Plums

J. K., Barrington, Illinois—I do not know what the trouble is with the twig that you sent me. The specimen of injured twig of the Winesap apple is apparently injured by sun scald, and also by some fungous disease, so that it is in bad shape. You sent only a very small specimen, and hardly enough for proper identification. I think, however, that the trouble is as stated. I do not know what could have caused this. It may have been as you state, that the trees were dug too early from the nursery.

You ask which of the following varieties of plums should be planted close together, so as to secure good pollination: De Soto, Forest Garden and Wolfe. They are all of American origin and flower about the same time. I am inclined to think also that while the Wild Goose is from a more southern range, that in your section it will flower about the same time as these others, and so will be pollinated by them.

Propagation of the Red Cedar

H. H. D., Hunter, Oklahoma—I have grown red cedar for many years from seed, and find the best way is to gather the seed some time in autumn or early winter, rubbing it against a screen until the resinous, fleshy meat comes off. Then mix with sand and bury outdoors. Some time in the spring or early summer I sow in a bed outdoors, putting it in rows about four inches apart, and covering the seed about three fourths of an inch. I then cover this bed with about three inches of hay or other mulch, so as to keep down the weeds, allowing it to remain in this condition until the following spring, when the cedar will be found to start early. The mulch, of course, should be removed as soon as the seeds start. Cedar seedlings grow more rapidly than most other evergreens while they are small, but on attaining some considerable age their growth is very slow.

Apple Trees Not Maturing Well—Points in Propagating Trees

C. V. P., Stanchfield, Minnesota—I note that your apple trees have made a late growth this autumn, and that you are afraid the wood will winter kill. I do not know of any way to prevent it, but think that probably the danger from this cause is much less than you think.

In regard to willow cuttings, they may be made at almost any time of the year, but autumn and spring are the best times. I should prefer to make up the cuttings this autumn, planting them out where they are to grow. Put them in with about one inch above the ground, and then cover the crops entirely with earth upon the approach of winter. If the ground is frozen before you have a chance to cover them with earth, they may be covered with straw.

The Carolina poplar is propagated from cuttings.

As a whole I do not think southern Minnesota is nearly so well adapted to fruit growing as southern Michigan. On the other hand, the prices for such apples as are grown in Minnesota are generally far in excess of prices obtained for Michigan fruit; and even early apples, such as Duchess of Oldenburg, often sell in Minnesota at a dollar a bushel.

In regard to propagating Compass cherries, I think the best way of growing them is by budding or grafting on plum roots. Grafting should be done early in

the spring before growth starts. The budding should be done in the latter part of July. It is not necessary to dig the wild-plum roots in the autumn, as they are perfectly hardy, and there is no objection to digging them in the spring, unless it is intended to use them in the winter.

Covering Raspberries and Strawberries

J. H., Rogers, Minnesota—I should hardly want to cover raspberries completely so early as the first of November if the leaves are green, but I would lay them on the ground and put on enough dirt to hold them there, and a little later cover them completely. This practise I have followed for many years. If the plants were covered completely at this time of year no serious harm would result from it, but would prefer to do as stated.

It will be all right to cover strawberries in your section with about three inches of covering at this time, although it is rather early, and I should prefer to leave this work until later; but if a light covering is put on now, the balance of the covering need not be put on until some time in December or later.

Mildew on Virginia Creeper

J. M. McC., Dexter, Iowa—The Virginia creeper commonly has a mildew on it in the summer where it grows in the shade. This is especially evident in the latter part of the season. Some forms of it are more liable to this disease than others, and in moist seasons there is apt to be more of it than in dry weather. While it would be quite possible to keep off this mildew by spraying or dusting the foliage with flowers of sulphur, yet I hardly think it worth while to do so.

Preventing Cider from Fermenting

S. S. S., Overbrook, Pennsylvania—There is no satisfactory way of keeping cider from fermenting except to heat it to boiling point and place at once in Mason jars or bottles. Treated in this way it will keep indefinitely. The ordinary sweet cider that is commonly sold has been treated with perhaps half a pound of carbonate of soda to the barrel, or in addition to this, several ounces of boric acid or benzoate of soda. If the cider is kept cool it will remain sweet much longer than if warm. Cider that has mustard and raisins added to it, as was formerly a custom, is also aided somewhat in its keeping qualities, but not so much as many people think. I think the most healthful way of keeping it is by bringing it to a high temperature and then bottling it.

Care of Roses in Winter in Minnesota

D. W. N., Granite Falls, Minnesota—It is found in Minnesota that the best way of wintering hybrid perpetual and other roses is by covering with straw and then keeping the water off of them with boards or tarred paper. A good dirt covering is all right, provided it does not soak up much water. One of the chief objections to the use of straw around roses is that it is apt to harbor mice. In this case the mice are generally cared for by placing corn meal, to which has been added a little Paris green, in old tin cans, and putting these under the straw. Some of the hybrid tea roses can be wintered outdoors in Minnesota, but there is considerable risk.

Care of Wound in Cherry Tree

H. M. D., Fremont, Ohio—When sweet-cherry trees are wounded the ants seem to find in them a very congenial place in which to make their nests. I think you would get rid of them completely by scraping out all the rotten wood and then filling the cavities with cement concrete. This will cover up the weakened portions of the tree and prevent the ants from getting at them.

"Black Spot" in Apple Trees

Mrs. J. C. T., Glencove, Washington—You ask as to the best method of eradicating "black spot" in apple trees. This is probably a name that is used for some disease in your section, but as I do not know what it is, I would ask you to send me a sample of the injury, or else explain it in detail.

Substitution of Nursery Stock

H. G., Hamilton, Ohio—You state that a certain nursery concern, through its agent, obtained an order from you for one hundred plants of California privet, which were to be from eighteen to twenty-four inches high. Instead of receiving them, you received plants, of which you enclose a specimen, which were from less than six inches to fourteen inches high. The plants which you enclose are common American arbor-vitae, which make a very beautiful hedge if in favorable locations, and by many people would be regarded as fully as valuable as California privet; but since they sold you California privet, they were dishonest in substituting American arbor-vitae, unless they were especially directed to do so or had the right of substitution.

Accepting the case as being just as you state it, it seems to me that you have made the mistake of dealing with parties about whom you knew little or nothing, and that you could have brought your stock of reliable dealers. I do not have much pity for you or any other party that signs contracts of any kind without carefully examining them, and I feel that you have been very negligent in so doing. I see no objection to your purchasing of nursery agents, provided they are agents of good reliable concerns; but to buy of the agents of parties about whom you know little or nothing, it seems to me is short-sighted, and you would be very liable to have some trouble as the result of so doing.

Mushroom Growing

D. F. C., Hinckley, Minnesota—The best publication on mushrooms is probably Bulletin No. 85, Bureau of Plant Industry, Department of Agriculture, Washington, which can be obtained upon application. The American Spawn Company, of St. Paul, also publishes a book, entitled "Mushroom Culture," which can be obtained from them for thirty-five cents.

In regard to the use of pine sawdust for mushroom growing, I do not know that it can be used for this purpose to advantage. Possibly, however, when it is thoroughly decayed it can be so used.

Care of Larch Cones—Grafting Cherry Trees

W. P., Worthington, Minnesota—The cones of the larch should be gathered before they fall from the tree, and then they should be dried in a sunny room, spreading them out on newspapers. Treated in this way, they will soon open, and the seed is easily shaken out. The same treatment also holds good for pine and spruce.

In regard to grafting cherry trees, this is quite a careful process in order to be successful. It is desirable, if you are going to use sprouts, that they be planted out for a year or more and well established when grafted. The most successful grafting of young trees is where the work is done just at or below the surface of the ground. It is possible to root graft cherry trees in the winter, but it is not generally desirable to do so. A better way is to get the stocks started and then bud them near the surface of the ground, and after the buds have started and the tree is transplanted, put the buds well below the surface of the ground for protection.

Black Spot on the Silver Maple

L. E. L., Portland, Connecticut—The silver maple leaves which you enclose are infested with what is known as black spot of the silver or soft maple. This is a fungous disease which is quite common in some sections of the country. It would undoubtedly be best to prevent the disease, but the expense of so doing would be very considerable and more than you would probably care to incur. It is quite probable that this fungous disease, which has now been troublesome at your place for three years, may disappear after a while, and the tree be free from it.

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Live Stock and Dairy

Feeding Commercial By-products

SUCH a variety of foods, combinations and prices confront the farmer that he needs to possess a thorough understanding of their values and composition to know what to purchase, in order that he may balance the rations of his farm animals in the most economical and efficient manner.

Commercial by-products, owing to their high nitrogen content, are fast coming into favor in all sections where live-stock feeding is an important branch of the agriculture. Few farmers, especially dairy farmers, make a practise of growing all of the grain that they feed to their cattle, for the winter ration generally includes one or more of these by-products, usually of a more nitrogenous character than the home-grown foods.

These purchased foods are usually profitable when fed in an intelligent manner, but unless a feeder understands feeding them he is working against great odds and will seldom make it profitable.

Many of our leading agricultural authorities are advising farmers to grow a wider variety of proteinaceous forage crops, and make their farms more nearly self-supporting; but however this may be, the time is not close at hand when these highly nitrogenous feeding stuffs will not hold their places in the rations for our live stock.

It is no wonder that the grain and feeding-stuff market is very perplexing to the average farmer. The whole grains, mixed grains, oil meals, the gluten feeds, gluten meals, breakfast-food wastes, brewers' wastes, distillery feeds, condimental stock foods, besides a number of good and bad mixed grains sold under the name of prepared dairy foods—such a variety of appearance, composition and price must be wisely considered before we decide upon the feed best adapted to our line of feeding. We should understand the general character of the feed, also something of the source from which it comes and the general nature of the waste, and the chemical processes through which it passes while it is being prepared for market. Every mixed food should have its guaranteed analysis printed on every sack, and all feeders should send for their own and other state bulletins relating to these feeds.

Cotton-Seed Meal

This feeding stuff is the by-product of the manufacture of cotton-seed oil. The cotton seed consists of a kernel enclosed in a thick hull. The hulled kernels are crushed and cooked, and the oil removed by high pressure, which leaves a cake, which is ground into what we know as cotton-seed meal.

The color of this feedstuff should be a light yellow, and it has a clean, nutty flavor. The percentage of protein in the best product should be between forty-two and forty-five per cent. Dark-colored cotton-seed meal should be regarded with suspicion.

It ought not to be fed in large quantities. One or twopounds a day is all a full-grown dairy cow should be allowed. Heavy feeding of this product is dangerous, and many experienced feeders claim that it will affect the eyesight of the animals that are being fed more than these amounts. The prevailing opinion among feeders is that it is a very valuable feed when fed in limited quantities.

In the Southern states a large amount is fed to steers and swine, but the price of the feed in the North and East would not warrant its being fed to fattening stock. It is better adapted as a dairy food.

Linseed Meal

Linseed meal is the by-product from the manufacture of linseed oil. It is commonly called oil meal. "Old process" oil meal is that from which the oil is obtained by pressure, and "new process" meal is the residue after treating the crushed seed with light naphtha. The "old process" contains more fat, although owing to changes in the methods of making, it contains less fat than formerly was the case.

The relative value of the old and new process meal is much discussed by feeders. There is no large difference in palatableness and healthfulness and very little difference in nutritive qualities. The protein in the new process is somewhat less digestible, due to the increased cooking to which it is subjected.

From a study of the various state bulletins, I have found that oil meal varies little in its analyses. It should contain from twenty-eight to thirty-five per cent

protein, and is one of our most valuable feeding stuffs. It is an excellent supplementary food for dairy cattle, sheep, swine and horses, but should be fed in small amounts and in connection with some other grain foods. It gives an animal a sleek, prosperous look and is excellent to keep their digestive systems in good condition. It is a very valuable feedstuff when fed with intelligence.

Gluten Feeds

The principal gluten feeds are corn bran, which consists mostly of hulls and germs of the kernel; the gluten feeds, which come from the hard and flinty portion of the kernel, and the gluten feeds, which are a mixture of the corn bran and gluten meal. The best product, gluten meal, contains between thirty and forty per cent protein, and is practically as digestible as corn meal.

The gluten feeds as found on the markets are a mixture of all of the by-products from the corn. They contain less protein than the gluten meal and more than the corn bran. They show a range of protein of from eighteen to twenty-eight per cent. The difference applies more to brands than to samples, owing to the different processes in manufacture, and also the methods employed in mixing.

We have found these feeds very valuable for feeding to dairy cows, and have obtained the best results by feeding them with bran or some other form of light feed which acts as a divider and separates the fine particles and presents them in better condition for the cows to digest and assimilate. Gluten feeds are valuable to the dairyman. We have not found them as well adapted for other stock feeding.

Buckwheat Middlings

There are several by-products from the milling of buckwheat, but the middlings are the best. They contain about twenty-five per cent protein and may be properly classed among the nitrogenous feedstuffs. Many times the bran and middlings are mixed together, reducing the amount of protein in proportion to the amount of hull or bran that is mixed with the middlings.

Brewers' and Distillers' Dried Grains

The brewers' dried grains come from the operations of malting and sprouting. In malting, the barley grains are allowed to sprout, and before the malted grains are crushed for brewing purposes the sprouts are removed, and when dry are known as dried barley sprouts.

They are one of the most bulky of grain foods, and are fairly well adapted as a food for dairy cows, but care must be exercised in feeding, or the milk will have a flavor that can be detected by city milk dealers, who have been known to refuse to accept milk where the cows were fed malt sprouts.

From the malted grains is extracted the sugar that has formed from the starch during the germination which has occurred, and these dried grains appear in the markets as dried brewers' grains. They are much poorer in starch and richer in protein than the entire barley grain, and are regarded as a fairly good nitrogenous food for dairy cattle, but as a usual thing are not fed to other stock to any extent.

By-products from Wheat

These are the oldest and most popular feeding stuffs of all, and are made up of bran, middlings and low-grade flours. They consist of the outer portions of wheat, and are richer in minerals and nitrogen than the flour. Wheat brans are adulterated by a few dealers, but as a rule good bran may be obtained from almost any reliable dealer. Wheat bran contains about twelve to seventeen per cent protein, and is without doubt our most valuable by-product.

Middlings contain more protein, and as may be expected, more starch, but are not as popular for a dairy food as for feeding swine and other young animals. Bran is more palatable than middlings when fed to dairy cattle and horses. Middlings analyze from fifteen to twenty per cent protein, and make an excellent ration for swine, and are also good to add to the ration of all farm live stock. When fed to swine they are mixed with skim milk or water and fed in the form of a thick slop.

Hominy Feed

The hominy which is manufactured for human consumption consists of the hard portion of the kernel, and the hull and germ together, with more or less of the

starchy portions, make up the waste in hominy manufacture, and are known as hominy feed.

From a nutritive standpoint corn meal and hominy feed are not a great deal unlike. From various analyses this feed appears to be very uniform in quality and well adapted to certain kinds of live-stock feeding. It analyzes about ten to twelve per cent protein.

Mixed Feeds

To a great extent all farmers are ignorant of the real value of all these mixed feeds. Some millers run all of the by-products from their mills into one mixture, and sell it as mixed feed; but as a rule a man had better mix his own feeds, unless he is sure of what he is buying when he buys these so-called prepared stock foods.

Oat hulls are probably used the most of all adulterants, and the Ohio Experiment Station has stated that out of sixty-nine kinds of oats tested, the hull constituted twenty-four to thirty-five per cent of the weight of the grain, the average being thirty per cent. From other sources I have found that the whole grain will show about eighteen per cent protein, the hulls about three per cent protein and the hulled berry about fifteen per cent protein.

The lessons to be drawn from this are clear, and the buyer ought to consider the matter well before investing his money in any of these so-called mixed feeds that contain oat hulls.

All mixed feeds are not fakes, and there are many reliable men who are putting a standard article on the market which is selling on its merits. But there are a number of firms that are putting adulterated foods on the market that do not come up to the guaranteed analyses, and the feeder will find it very convenient to keep watch of these feeds by sending for the bulletins from the various agricultural experiment stations where these feeds are analyzed and tested.

Condimental Stock Food

The markets are full of stock foods which contain medicinal qualities, according to the statements of their manufacturers; however, very few possess the qualities which they claim in their advertisements. Some contain elements which assist digestion, but I am not in favor of doping and drugging live stock with all kinds of drugs and medicine. I would advise every feeder to send to the Wisconsin Agricultural College at Madison for their bulletin on condimental stock foods. It contains some information that will open your eyes regarding these foods which are being sold for from two to three hundred dollars a ton.

W. MILTON KELLY.

Dipping Sheep

WHERE sheep swim ten or fifteen feet through a solution, I find it quite satisfactory. When sheep swim through the dip, it seems to work into the wool better than if they were simply held in it and then taken out.

Several years ago I built on my farm a wooden tank twenty-five feet long, twenty inches wide at the top, four feet deep, and six inches wide at the bottom. I made it out of plank, tongued and grooved and painted well. It gave me good satisfaction, but the trouble with the wooden vat is that it soon rots where the ground touches it.

Since I have been using my steel vat I would not think of making another wooden one, as the steel vat is much more durable, and therefore causes much less trouble. I have used many kinds of standard dips, and the results have been very satisfactory where the instructions were carefully carried out.

I always give my ewes a dipping in the fall before they are to drop lambs, in order to have them free from any parasites, so that the young lambs will not be bothered with them. But in case the lambs do need dipping, I think they should not be dipped too young; however, I do not hesitate about dipping mink when they are five or six weeks old.

On the shearing of the ewes the ticks will pass to the lambs; then by dipping the lambs the ticks are effectively destroyed.

R. B. RUSHING.

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Live Stock and Dairy

Hints About Milking

THE milking stables should be free from dust and disagreeable odors. The milker's hands must be clean and dry. He should be furnished with special clothing that can be washed at intervals. The milker is handling food, and must keep himself clean.

Cleanse the cow's udder thoroughly before milking. Brush it off with the hand or a cloth. If very dirty, wash the udder, and dry it. All filth, loose hairs, dandruff and dust should be removed.

Provide good milk pails. There are a great number of patent milk pails on the market that prevent filth from falling into the milk. Strainer-top pails are quite extensively used and are very effective in keeping out foreign matter.

Take the milk to the house directly after you are through milking. You cannot afford to run the risk of losing or getting filth into the food you have received from your cows. W. D. NEALE.

Method in Butter Making

AS a boy at school I was always taught that, whatever study I was engaged in, the adoption of a definite method was at once half the battle, and it always appeared to me that if, say, mathematical calculations were proved to be wrong, all was not lost if the correct method had been used in the working.

Training when young is worth little if it does not result in some lasting good; and there is no part of one's education which has more influence throughout life than that which instills into the mind the necessity for the adoption of method in everything undertaken.

Coming to the particular subject in hand, it is worthy of consideration that method in the practise of butter making has far more to do with the ultimate success of the operation than many are disposed to admit.

Too little attention is paid to the way in which the cream for butter making is treated previous to its being put into the churn, for no matter how expert the butter maker may be, a perfect article cannot

In the summer, at a temperature of from sixty to seventy degrees Fahrenheit, two days is quite sufficient—that is, when a starter is used—and even in the winter, churning should take place quite twice a week; if cream is kept longer than a week in the winter there is danger of a bitter flavor developing.

It is quite apparent, therefore, that they who churn sweet cream have fewer difficulties to contend with than the users of ripened cream; but the latter are able to obtain a greater percentage of butter, with better keeping qualities, and, generally speaking, a better flavor, though the latter is largely a matter of individual taste and opinion. W. R. GILBERT.

Exposure of Dairy Cows

DAIRY cows will not stand the exposure that beef cows will stand. If dairy cows are to be left to hustle around winter straw stacks perhaps it is better to keep beef cows. With them the fat that is laid up from high feeding is distributed through the flesh and forms also a layer under the skin, which serves as a non-conductor of heat. This prevents the escape of the heat from the body and gives the cows a certain amount of protection when they are exposed.

The cow of a dairy breed makes all this fat up into milk and does not have it to use as wadding under her skin. The cold air strikes her skin, and she shivers. Therefore, the dairy cow must not be exposed to cold rains of fall and spring or to cold winds of winter.

I have heard a few men say that the dairy cow could stand cold weather just as well as anything else, and that warming the water in winter for them was just trouble for nothing. Of course, these men are not up to date, by any means, and they are the kind of men who are always trying to prove that there is nothing in dairying. In fact, they are the kind of men who are always crying out "hard times," and that there is nothing in farming at all.

If there is any one thing that seems to have been fairly well demonstrated by a large number of experiments, it is

With the dry weather came dead pastures. The grass dried up terribly, as he told me. Even the leaves on such little bushes as grew in the pastures had turned dry and hard, so that there was little or no nourishment in them. The cattle began to shrink badly. How could it be otherwise? There was little to make milk of. You cannot make bricks if you have neither clay nor straw.

The lesson was right here. That man had nothing green to feed his cows in that sore dearth of pasture grass. If he could only have cut a good field of corn then and fed it to his cows, he would have been able to keep them from shrinking so badly. That would have meant many dollars in his pocket. As it was, his only recourse being mill stuff, with meal soaring around one dollar and sixty cents and bran higher even than that, the returns could not have been very big.

"I'll bet you I'll have something to feed my cows another year!" this farmer declared, as he looked into his scanty cans one morning just before starting for the creamery. "This is tough, but what can I do now? Not a thing!"

It was a tight box to be in; and yet we all know that few years pass by when there is not a drought after haying or about that time. Some years it is more severe than others. But always it is bad enough, so that it means dollars, and dollars to us if we have something to turn to in the way of green feed.

Right now is the time to get this lesson thoroughly impressed before another year comes on. Memory is short at best, and if we do not look out before next spring comes, we will have forgotten the pinch of this fall, and think, "Well, I got through it some way. I guess I can this year."

The time to lay plans is months ahead. Farming from hand to mouth is one of the worst faults we have. Away on ahead our plans must be laid. For instance, shape the plans now for a good field of oats and peas next season. Let this be followed by a piece of corn. For some years we have grown a couple of patches of oats and peas to cut when the fields begin to fail in July or August. The first sowing is made about the time we get through planting corn. The next a couple of weeks later. These come on so that when one is done we may turn to the other. After the oats and peas are gone the corn is ready. This we like to have sweet corn. It is so much richer than Leaming or any other kind we ever tried. And there is no year when the cows will not fairly revel in this fresh green feed. We can be sure of getting splendid returns for our labor, no matter whether there be a serious drought or not.

E. L. VINCENT.

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A Record-Breaking Jersey Cow

be obtained unless there is suitable material upon which to work.

As to the relative value of sweet cream butter and that made from ripened cream, this is a matter of opinion; but whichever is generally used, it should be remembered that to obtain a butter of uniform quality it is advisable that the same class of cream shall be used throughout. The maker who uses ripened cream one day and sweet cream the next cannot hope to have exactly the same class of butter in each case.

It is easier to obtain a continuous supply of even-quality butter from sweet cream than from ripened, for the simple reason that the actual process of ripening is to a certain extent outside the control of the maker. While a clean ripening room may be assured, and utensils of unquestionable cleanliness, it must not be forgotten that the ripening of cream is due to the action of bacteria, and the greatest care cannot always insure that only the most suitable bacteria are brought into contact with the cream. Another factor which plays an important part in the ripening process is temperature; this should be evenly maintained throughout, because if varied much, the quality of the cream suffers.

The butter maker should also pay special attention to the time taken in ripening,

that exposure of cows belonging to the dairy breeds lessens the milk flow and the fat supply. This has been my experience, and that of every up-to-date dairyman that I have ever talked with.

In fact, I think it is profitable to frequently blanket the cows in cold days in fall and spring, especially when they are in a field where there is no shed.

In winter it may be possible that some of the protection given such cows is excessive. I think there is reason in protection, but we cannot afford to go far in the opposite direction, or the dairy business will begin to fall short when the prices are highest. R. B. RUSHING.

A Pretty Hard Lesson

IT ALWAYS costs to get a thing which is really worth while. The thing that comes easy is rarely appreciated. Of course, it hurts sometimes to learn a hard lesson. But it sticks, and so is valuable, after all.

I was talking with a man the other day who was right in the pinch of one of the most severe droughts that ever visited his section of the country. For weeks and weeks it had not rained at all. He kept a fairly large dairy of cows, and depended upon them for the most of his money.

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Live Stock and Dairy

What Kind of Cattle Shall We Keep?

IN THESE days, when the keeping of live stock on the farm is so closely associated with the proper maintenance of fertility, the adaptability of the different classes and breeds of cattle to the natural conditions of the locality is of the first importance. The average farmer who undertakes to introduce a certain breed into his neighborhood frequently consults his taste only, without regard to the existing environment. Of course, it may be possible in the course of a lifetime, by careful feeding and breeding, to effect a modification that will adapt them to changed conditions. Such a procedure, however, must be considered for economy, when among the many breeds in the country it is an easy matter to select one that would exactly meet the requirements. Consequently, the farmer who contemplates the founding of a herd cannot give this matter too much attention, since on his determination will very largely depend the measure of success that will attend his efforts.

It has been demonstrated by actual experience in many countries that the choice of a breed should be largely influenced by the character of the land. For instance, a level, fertile district that insures an abundance of fodder and grain will more profitably maintain large animals than small ones. If, on the other hand, the farm is mainly composed of rugged land, and the soil is light, the production will be more or less scant. Hence, a light breed that will readily climb the hills and gather food will thrive much more readily. Again, there are farms that are intermediate in their nature. They have a fair proportion of level stretches where a good food supply may be grown, besides pasture land that is undulating to hilly in character. Here what may be termed the intermediate breeds will be found the most suitable, and the results obtained correspondingly higher, than either of the other classes under similar conditions.

From the Beef Grower's Standpoint

Looking at this question from the beef grower's standpoint, I believe there are many sections that are best served by the special-purpose animal of the right type. Where land and food count for very little, and labor counts for much, this class of cattle will be the most in favor. Especially is this true in ranching countries. It is, however, a fact that even on some arable farms, if cattle are to be kept at all, it must be for meat production only, the labor scarcity being such that it is difficult or impossible to secure milkers, while the ways and means of making up and disposing of dairy products are entirely inadequate. The proportion of pasture and grain crops available for food purposes on these lands varies considerably. This results in a variety of conditions, under which the question may be raised, "What breed should be kept?" Any of the great beef breeds will fill the bill reasonably well, but not equally so. Each has been evolved to fit certain conditions, and therein will be found the ideal animal. For instance, when the acreage in pasture is large and the cultivated areas are limited none will do better than the Galloways. Especially is this true when, as is often the case, protection cannot be furnished, their natural hardihood enabling them to withstand exposure from rough weather. By allowing the calves to run with their dams they are given a good start, and when from eighteen to thirty months old may be sold as feeders to other farmers who have the facilities for growing the necessary food.

With a reduced pasturage and a plentiful supply of home-grown feedstuffs the conditions are suitable for the production of baby beef. For this purpose the Aberdeen Angus is the breed par excellence, with the Shorthorn as a good second. The ability to grow large quantities of supplemental foods, and thus keep the young animals from standing still in growth or becoming lean in flesh, should enable the owner to put them on the market at from two to two and one half years. The growing demand for this kind of meat and the high price it brings is sufficient to encourage those properly situated to engage in it.

The Dairy Type

Special-purpose cattle of the dairy type unquestionably give the largest money returns for the food consumed. It is equally true that per head they require the largest amount of labor. These two facts taken together point to the farm

of rather limited production as the place where dairying will likely receive the most attention. Since the amount of stock food is comparatively limited, it is important that it be accounted for to the best advantage. Then, too, the labor involved is usually not felt so much as in other situations, as the farmer and his family are generally equal to the care of all the cows the land will feed.

These conclusions are borne out by the fact that it is in just such sections that we find the dairy industry most firmly established. In such localities, especially if the cattle have to roam much over the pastures in gathering food, the Ayrshire will probably best fill the bill. In their native Scotland it is claimed that three Ayrshires will thrive and produce their full capacity of milk on what two Shorthorns require. On the other hand, Holsteins are adapted to rich, level lands and are justly famous for turning large quantities of feed into milk. To secure the maximum returns, a soil sufficiently productive to insure a large food supply is essential.

Also these same conditions, together with the fact that the breed possesses easy fattening qualities and provides an abundance of excellent skim milk, make it desirable that the keeping of Holsteins be carried on in conjunction with some side line. For instance, the calves are perhaps the ideal breed for growing rapidly into veal, and pork may be produced at a minimum cost by utilizing the by-products supplemented with a small quantity of grain. Then, the Jersey and the Guernsey occupy a place in the dairy world wherein they are apt to prove more profitable than those already mentioned. They are essentially machines for producing butter-making milk. As a rule they will bear rich feeding and forcing for long periods and have a great capacity for assimilating all kinds of cattle forage. Hence, as they do not fatten readily, most of the feed goes to produce milk. In their island home there are no extensive pastures, and from time immemorial the custom has been to tether the animals, moving them several times a day. Under these conditions a race of

first-class export animals. In short, placed on a rich, arable farm, this breed will give splendid results in a dual capacity.

In this connection the Red Polls are rapidly becoming popular. They are medium in size, strong in constitution, hardy, good grazers and active in movement, hence they will do well on hilly and less productive farms.

The Brown Swiss and the Devons are also good dual-purpose cattle. The former have a leaning toward milk production, and being of large size, are adapted to conditions somewhat similar to the Shorthorns; the latter, on the contrary, are small, with a leaning to beef, its natural environment being about the same as Red Polls.

It is evident that the too common practice of putting "round pegs into square holes," and vice versa, as it were, is a mistake. To reap the full benefit of keeping live stock on the farm, our interests will be best served by making no special advocacy of any particular breed without a fair and impartial recognition of its merits and demerits for adapting itself to our special conditions.

J. HUGH MCKENNEY.

The Good Steer

WHAT are the points of a good steer? Here are a few that every buyer should remember when he is purchasing a bunch for feeding purposes.

1. His eyes are bright, clear and full, indicating vitality and vigor.
2. His mouth is large and jaws muscular, equipping him with good food-grinding power.
3. His forehead is full between the eyes, and tolerably high, manifesting intelligence.
4. His head is small and short, evidencing a short, thick body.
5. His neck is short, thick and set firmly to his shoulders, indicating a thick-set body.
6. His shoulders are heavy and well covered with flesh, giving smoothness of form to fore quarters.
7. His fore legs are strong, straight and



Aberdeen Angus—Glenfoil Queen, Grand Champion Cow, and Oakville Quiet Lot, Junior Champion Bull, at Wisconsin State Fair, 1908

cattle has been developed that are peculiarly fitted for the suburban stable or such localities as are too valuable for pasture purposes.

The Dual-Purpose Animal

While the special-purpose cattle, both for meat and milk production, admirably suit the conditions above noted, a class of cattle possessing a combination of these features will always predominate where general farming is practised. This constitutes the great bulk of our agricultural lands. These farms are fairly large and fertile, and the number of cattle that may be kept is far in excess of the number that could be handled, with the labor available, as dairy cows. Since, also, it is unprofitable to keep beef cows on this high-priced land which yield no more than their calves, farmers are convinced that there is wisdom in taking the only other alternative, and falling back on the dual-purpose animal.

The one great dual-purpose breed is the Shorthorn. The writer has personal knowledge of many herds of grade Shorthorns that are capable of giving a good account of themselves at the milk pail, and at the same time of producing calves that at three years old, with good feed, would weigh from fourteen hundred to fifteen hundred pounds and be

set wide apart. The chest is broad, deep, and thick through the heart, displaying plenty of lung room.

8. His girth is large, and just behind the withers is full, showing meat portions.

9. His back is short for early maturing, straight to give good support, and broad to give good room for flesh.

10. His ribs are well arched and nicely sprung for room for digestive organs. If the ribs do not show plainly, indications are good for fattening qualities.

11. His hips are wide and thick, the rump long and wide, and the thighs heavy. This assures steak-yielding qualities.

12. His hind legs are short and straight for good foundation for hind quarters. A fine bone in the tail indicates that the animal is small boned. W. D. NEALE.

Our readers sometimes wonder if our guarantee about advertising is not a very costly policy. The truth is that we are so careful about the advertisements we publish that we receive but few complaints from subscribers. The few cases generally arise from a slight misunderstanding, but we always see that our readers get fair treatment, even at our own expense.

Read the guarantee on the editorial page of this number.

Poultry Raising

Poultry on the Farm

I HAVE made poultry fairly profitable. As white eggs always command a premium above others, I keep a pure stock of rose-comb Leghorns, which lay not a very large, but a nice, white, uniform egg, and I find this breed a No. 1 winter layer.

I have my chickens hatched as early as possible in the spring, before the weather becomes warmer and more settled; no more are hatched than I have room for in my chicken room. I feed well, principally ground corn and oats in proportion of one to three or four (in bulk), stirred up with skimmed milk; also whole wheat and some meat with oyster shells and road dust within reach, and do not forget pure water slightly carbonized during warm weather. I never have sickly chickens.

My fowls, especially when producing eggs for hatching, are well mated and fed regularly, ground green bone forming a proper share of the food. When confined in house and yard (fifty by seventy-five feet) I take more pains in giving a variety of foods than when on free range, and do not neglect keeping ground oyster shells before them constantly. I feed a variety of grains also, as corn, oats, buckwheat, wheat (principally the latter), and during the winter give a hot mash (boiled potatoes or something of that kind) once a day; also other vegetables.

The Leghorn cockerels when about three or four months old are a great nuisance on our premises; they must go to market then, even if they do not bring enough worth mentioning, but generally sell at fifteen to eighteen cents a pound. It is different with my Plymouth Rock stock, of which I keep not over fifty; cockerels of this breed make fine capons, weighing as high as fifteen pounds when eight or nine months old, and always command top prices when properly dressed. Such I caponize at about three months of age, keep and feed well until February, at which time there is a good demand for them; they generally sell at eighteen to twenty-two cents a pound dressed.

Our chicken room answers the twofold purpose of accommodating the early chicks during March and April, and the capons during the summer, fall and winter. With little trouble my Plymouth Rock flock may be confined to house and yard, while the Leghorn has the free range. Sometimes, especially late in the season, I let both flocks have free and unlimited range, with male birds confined.

I keep pure breeds because many a time this enables me to sell eggs for hatching at a handsome price, thus paying well for the extra trouble and expense. Otherwise, I sell my eggs through commission men. I take pride in putting up good, perfectly clean eggs, of uniform grade, keeping brown and white eggs, each kind by itself; egg crates are well made, properly stenciled; business card with "Breeder of Thoroughbred Plymouth Rock and Leghorn Fowls, etc.," tacked on each end. This creates confidence in the purchaser. Thus our eggs always bring from two to four cents above market price.

Our old fowls are shipped to market by August, the selected pullets then taking their places. We seldom sell any chicks or fowls at a time when prices range low, thus helping to keep the balance on the right side of the poultry ledger.

CHAS. A. UMOSELLE.

Study the Food Question

WHILE the prices of poultry foods remain as high as they have been during the past few years no one need expect the best results with poultry until they have made a careful study of the best methods of feeding. Whether they raise their own feed or buy it, the value is there just the same.

An exclusive grain ration will not bring the best results. This kind of food does not contain animal or mineral matter enough, and when we deprive the hens of these elements we keep from them the most important part of their food. Bone, lean meat and bran contain quite a large per cent of mineral matter and should be included in the ration for laying hens. A grain ration is all right so far as it goes, but when fed alone the hens do not get animal or mineral matter enough, and it lacks bulk—it is too concentrated.

By the careless way that some feed it is a very easy matter with one or two hundred hens to lose all the profit, and

these poultry keepers who are thoughtless in their methods of feeding are usually so in their methods of caring for the fowls, so on the whole it is a losing investment for them.

Poultry, like any other business or work that amounts to anything, must be studied, in order to get the best results, or even fair results. The best way of making a study of it is by carefully watching the habits of the flock and also by reading the best authorities on the subject; but study the habits of the hens first, and you will then know better how to apply the book knowledge.

VINCENT M. COUCH.

Starting in Business

THERE is perhaps no better time to start in the poultry business than in the fall of the year. There are then usually many chances of getting pure-bred poultry at moderate prices. The reason of this is that poultrymen usually prune out their flocks, and sell all superfluous birds at greatly reduced rates and often at the market price. They keep the best, to be sure, but many just as pure, only some of them might have minor faults, are placed upon the market. Their offspring might be as strong in all points as the best of those retained. And then by keeping the best one can soon have a flock that is equal to any. Furthermore, by starting in in the fall one can have everything in readiness to start in business when the hatching season comes.

There is one thing, however, that should have careful consideration before starting in with poultry, and that is the selecting of the right breeds. We are always apt to make the greatest mistakes in the start. And one of the greatest mistakes in the poultry business is in selecting and raising the wrong breed. Unless there has been much previous experience, it is well to study the subject carefully before making a purchase. It would be hard to name a certain breed or breeds that would fit for all localities and give satisfaction. Each person must study this out for himself, for he knows best the surrounding conditions, and he alone can figure out the possible sales that he might have. Will it be best to raise birds for the market, or will eggs pay best? What breed will give best satisfaction? What breeds will adapt themselves best to the surrounding conditions? These questions and many others should be carefully considered.

All things being equal, I would choose

a popular breed, for the possible sales of eggs for hatching purpose and of pure-bred birds is greater than of a breed that has long reached its height. I would, however, first make sure that such a breed has reached a permanent standing. The Rhode Island Reds at present are a good example of what I mean. Those who have kept themselves posted along this line know that the Rhode Island Reds have had a great run and that they are still in good demand. They are a good all-round bird. There are others that beat them in certain points. There are larger chickens and there are better layers, but we do not have the two combined. Therefore we should not only study one breed, but we should study many, in order to get the best that can be gotten for our purpose.

GREGOR H. GLITZKE.

The Hen's Side of It

HEN'S rights? What rights have hens? But it is a fact. Hens do have rights. They know it, too, and if you do not believe it, just slight them a few weeks and see if you do not suffer more from it than the hens do.

What are some of these rights? One is the right to a good, clean place to sleep in, and a still cleaner box in which to lay her eggs. Another is the right to the best food you can give her. Of course, hens will take care of a great deal of stuff that seems unfit for your table and mine. That does not make it just right to compel them to live on scraps all the time. Give them good, clean, wholesome food. They will appreciate it and give you better service for it.

Again, hens have a right to a good runway. You would not like to be shut up in a little bit of a pen all the time. You would think your services were not valued very highly if you were treated like that, wouldn't you? Hens will do better if given a chance to stretch their legs every day. By nature they are all the time on the run or the fly. The more nearly we can give them the things Nature used to furnish them, the more eggs we will get.

E. L. VINCENT.

No matter if your subscription is paid up for some time to come, you ought to send us a dollar and let us credit you five years ahead from the time when your present subscription expires. The thrifty ones will do this and save money, as the price of Farm and Fireside goes up the first of next year.

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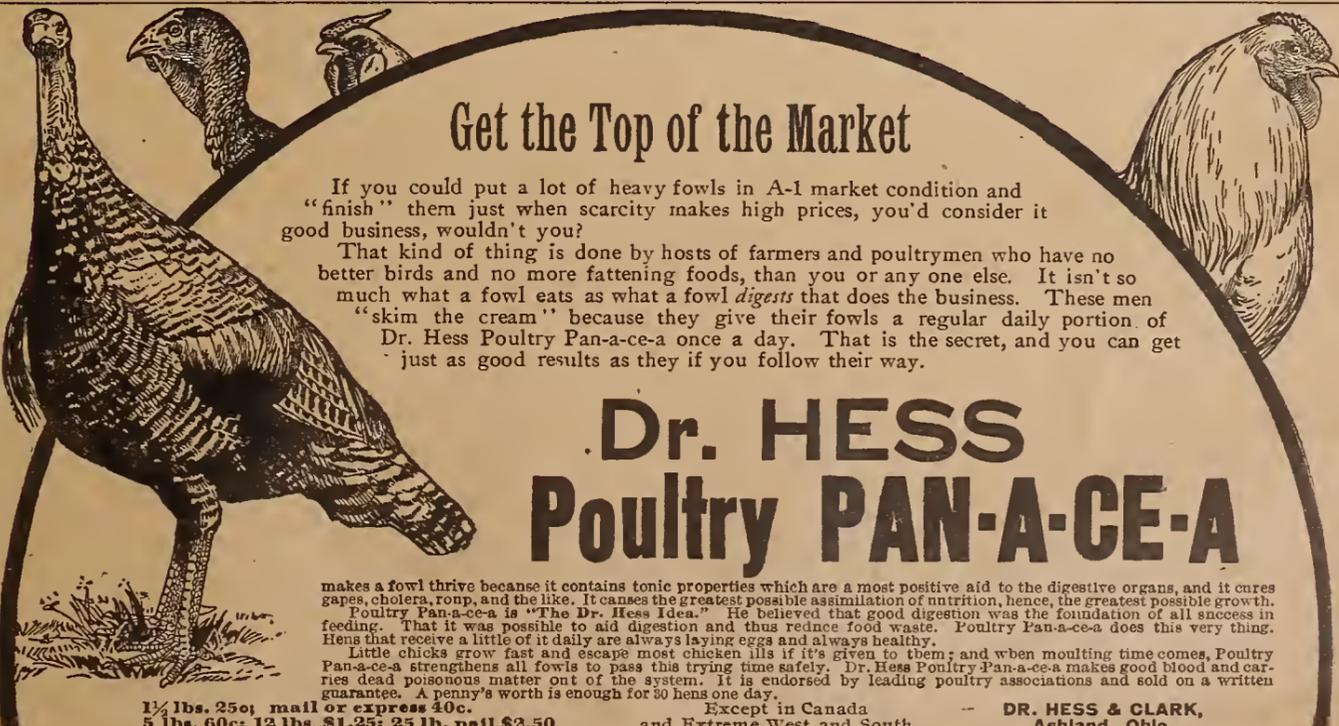
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If you could put a lot of heavy fowls in A-1 market condition and "finish" them just when scarcity makes high prices, you'd consider it good business, wouldn't you?

That kind of thing is done by hosts of farmers and poultrymen who have no better birds and no more fattening foods, than you or any one else. It isn't so much what a fowl eats as what a fowl digests that does the business. These men "skim the cream" because they give their fowls a regular daily portion of Dr. Hess Poultry Pan-a-ce-a once a day. That is the secret, and you can get just as good results as they if you follow their way.

Dr. HESS Poultry PAN-A-CE-A

makes a fowl thrive because it contains tonic properties which are a most positive aid to the digestive organs, and it cures gapes, cholera, roup, and the like. It causes the greatest possible assimilation of nutrition, hence, the greatest possible growth. Poultry Pan-a-ce-a is "The Dr. Hess Idea." He believed that good digestion was the foundation of all success in feeding. That it was possible to aid digestion and thus reduce food waste. Poultry Pan-a-ce-a does this very thing. Hens that receive a little of it daily are always laying eggs and always healthy. Little chicks grow fast and escape most chicken ills if it's given to them; and when moulting time comes, Poultry Pan-a-ce-a strengthens all fowls to pass this trying time safely. Dr. Hess Poultry Pan-a-ce-a makes good blood and carries dead poisonous matter out of the system. It is endorsed by leading poultry associations and sold on a written guarantee. A penny's worth is enough for 30 hens one day.

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INSTANT LOUSE KILLER KILLS LICE

Practical Farm Notes

Good Roads in Iowa

IOWA has 102,448 miles of highway. Of this, 1,453 miles are gravel roads and 241 miles are stone roads. As evidence of the fact that the citizens of this great state are becoming aroused to the importance of highway improvement, the state legislature of 1904 passed a law making the state college a highway commission. They realized that such an act would increase the value of the farm lands of the state, would improve the condition of the merchants as well as the farmers, and would thus work for the benefit of all classes of society. There is probably no influence which is more potent in the development of the state than that of the good roads. It brings the farmer nearer to town, it increases the prosperity of the merchant, and improves the social condition among rural classes.

Since the enactment of this law four good-roads conventions and schools have been held. The first two met at Ames, the third at Council Bluffs, and the fourth at Waterloo—August 10th-15th inclusive. At each session it was the purpose to supplement the program with practical demonstration work in road building. At Waterloo about half a mile of sand road was improved. This work was done by cutting down a hill in the vicinity of the stretch that was being improved, and carrying soil which contained a portion of clay to the sand road. Here it was thoroughly mixed with the sand, thus combining the good effects of both and eliminating so far as possible the unfortunate qualities of both.

Clay and Sand Roads

W. L. Spoon of the Good Roads Department of Washington was in charge of the work. He was also upon the program, and in his address he spoke of the sand road as being the only one which runs uphill both ways. Sand heads the list of bad roads. Wherever a thoroughly good dirt road is examined, it will be found to contain at least a portion of sand and a portion of clay. No matter how closely the sand may be packed, there are spaces between the grains that cannot be filled. The proper substance with which to fill these voids is clay. If the two elements are not naturally mixed, the only thing to do is to bring them together and mix them mechanically by plowing and harrowing. This should be done while the sand and clay are wet. In fact, they can hardly be too wet to be thoroughly worked together. If the road is sandy, the clay should be drawn on; if it is clay, the sand should be mixed with the mud. Following up the building of such a good road with persistent dragging will make almost an ideal highway.

The Road Drag is Efficient

D. Ward King, the father of the split-log drag, spoke of his experience and of his achievement along the line of road dragging. Thirteen years ago he began to drag the road in front of his own farm. For four years he was the only man using this tool. After that, some of his neighbors began to realize the importance of the drag and to use it. Today the idea of that split-log drag has spread all over the world. It is being used in England, France, Nova Scotia, Canada, and in all parts of the United States east of the Rocky Mountains. Mr. King said that for some years every audience he met seemed to consider him either a crank or a fanatic. It took him at least the first half hour of every address to convince the people that he was sane and was not misrepresenting facts when he was telling of the work which his drag was accomplishing. The best method to improve the highway, according to his advice, is thorough neighborhood co-operation in the use of the split-log drag. The best time to drag a road is when the soil is moist, but not sticky. This is especially important. If the drag is used when the soil is sticky, the surface of the road bed has a tendency to ball up behind the drag, thus leaving it imperfect. If dragged when slightly moist the surface is left like a coat of cement. The drag fills in the hollows, thus forcing the water out of them, and leaves the contour of the road almost perfect. The subsequent traffic packs this, and a good road is insured.

As an illustration, Mr. King says that if you were to set a wash basin right side up and pour water into it, it will hold some of the moisture. If, on the other hand, you were to invert the basin and try to fill it, you will find that the

water will all run off. Each slight depression in the road bed is like the basin right side up. Every time a horse's foot goes into it or a wheel rolls through it, its size and its capacity for holding water are increased. Now, the action of the drag is to invert the basin; that is, the depression is filled and after the drag has gone over it, it presents something of the appearance of the upturned vessel instead of one that is upright. Now, the water, instead of finding lodgment in the depression, is turned aside and the road remains dry.

Mr. King explained how a road can be built from the very first stages with the drag and no other machine. First, build the drag. That is the most difficult thing; not because the drag is difficult to build, but because it is hard to awaken public interest to the extent of real activity. The next step is to hitch to the drag so that it will follow the team at an angle of forty-five degrees. Now drive with one horse on each side of the right wheel track, with the drag slanting toward the middle of the road. At the end of the stretch turn and drive back upon the other track. That is all that is necessary at this time. After each shower repeat the process until the road has been dragged five or six times. By the sixth time the middle will be a little higher and drainage will be secured. The next thing to do is to plow a furrow at each side of the road and gradually spread the dirt toward the center. The plowing may be done with the point of the road drag or it may be done with a common plow. After the next rain, plow another furrow. In this way each succeeding furrow widens the road and the spreading of the soil keeps it perfect.

Economy of the Dirt Road

Between Council Bluffs and Omaha there is a stretch of road three miles long. Over this one hundred and ten wagons, on the average, pass every day. Each carries a load of five tons or more. This is a dirt road, and is kept in fine condition at a thoroughly economical figure. Its builder, Col. W. F. Baker, of Council Bluffs, spoke upon the building and maintenance of a dirt road. He would advocate this in place of macadam, because the dirt road can be built for a great deal less than macadam, and it can be maintained at from one to one and one half per cent of the expense necessary for maintaining a macadam road. By the use of the road drag Mr. Baker showed that it would be possible to reduce the road tax at least fifty per cent within six years.

The building and improvement of hill roads was discussed by Mr. Dye. He showed how by the use of the plow and split-log drag the processes of Nature might be used to improve the hill road. His idea was to plow a furrow at each side of the hill and carry the soil toward the middle of the road. He would not have a crown on a hill road, but he would simply have it so drained that the water would not wash in the middle. Each rain would have a tendency to cut down the surface of the road, carrying the soil from the top of the hill to the bottom. By distributing this by the use of the drag it is possible to materially reduce the grade in the hilly country each year.

As an evidence of the practical work in Mr. Dye's system, he maintained thirty-six miles of road in a hilly section of the state with an appropriation of three hundred and eighty dollars a year. It was necessary to ask for a little donated labor, but that was a decidedly minor matter.

Curtis Hill, the state highway engineer of Missouri, spoke upon the building of stone roads. He said that it was necessary to consider the hardness, the toughness and the cementing value of stone in selecting it for the purpose of road building. The gravel which is commonly dug from the gravel bank contains enough lime to provide the cementing qualities. If a roller cannot be afforded, it is advisable to spread this gravel as evenly as possible and let the traffic pack it. He would not recommend dumping the gravel a load at a time, because in so doing certain spots of the road become packed and the surface of the road has a wavy contour.

The subject of defective bridges and accidents was discussed by E. C. Copeland. He held that the supervisor should give its community efficient help by having the proper evidence at hand to avoid the carrying of all damage cases to court.

The matter of permanent bridges was

discussed by A. Marston, dean of the Engineering Department of the Iowa State College. He advocated the use of concrete and cement for building material, because they have lasting qualities. The state highway commission has had blue prints drawn of bridges to be constructed, and will give any help that it can upon application from those interested.

H. E. COLBY.

Curing the Meat

FOR a number of years I have followed this plan of curing meat in the fall or winter, and I have never lost a piece. After the hogs have been killed and cut up, I trim the hams and shoulders closely, then put into a box of suitable size a layer of salt. The middlings are laid in the box first, and covered with salt. On these are placed a layer of hams and shoulders, over which the salt is spread, taking great care to rub the salt in around the exposed bones. After all the meat is in the box, I pour on enough salt to cover. In very cold weather the meat is given from four to six weeks to take salt. If the temperature is not freezing, the meat will take salt in two or three weeks, provided the joints are not extra large.

When I take the meat up I brush the salt from it very thoroughly and suspend it by a wire to the ceiling of the smoke house. This keeps the mice or rats from reaching it. For about a week I keep a good smoke in the house. This is made from hickory sticks or chips thrown on coals in an iron kettle placed in the middle of the floor.

When I think the meat is smoked sufficiently, I take down the hams and shoulders and dip them for an instant in boiling-hot water. This destroys any insect germs that may have been deposited on them. Then I make a flour paste, stirring into it a quantity of cayenne pepper until it is reddish looking. This is spread on dark brown paper which is pasted on the hams and shoulders. I take care that no opening is left, through which an insect may get to the meat. The hams and shoulders are then laid out in the sun until the paper around them is thoroughly dry. After putting into flour sacks I again suspend them from the ceiling of the smoke house, and leave them there until desired for use. The middlings may be treated in the same manner after smoking, but as they are often used before the joints, I generally leave them hanging until they are eaten or taken to market.

W. D. NEALE.

Worth Nailing Up

It pays to have good fences at all seasons of the year.

A poor old lantern is a bad thing with which to go through the winter. Throw it away and buy a good one.

If one has something about the place that is entirely worthless, it is better to trade it off, even if he gets cheated.

After finishing the fall plowing, clean up the plow, grease the bright parts and put it away dry, so it will be ready to use in the spring.

Remember that every weed is taking so much from the soil which is needed for paying crops; and not only that, but it is growing and scattering seed which will cause trouble in the future.

"A little farm well tilled and a little barn well filled" is just as conducive to comfort and happiness now as it was in the last century. Small farmers, who are good farmers, come about as near being independent as any class of people on earth.

The quickest and easiest way to clean stalls is to use a steel stable hoe to scrape and push out the manure after the bedding has been gathered up with a fork. Stalls thus cleaned are drier, cleaner and healthier for all animals. The manure is richer, too, because most of the nitrogen in the wet manure is saved.

W. HANSON.

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The English Sparrow

It is a significant fact that the worst feathered pest now preying upon our farmers' grain crops and at the same time hostile to our useful birds is not a native to this country. This unwelcome foreigner is the English sparrow, and a sorry day it was when under mistaken notions of his utility in agriculture he and his tribe were introduced into the United States.

Whatever the economic value of this bird may have been in Europe in the way of ridding plants and trees of pestiferous insects, this value no longer attaches to him there. His habits have been so completely lost that he has become a pervert from his original sphere of usefulness, and is now really a bully and a thief.

In some states the English sparrow has become such a nuisance that laws have been passed looking toward his extermination. This is getting at the root of the matter, for obviously the only way to get rid of this pest is to follow out some definite plans of killing him off, and then let these be followed constantly and persistently by our farmers and suburbanites until his unwelcome chatter is silenced everywhere in our country. The following statement shows how Michigan deals with the sparrow:

"A bounty of two cents a head for the English sparrow is paid by the state treasurer of Michigan. Over one hundred and five thousand sparrows have been killed since the law went into effect, October 1, 1906."

Various successful methods may be pursued to effect his annihilation, and if every one pestered by the nuisance would faithfully carry them out, there would be a decided scarcity of this bird within six months. Here are some of the plans of killing the English sparrow which have given satisfaction. Because of their simplicity any one can follow them and get good results:

Method No. 1—Soak some cereal, like wheat, corn or rye, in alcohol or whisky, and place the saturated grain in some exposed place frequented by the sparrows, but out of the reach of the domestic fowls. In a short time after eating it the sparrows will be so intoxicated that they cannot fly, and thus can be easily caught and despatched. If any of our useful native birds partake of the "loaded" grain, they can be laid by until they are sober. Winter is the best time in which to work this scheme.

Method No. 2—Make the corn crib bird proof at all points save one, and encourage the sparrows to feast on the grain. Place a trap door over this opening and arrange a trigger to keep the door open for several days. When a flock is busy feasting, by means of a long string or wire fastened to this trigger, drop the trap door over the opening, and there you will have entrapped a contingent of the sparrow family. Now enter the crib with club in hand and complete the job. Any outbuilding or even the granary can be used in a similar manner.

Method No. 3—The old-fashioned bird-catching device, consisting of a wire screen on a framework, propped up on a stick, and worked by a long cord, one end of which is in the hand of a watcher concealed in the distance, is also a sure way of catching Mr. Sparrow. Of course, it is necessary to offer inducements for him to enter the trap, in the way of attractive food.

Method No. 4—The use of a shotgun loaded with fine bird shot, and placed in the hands of a fairly good marksman, will go far toward ridding the farm of these birds. This is the method most popular in Germany in combating this little pest.

Method No. 5—Many advocate the use of grain saturated in a solution containing strychnine for destroying the sparrow. Ordinarily this is not advisable in sections where any of the native birds are brave enough to remain, as the latter are sure to meet the fate of their enemies in eating of the poison.

Method No. 6—Throughout the mating season and incubation period English sparrows prefer to be near human dwellings. Here they build their unsightly nests in trees and in angular places on buildings. If watched carefully at this time the eggs as well as the young may be destroyed.

During the winter the sparrow can be dealt with more effectively than at any other season of the year, for the simple reason that the harvests are all gathered into the barns, and desire of food forces him to seek the dwelling place of farmers, where living is good.

H. S. CHAMBERLAIN.

Practical Farm Notes

Wells and Well Platforms

WHAT a blessing on any farm is a well of really good, sparkling and wholesome water! Yet we do not always appreciate it, or at least give it the proper care and attention. The water supply in our own well is never failing, even in a dry spell of longest duration. The water is cool, good tasting, although containing traces of sulphur, and evidently wholesome. Still we have had trouble with it.

The well is bricked up above the level of the surrounding ground, and up to within a few months ago it was covered tightly with a wooden platform that also served as support for the pump. Last spring two or three of the bricks just on the ground level had become loosened and had fallen into the well, and a wild rabbit, probably trying to make its escape from a pursuing dog, had crawled through and got drowned in the well. When we took the platform up we found this badly decayed, and a lot of rotten wood had tumbled in upon the dead rabbit. In fact, the entire upper part of the brick wall had become shaky, unsafe and gradually disintegrating. We found it, in short, in just such condition as thousands of wells on farms may be found after they have been neglected for ten or twenty years.

Such a condition is not always dangerous. Water may be full of floating rotten wood, leaves and other debris, even with an occasional toad, live or dead, or the carcass of a rat or mouse mixed in, and yet be used with impunity. Not all wells that are not perfectly clean carry germs of typhoid fever or other diseases. Yet it is not an especially desirable state of affairs. If not out and out dangerous to health, it is suspicious, to say the least, and far from appetizing. Of all things that I eat or drink, I want the water we use for drinking or cooking purposes as clean and clear and free from taint as it is possible to get it.

Of course, we pumped our well dry, cleaned out and dug out the bottom, scrubbed and whitewashed the brick wall, and finally covered the upper portion of the wall with a good coat of cement, with a box of cement all around it about six inches above the ground level. This effectively bars out animals, large or small, and we don't expect that any toad, rat, mole or mouse will find its way through this wall into the well for many years to come.

For the platform we also used cement. The general use of cement for sidewalks, walls, buildings, etc., is of comparatively recent introduction. Well platforms made of cement are, for that reason, only rarely found. The wooden platform which so quickly decays and leads to the introduction into the well of filthy materials is yet the rule on the average farm home. By all means, friends, examine your wells. By all means get rid of the wooden platform, and make one of concrete. I know now by experience what it means—comfort, cleanliness, safety!

My friend and neighbor, Mr. J. S. Woodward, gives from his experience, in "American Agriculturist," the following directions: "To make a concrete platform for an ordinary well, say four feet in diameter of opening, will require about two sacks of Portland cement, two or three wheelbarrowloads of clean sand or good gravel and an old wagon tire. First make a frame for the outside of the platform out of lumber one inch thick and three inches wide. It may be square or octagonal. No matter what the form, though, the six or eight sided will take the least material."

Our own well has a rather wide opening at the top, and we made a platform about five and one half feet square. Of course, we might have made it six-sided, or octagonal, and saved some material. We used nearly four bags of cement. The foundation on which such a cement block is made should be very solid and unyielding. Concrete is very heavy, and if the foundation or platform on which the block is cast should give way unevenly, the block when "setting" is quite liable to crack, especially when a large manhole has to be left in the center, as in case one of the common chain pumps is to be used. A block or box of the proper size is inserted in the center of the framework and the concrete filled in between this block and the outer frame. Then when the cement has become dry enough, having been left undisturbed for a couple of days, the center block is taken out, and the whole cement platform slid over upon the well open-

ing. It is well to bed it in concrete and to put a slanting collar of concrete all around it. The center portions, next to the pump frame, of course, are made enough higher so that the water will easily shed toward the outside.

The proportions of materials for the first or lower half of the platform are about one part cement, two parts sand and three parts broken stone or coarse gravel; for the top use one part cement and two parts sand. Be sure that the ingredients are thoroughly mixed, and wet enough to make a good mortar. Tamp well, and smooth the surface with the trowel.

T. GREINER.

Oiling Farm Tools

I FIND it is paying labor to take time in the early part of the winter to brighten up all the tools that need it, and oil the parts that would be likely to rust. Tools soon go to pieces, in common parlance, if they are left where the moisture can get at them. Many a good tool has become useless in a very few years from this cause, when it might have been serviceable almost indefinitely.

Not long since I was at a neighbor's to look at some tools he was getting out to sell at an auction. They had been piled away in a chest for so many years that no one seemed to know how long it had been since they were put there. The tools were mostly greatly reduced in value from rust, for rust will eat into the hardest steel. The squares even had on them so much rust that the figures could hardly be seen. Some of the saws were so rusty that I feel sure the cost of cleaning them would be about all the seller could get out of them. Yet all this could have been avoided by the use of some linseed oil occasionally.

I put linseed oil not only on my small tools, but also on the large ones, including the teeth of the hay rake. One year I neglected to apply oil to the teeth of the rake, and the next spring the teeth were a mass of rust. I thought the hay would soon clean the teeth, but found on trying to rake with it that the hay stuck so much that it was not a practical way of doing that job. So I was obliged to scour each tooth, at a considerable loss of time. I keep my farm tools bright, especially the wearing parts, all through the winter, and when spring comes I do not have to lose any time in removing rust. I find that tools thus cared for last much longer and give better service when in use.

WM. H. UNDERWOOD.

A Fodder Sling

WE HAVE been using in our barn for a number of years a convenience in the way of storing fodder that we think very practical, in the manner of a fodder sling. It is unlike a common hay sling in that it is somewhat heavier, but is operated in a similar manner and does the work as a hay sling does in haying time.

We do a greater portion of our husking from low-down wagons in our basement barn floor, and as fast as the fodder is drawn to the barn and husked out and tied into bundles it is loaded onto this sling, and by the aid of the team which draws the wagonloads of fodder to the barn these slingloads are drawn with the hay rigging to the barn mows, where it is stored away for future winter feeding. With this arrangement we can fairly make our barn roof bulge in capacity and save many bundles of fodder from the storms of the open field.

GEO. W. BROWN.

Manure and Humus in the Soil

HUMUS added to the soil not only improves its physical condition, but also adds actual plant food. The average farmer neither has, nor can he get, enough manure to cover his farm, yet by judicious arrangement and harvesting of crops he may always give his entire farm a yearly coating, though thin it may be, of plant substances in the form of stubble, stalks or weeds.

We deem it poor management for a farmer to remove all of any crop from his field if he does not feel positive that all of it can be covered with stable manure or some form of plant substance before the next crop is planted. One or two seasons of such treatment may not be seriously felt, yet a continuation of the same will surely result in positive soil deterioration.

The most striking example of a total crop removal is that of cutting corn for fodder, removing the entire plant and leaving almost nothing on the soil. When

corn is cut for fodder it should be from the most fertile field on the farm, and the manure made from its feeding should be returned as soon as possible if the fertility of that field be maintained. The way to handle a corn crop with the least injury to the soil is to take of that crop only husked ears, leaving the husks and all of the remainder of the stalks to be returned to the soil. Just as soon as the corn crop is husked, the stalks, with adhering husks and blades, should be dragged down, so that they will be in contact with the soil during winter and the wet, early spring season. With this manner of handling corn stalks, the soil gets an even coat of fertilizer of the same substances previously taken from it. In case of hilly land or soil easily washed, the stalks will hold the soil from washing and catch that which is washed into the field from other sources. Under no consideration should the corn from any kind of washy land be cut for fodder.

The same is true of other crops. Wheat and oats should always be cut as high as possible, leaving long stubble to decay on the ground or be plowed under. One of the best wheat growers I know hauls to the wheat fields during frozen weather in winter the straw taken from them previously. This same wheat grower cuts his wheat just as high as he can, and allows the fall weeds to mature before plowing them under for fall seeding.

It is admitted by all that stable manure is one of the best soil fertilizers cheaply and readily available for farm use. The farmers of to-day are making more and better stable manure than ever before and many are utilizing it in a better way. Stable manure greatly improves the physical condition of the soil, besides containing a considerable amount of soluble or available plant food. From the fact that some of the plant food in manure is soluble, it should either be kept under shelter or immediately applied to the soil. All things considered, we believe that it is far better to remove it to the fields as fast as made. Of course, by this method of handling some will leach away by dissolving rains; but that which leaches away in most cases will be caught and absorbed by the soil before it is totally lost.

By frequent removals to the fields, and liberal bedding, the roughage used for bedding will absorb the liquid portions almost completely, holding them for effective use. By storing manure, this same roughage soon becomes saturated, allowing the excess of liquid portions to either evaporate or soak away. Another strong factor in favor of removing it to the fields at frequent intervals is the saving and regulating of labor, a very important element in farm management. When the winter supply is allowed to accumulate until spring, the hauling during the early busy season often gives the summer's work such a setback that the crops suffer materially.

About the best way to dispose of manure in the field is to spread it immediately, thus saving time. However, if one has time or plenty of help it is good practise to pile it in small heaps in rows and spread as the plowing is done. In these small heaps it neither leaches nor evaporates badly; nor, they being small, will it burn out. The best way to save time and money is to spread it at first from the wagon or spreader.

New Jersey. CHAS. A. UMOSELLE.

Up-to-Date Pumpkin Storage

ARE you going to stay in the old rut this fall, hacking up your pumpkins, and gorging the hogs and cattle with them for a few days, then letting your stock do without this most valuable feed another whole year? That cramming process never did pay, and the absence of a balanced ration for such a long period is detrimental. Your cellar probably isn't spacious enough to permit the storage of an amount sufficient for winter use in feeding stock, but you can easily overcome this difficulty by the following plan:

At harvest time place the pumpkins in a row, as wide and as high as you think best; cover with a little hay, and set up fodder on each side, to a thickness of three or four feet. This affords an ample protection from the cold, and as you feed out the fodder, the golden fruit of the vine is also at your command, and you have a fine balanced ration in the dead of winter.

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Thanksgiving Day

You kind of feel sorry for Thanksgiving Day, as you do for some old fellow who was once hale and hearty, the best "wrestler" in the township, but now kind o' grunty and complaining of the rheumatism. Pity to see him fading away right before your eyes!

There was a time when Thanksgiving Day had all the best of Christmas. It was indeed instituted as a competitor for the honors of an end-of-the-year festival season with Christmas, which was once much looked down upon as "mere popish mummery." And, indeed, the old-time Christmas of "Merrie England" did mean a lot of hard drinking and rough license, not always suitable for decent, respectable folks. And since human nature does require some sort of relaxation, and more particularly a formal excuse for heavy eating until the sweat stands out on you, and a definite day and date for the same, Thanksgiving Day, instead of being a movable feast, an occasional big doings (that is, upon an occasion), settles itself on the last Thursday in November, after having had a more or less continued try at the first Thursday in November.

It was not until after the German Revolution of 1848, when the unsuccessful liberty seekers fled hither, that beer and Christmas began their battle against hard cider and Thanksgiving; but more and more the battle has gone against hard cider and Thanksgiving, until nowadays nearly the only one who makes much to do over the day is the President of the United States, whoever he may be at the time. And it is gravely suspected that he sends out his proclamation more because he got started doing that sort of thing and can't stop himself than because he is so profoundly grateful for what has happened in the last twelve-month that he can't do anything else but knock off work and put in the day giving thanks for the grand weather, and the good crops, and the high prices the farmer gets and the low prices the other people pay.

Thanksgiving Day used to be a sort of Sunday. People went to meeting and heard a good sermon. And then they took to holding "Union services," which is a bad sign and shows that the congregations are falling off. More and more the football game and a good time away from the meeting house have taken the place of the old pious Thanksgiving Day; more and more the family reunion is postponed until Christmas. Thanksgiving Day has become about as John the Baptist said of Christ: "He must increase while I must decrease."

Indeed, Thanksgiving Day in New York City is the least like a solemn festival that it is possible to imagine. In popular parlance it is not even "Thanksgiving Day," but "Ragamuffins' Day," a sort of carnival. The little boys dress up in women's clothes, the little girls in men's, all are masked, all blow on horns and all are begging for pennies or apples or some such treat. Fantastic parades, all sorts of high jinks, take place on this day—a queer sort of reversion to the old, old, savage feasts of the dead, which took their rise when our ancestors were still living in hollow trees and caves and when their interest in "psychical research" was just end for end with ours in these times. We fool with table-tipping and sleight-of-hand tricks, hoping to coax the spirits of the departed to return to us; they put on masks and donned unwonted clothing, and collected treats to lay on the graves, so as to keep the spirits of the departed from returning and scaring a year's growth out of them. For when the chill November days draw on, the spooks get lonesome out in the burying ground, and like to come where there is light and warmth and people talking. Hark! Did you hear that shrill wail around the corner of the house? "Wind," nothing! It was a ghost wanting to come inside. And ghosts are bad for the health. So if we put on masks and queer clothing they won't recognize us, and will let us be. And if we leave food on their graves, that will attract them. It would attract us, anyhow.

The old things are passing. We see change in every custom and institution which seemed so changeless. This ancient, prehistoric festival of the dead has lost out all its fear and dread, and only the good fun remains. The Thanksgiving Day of our ancestors has

lost out some of its fear and dread—for wasn't part of the necessity that was upon us to give thanks due to a fear that unless we showed our manners thus we should soon have nothing to be thankful for?—but remain: The roast turkey stuffed with such savory stuffing that it makes your chin all wet only to think about it; the celery, white and crisp and spicy, that crunches so pleasantly between the teeth; the cranberries of most noble crimson and just sour enough to make the sugar taste good; all the "lick dabs" and preserves and good things that "mother used to make," and still makes—Thank God!—even in spite of the boughten stuff; the many, many things upon the festal board that you wish that you could "save a place for," if that had not already been bespoken by pumpkin pie.

Thanksgiving Day may have been anything you please to start with; it may have been "Turkey Day" at the outset, but one glory shall not be taken away from it, pumpkin pie!

Let the republic go to everlasting smash, if go to smash it must. Let all else change and decay, but oh! whatever else betide, preserve to us forever that great institution of which the formal Thanksgiving Day is but the frame and setting, Pumpkin Pie!

And be assured that just so long as it remains, our liberties can never quite be lost. Look about among the peoples of the world, and note that where they are downtrodden and oppressed they have no pie at least worthy of the name. Remember: Pie eaters were ever freemen.

If Thanksgiving Day must fade before oncoming Christmas, let us cling to that palladium of our liberties, and rally to its defense with the war cry of a free people: "Pumpkin Pie Forever!"

* * *

Random Sparks

Nobody ever told an egg: "A-a-ah, you're too fresh!"

Bigger crops or a bigger share of the proceeds of the crops? Both can be had.

Science has been working in the factory for the last fifty years. Result: Enormous increase of the product in proportion to the human labor put forth. Here lately Science has shown symptoms of interest in the farm. It would be almost worth while living fifty years longer just to see what'll happen.

They say the hens of the United States are worth more to the country than the gold industry and the steel industry put together. And here's the pretty part of it: When the gold ore and the iron ore are taken from the ground, it's stolen poor forever. But the hen leaves the soil richer than she found it.

"Wherever personal skill, the rule of thumb and the fortuitous conjunctures of the weather have been replaced by a seasoned procedure based on an accurate knowledge of the forces employed, there," says Professor Veblen, "the machine process is in operation, though there be no mechanical contrivances." Doesn't that describe what modern agriculture isn't to the dot?

Just as we now sympathize with the pioneers who scuffled with bears and panthers, wolves and such "wild varmints" for a living, so, a hundred years from now, they'll wonder how we made out to live, away back in these "airly days," with Hessian flies, and chinch bugs, potato beetles, and all manner of six-legged ruffians snatching at every green thing we grow the minute it peeps above the ground. There are a few "wild varmints" yet remaining to be exterminated.

If we humans had to stand the climate just as it comes, soaking wet in rainy weather, thirsty in the droughts, scorched in summer and frozen in the winter, how much less fruitful would our lives be. But we have made for ourselves an artificial climate in our houses, an artificial climate and favorable conditions. Supposing we make an artificial climate for our crops, giving them favorable conditions—"Ah, but that's impracticable." Steam heat and plate-glass windows wouldn't have seemed practical to the cave dweller.

Back Talk to Lewis

Letters from Readers

EDITOR OF FARM AND FIRESIDE:—

In FARM AND FIRESIDE of September 25th, on page 11, Mr. Alfred Henry Lewis says much that is good and to the point as far as he goes. But the first and last subject he treated should each have occupied the full page in justice to the writer, reader and the subject itself.

That is, he should have given the practical workings of the tariff and revenue systems showing the benefits and disadvantages in their results in specific instances. And regarding the Oil and Sugar Trusts, the public should be informed by tables of relative costs wholesale to the trade for years previous and since their combinations were in force, as the public or patrons are not situated to know how they are abused.

Connecticut.

E. W. LOVELAND.

EDITOR OF FARM AND FIRESIDE:—

In his article opposing President Roosevelt's proposition to elevate the farmers, Mr. Lewis shows that they have already reached his highest ideal in everything desirable in farm life—nothing more to strive for, nothing to do but promenade upon the highest elevation of improved farm life. Grand achievement, isn't it! His attention must have been engaged away from the farms, or else he would know something of conditions as they really exist.

No, Mr. Lewis, it is not a knot the President is barking at, but a "Koon," and he is barking up the right tree, and we hope that commission will assist him in "sacking" the game.

You have allowed yourself to be disturbed through vain imagination. And as to that "bad taste in your mouth," I would prescribe a dose of FARM INVESTIGATION to clear it out. Look carefully about the farms, and you will soon find the antidote.

Mr. Roosevelt is working on the right line, and doubtless his effort will bring a big upward move. This does not mean that the farmer is in depravity and at the foot of the hill. He has made great advancement in all branches of farm life, but has never scaled the top, as Mr. Lewis indicates.

One of these days we expect a great uplift, an elevation and improvement beyond anything yet attained. So we would say, "Rest easy and watch results."

South Carolina.

J. B. WILLIS.

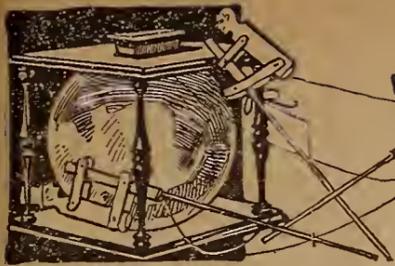
EDITOR OF FARM AND FIRESIDE:—

I have read Mr. Lewis' article on "Politics" in the FARM AND FIRESIDE for August 10, 1908, and especially the letter from Mr. Watson on the Georgia Central Railroad, describing how certain citizens of the City of New York got control of the road by robbing the original stockholders of holdings and then continuing to rob the public by levying tolls to pay dividends on watered stock. Why were such high-handed proceedings permitted by the citizens of Georgia? At whose door should the wail of distress be laid? The state of Georgia has courts, both state and county. It has a state executive and legislature elected by the people—the latter to enact laws to protect the citizens' rights within the state and the former to see that these laws are strictly enforced. Where was the state government—the governor and state attorney general who had taken an oath to execute the laws enacted? Resting distant from their place without the state's limits or asleep within its borders, thus permitting citizens from a distant state to invade the commonwealth of Georgia and appropriate to their use a public improvement?

Now the people groan under the outside taskmaster's exactions of tribute. Without connivance with those outside by the citizen officials of Georgia could such a crime have been successfully committed? Georgia citizens will not be doing any injustice to those New York freebooters by squeezing out the water-soaked stock until it becomes a real legitimate investment. So long as we, the people, permit ourselves to be misrepresented by our officials who are not punished for perjury, the same as the ordinary citizen, will our public affairs be the shuttlecock for unworthy office holders and unscrupulous capitalists to rob the people.

Pennsylvania.

F. CYRUS SMITH.



Politics

By Alfred Henry Lewis



IN THE SENATE about to come together there are figures worth looking at, aside from those distinguished by the notice—and checks—of the peculiar Mr. Archbold. Have a glance at a trio among what I'll call the "younger set." These are Mr. Beveridge, Mr. Lodge and Mr. Culberson.

The gentlemen in question have been much in evidence, from time to time, on the firing line of Senate affairs. This, when one remembers a Senate day that was, marks how far that sage convention has abandoned former standards and departed from old trails. For a century after its creation, the Senate was snow and ice to your newcomer. He was taught to wrap himself in silence like a toga. He might keep warm, but he must keep quiet. If he stood on his feet, the oldsters glared at him with goggle eyes like ancient Arctic walruses. If this did not quell him into mute humility, the walruses slipped off their respective cakes of ice and swam to the sullen seclusion of the cloak rooms, leaving the youngster talking to himself. Being of sensitive newness, and shaken of the timidity which belongs with a stranger in a strange land, the youngster did not talk long under these snubbed conditions, but collapsed. Then the walruses came back to their ice cakes, and goggle-eyed him ferociously as a transgressor.

It was Mr. Plumb who rebelled. That was years ago. Mr. Plumb came from Kansas, where silence is a synonym for suicide. When Mr. Plumb, a week or two after his Senate advent, began his maiden speech, the walruses goggled at him in arrogant reproach. Mr. Plumb went on, and the walruses, making move two, withdrew to the cloak room, waving condemnatory flippers.

Solitude, however, did not cure the oratory of Mr. Plumb. Left alone, he addressed the desks, the galleries, the chandeliers. Moreover, he pitched upon one particular walrus—Mr. Edmunds of Vermont—hung with the seaweed of Senate tradition, and roasted him on the angry coals of his rhetoric.

The other walruses caught the odor of blubber burning, and came eagerly back to their cakes of ice. They wanted to enjoy the spectacle; for there is nothing so pleasing to your true Senate walrus as the sight of a brother walrus being grilled.

Mr. Plumb's heroic example found imitation, and the Arctic rule of the walrus was no more. Now, the latest arrival to the Senate ice floe comes plunging off his little cake of ice with all the hardihood of the most ancient sea lion on the beach, and dives and swims and splashes in debate, careless of old opinions, defiant of old ways.

* * *

MR. LODGE AND MR. BEVERIDGE give one a bookish impression. They are both scholarly, both literary. Mr. Beveridge is the stronger writer, Mr. Lodge the more erudite. Mr. Lodge could converse with Cæsar and Lysander in their native classic tongues.

Mr. Lodge has read books; Mr. Beveridge has read both books and men. Mr. Culberson's strength lies in his genius for debate, which is aided by a perfect knowledge of the political history of the country. Of the three, Mr. Beveridge, through a grace for intrigue, will oftenest have his political way.

Mr. Lodge and Mr. Culberson suffer from the setback of a region. Mr. Lodge doesn't live in the United States; he lives in New England. Mr. Culberson doesn't live in the United States; he lives in the South. Mr. Beveridge lives in the United States.

Mr. Culberson and Mr. Lodge, when they make themselves of a region, make themselves small. The man who would have the circle of his influence—like the ring of Saturn—belt a world must come out of his corner.

The great setback to the South lies in its being Southern. If I owned the South I should abolish the word "Southern." It is much smaller than the word American. Besides, it's a fallacy. There can be no such thing as a Southern interest, or a Southern question, or a Southern man. The interest, or the question, or the man, is every time American.

* * *

MR. BEVERIDGE—AS DOES MR. ROOSEVELT—likes fiction, and is said to be devoted to Dumas. For one, I am relieved to know these things. There is something inhuman, fearsome, terrible about a man who doesn't read novels.

There are many aside from Mr. Beveridge with a liking for the gory doings of those guardsmen of the great Frenchman Dumas. It is curious, too, that some of these lovers of a swash-buckler literature are

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

among those least capable of laying the physical foundation for it. There are mind warriors just as there are mind athletes. Go to a baseball game, and the wildest and most vociferous "fan" in the grand stand is often some hollow-chested individual who can hardly hobble to a street car when the game is through. Go to a horse race: You will find men who never owned a horse, never drove a horse, couldn't saddle and ride one though you made them a present of it, in a perfect tingle of red-faced enthusiasm over the horses. These people play baseball and race horses vicariously; they are athletes or sportsmen by proxy.

It is the same when you come to murder and sudden death. I have known musty, smoke-dried professional old gentlemen, blood cold and thin, muscles flaccid, as unlikely for physical battle as so many November's corn stalks. None the less, there was that left-over drop—descended from some fierce Norse ancestor, some ax-wielding Viking forebear—in their hearts that cried for carnage. Wherefore, they would seize upon we'll say Dumas, and shed blood, take lives, sack castles, save fair maids, by the shadowy fictional hands of doughty book paladins and printed knights. It relieved and rested the starved natures of our prosaic smoke-dried folk; their slumbers were the sounder for it.

Mr. Lodge and Mr. Culberson have been married men for lo! these many moons. Mr. Beveridge two years ago took unto himself a wife. What sayeth the holy word? He who taketh a wife taketh a good thing.

Taking a wife shows the wisdom of the bachelor. A man without a wife is as a statue without a pedestal. Your man needs something to elevate him, uplift him, keep him standing morally straight and upright. And such is the province of a wife.

* * *

MR. LODGE IS OF A CHILLY TEMPERAMENT. His atmosphere is cold; there are no fire-swept sympathies. He reminds one, in the impression he throws off, of that courtier of fortune who said he "didn't care what happened, so it didn't happen to him." He is not a big man, not a great man; no stress of circumstances will ever make him one. He will not rise to a situation; he must be lifted up.

Reputationally and morally, Mr. Lodge is spick and span. His standing is above reproach. Indeed, he alarms me by his very impeccability. I could wish, as a sort of stay lath to my confidence, he were not quite so respectably correct. It is doubtless some intuitive consciousness of my own original sin that causes me to shrink back from that barrel of apples, the top layer whereof shows fruit matchless and perfect. If I could but see a rusty or gnarly apple anywhere among them, I might, perhaps, buy the barrel.

"Dingley," cried ex-Speaker Reed, addressing the sober, moral Mr. Dingley; "Dingley, do you know I now and then find your personal respectability appalling. Actually, there are times when you seem respectable to a point absolutely incompatible with human existence." And I feel somewhat about Mr. Lodge as the big Casco Bay cynic felt about Mr. Dingley.

Mr. Beveridge was born—I think—in Indiana. Somewhere in a former number of FARM AND FIRESIDE I have set forth how a certain satirist, disdainful truth, remarked of Indiana that it was settled by folk who started for the West, but lost their nerve. This jealous stab was assuredly without slant of justice in the case of the forebears of Mr. Beveridge.

Mr. Culberson has been governor of his state of Texas. He put down prize fighting in that commonwealth, and nearly earned the name of a "reformer." For that matter, in the politics of his place and hour, Mr. Lodge has not been without an occasional reform success.

Mr. Lodge has not always shown himself a best of politicians. There was too much fight, too little conciliation. He was good at controversy, bad at consultation; excellent in argument, while weak in expedients. Moreover, he has never heard that half a loaf is better than no bread, owns not a trace of the trimmer, and if set to walk a tight rope would infallibly fall off.

Going back to Texas and Mr. Culberson: Some very good people in the Lone Star country find fault with the Culberson habits for their easy grace. They say

that he has even been known to unbend in that sinful device called "seven up."

If these very good people will but read their histories attentively, they may change their virtuous tune. Very good people, in this lame and halting world of ours, are only valuable as examples. There is a purity so pure that it ceases to be practical, like furniture so whitely clean that it cannot be used at all.

* * *

COMING TO THE SENATE GENERALLY: Let me say a word as to why the Senate has found itself the frequent and favorite target of rock throwers in newspapers and magazines. The Senate has no one save itself to thank. From cradledom it has nursed a manner of snub and insult toward the world at large. It mistakes a snorting, nose-tossing uppishness for the mark of greatness, and in trying to be dignified, succeeds only in being insolent.

The first Senate that ever sat locked its doors in the faces of mankind. It was Aaron Burr who fought open the Senate doors, so that the public might look upon its own business. Since that hour the Senate has not locked its doors; but it saved the point, and clung to what "dignity" lies latent in "executive sessions."

At impressive intervals, say three times a day, some togaed personage arises, and remarks:

"Move the Senate go into executive session!"

Thereupon the bells ring, the onlookers are hustled clattering from the galleries, the doors are closed.

There is a world of affectation in this. Not more than once in a session does any Senator say aught that the public should not hear; and then it is something which the Senator ought not to say.

* * *

IT IS THIS DOOR-SLAMMING, blind-drawing, keyhole-stuffing secrecy which, among other matters, invites the muckraker. The muckraker realizes, as I've said before, that properly counted there should be but two keys to go with government—one to the treasury, one to the jail—and he cannot avoid the conclusion, when the Senate thus gratuitously and improperly adds a third key to the list, that it is about some enterprise which it is either afraid or ashamed to throw open to the light of day. People engaged upon good works need no locks. Those whose works are evil cannot do without them.

When his architect asked the noble Drusus how he would have his house built, he answered:

"So that every Roman may witness the least act of my life."

The Senate might profit by this Roman consul's example. Assuredly, if it did so, and instead of hiding and skulking and scowling and prowling, and carrying the public's destinies off into those secret corners of executive session, pretending to mend them while making them worse, there would be not only a deal less muckraking, but a deal less muck to rake.

* * *

AND THE SENATE DOES foolish other things. It will quarrel with a proposal to appropriate twenty-five thousand dollars for the White House, and then spend, exclusive of its personal salary, an annual nine hundred thousand dollars upon itself. While it buys itself "manicure sets" at six dollars—for which see the printed account of the Senate's contingent expenses, published every year—and "chatelaine bags" at eleven dollars each, and so through a wondrous list, which, beginning with the "Anniston Hot Blast"—whatever that may be—at five dollars, goes on and on and on and on through "toothache wax" and "corkscrew knives," until it rounds out those nine hundred thousand dollars, with "Senator Bailey: For commutation of allowance for stationery and newspapers for the fiscal year, \$57.04," and "90.60" to Senator Tillman upon a similar commutation-stationery argument—while it is making these purchases it should not permit itself to be too deeply shocked by the disbursements of other departments. Folk who swallow camels must not strain at gnats. Those that prate of economy ought to practise economy, and senators who annually vote through such items as "One month's extra pay to officers, clerks, etc., \$62,300.70," excite suspicion as hypocrites when thundering against the expenses of a White House, where, to say the least, no one works twelve months in twenty-four and gets paid for twenty-six. Possibly such experienced explanationists as Senators Bailey and Tillman can make clear that "One month's extra pay" in its innocuousness, as well as the clean propriety of those respective personal items for "\$57.04" and "\$90.60." For myself, as a blinded muckraker, I must confess that they baffle me to a standstill.



The Soul of Honour

By Lady Troubridge

Author of "The Cheat," "The Millionaire," "The Woman Thou Gavest," Etc.



CHAPTER I.

ASCOT HEATH had awakened from its silence and seclusion, and had broken out into the four days of vivid, glittering, bustling gaiety known as "The Race Week." It was Cup Day—a glorious morning of blazing sunshine, tropical in its intense heat, and beating down toward mid-day with almost furious power upon the tents and coaches and the motley gathered crowd. Every sort and condition of man and woman was represented there, and the sun impartially threw his baking heat alike on the gipsy strolling along with bright, inquisitive glances, searching the faces of the passers-by for a credulous client whose fortune she might tell, and on the well-groomed Englishmen who were strolling about the paddock studying their race cards with an air of intentness, as if it were what, in many cases it no doubt was, the business of their lives.

A steady stream of smartly dressed people poured from the station, descended the stairs, and crossed the tunnel, afterward walking up what is known as the "asphalt walk"—a long, narrow promenade, uphill all the way, and paved, as its name indicates, with asphalt.

They were a brilliant, gorgeously dressed, hurrying throng; the women with exquisite dresses held clear of the ground, and half revealed, half concealed by the dust cloaks they wore. The craze for smart dressing at Ascot was then at its height, and there was absolutely no limit to the radiant garb of these butterflies; even white satin was in evidence, looking, it must be confessed, rather ashamed of itself, and as if it knew that the daytime was no place for its tawdry splendor, veiled as it was by chiffon and lace.

The faces of these walkers looked fagged and heated; they were taking their pleasures hardly, as the English do, and grumbling and scolding by the way. Snatches of their conversation revealed that with nearly every one of these people something had gone wrong; either the enclosure ticket was lost, or a dress was torn, or they didn't know where they were going to lunch. Floods of petty complaints were evoked by the heat and discomfort, and listened to by the men, to whom as a rule they were addressed, with all their usual sang-froid.

Only one young girl in the moving, hurrying procession seemed as calmly, sweetly bright as the June morning had been when it first broke over the pine woods. She was walking by her mother's side and listening to her grumbles with a pretty curving smile, nodding her head at intervals in a discreet sympathy. Perhaps she felt that she herself was so supremely all right that no outside bothers mattered in the least, and if she did so her self-confidence had a basis of reality; for she was so deliciously fascinatingly pretty, that flushed or pale, tired or rested, even well or ill dressed, she must carry off the palm. She was a very rosebud of a creature, with a face like a Greuze picture, eyes of gentian blue under fine level brows, a haughty little nose and lips like the curving petals of a red geranium. She went in for no elaborate dressing, wearing a simple clear white muslin dress, with insertions of lace, and a Leghorn hat massed with tiny white roses. Her skin was of that warm whiteness utterly remote from marble, to which white skins are so often compared. It was rather as if a gardenia were to be faintly touched with carmine. Her eyes were set deeply in her head, which gave them an added intensity; they alone spoke of the woman, in this childish dazzling creature, and they looked out with a superb confidence of ignorance at the wonderful world as it appears to nineteen years old.

"Why, mummy," she said, "don't be so worried. We shall be there in loads of time. Don't hurry, darling; after all, what does it matter if we are a little late?"

Lady Windermere was not so cheerful; she was mentally a Trojan, and would have held any forlorn hope and defied any enemy, but physically she was short and stout and scant of breath, and she was beginning to feel that the effort of chaperoning the beauty of the season was beyond her powers.

"Why your father wanted us to come by train," she said, "is inconceivable to me. It just spoils the whole day, but it is one of those ridiculous economies he

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EDITOR'S NOTE—This is the first instalment of the great serial which we have been telling you about and which will run through several issues. Our readers are going to find it the kind of story that will make them anxiously await the coming of the next number of Farm and Fireside. It is a story filled with dramatic incidents and thrilling love scenes.

delights in. He never has any consideration for my health. You will find, Hyacinth, when you are married, that men are all alike—the most selfish creatures it is possible to conceive!"

Hyacinth adored her father, and lamented the continual squabbles between him and her mother, and that thought would have parted her lips in a sigh, save for her mother's concluding words, which made her giggle. It seemed so impossible to think of herself, stout, middle-aged, and resenting the selfishness of men, those shadowy creatures who, to her, meant only the partners of a dance, persons to walk, talk and make merry with, but so far not to view in any serious light at all. Her laughter irritated her mother.

"It is all very well to giggle in that absurd way," she said, "but it's true, and really, Hyacinth, it's time to give up being a baby, and to consider these things. Of course I shall try to do better for you than I've done for myself; look at Marcus Quinten, for instance!"

"I can't look at him; he's not here," said Hyacinth, with another bubbling laugh, but she put her little hand under her mother's elbow to propel her along.

"He is nothing of the kind, Hyacinth!" cried Lady Windermere. "Now that sort of talk is so like you young girls; you are utterly incapable of any kind of discernment. Marcus Quinten is one of the most interesting and well-bred young men in London; he is very rich now, and, as you know perfectly well, he will inherit everything which that horrible miserly cousin Lord Vannister possesses, and I happen to know that he is extremely ill. Now you, of course, fancy that you've only to come out in London to find rows of dukes dropping down on one knee and asking you to marry them. Don't contradict me!" she added, almost fiercely, as Hyacinth's pretty lips parted in amazement at this outrageous accusation. "I know what I'm talking about; that is what all you young girls expect; but you will find the reality very different. I don't say you're not very pretty, but you haven't got the sort of looks that will last; and you must not set a ridiculous value on yourself. Also the great point about this Mr. Quinten is that the women in London haven't realized how much money he will inherit; when Lord Vannister dies, they will fast enough. Now

you see no difference between a delightful, gentlemanlike young man like Mr. Quinten, and that awful yahoo of a friend he insists on taking about with him."

Hyacinth's face altered; the rose mouth took a mutinous line for the first time; she stared straight ahead of her as she replied:

"You mean Mr. Taunton," she said. "Taunton? Is his name Taunton? I never take in the names of people of that class. What does it matter what they are called? But, yes, that is the man I mean. Why, what is the matter?" for Hyacinth had become scarlet in the face.

"Mother! How can you talk like that? Just like those horribly worldly mothers in books," she said, with what almost seemed like a little sob in her voice. "I don't wonder people talk against us and call us the 'Smart Set,' and say we have no feeling if we are so stuck up and hateful. I shouldn't wonder if Taunton isn't just as good as Windermere, and for Jack—Taunton—"

"Jack!" almost screamed Lady Windermere. "Do you mean to tell me that you know the creature's awful Christian name? Perhaps you call him by it."

Hyacinth was about to answer when, half to her confusion and half to her amusement, they were joined by the two young men whose names had been figuring in their conversation; and as the top of the asphalt road was now reached, and the turnstile leading to the roadway itself stood in front of them, further conversation was impossible.

To Quinten fell the task of piloting the dowager across the stream of miscellaneous traffic, and the other two crossed over the road together. Very carefully did Jack Taunton guide his fair companion through the carriages and motor cars, drawing her back sometimes from a perilous proximity to a cart or carriage, with a light touch which thrilled through his whole being, and yet his fingers touched her shoulder as reverently as if she had been a sacred relic, and he a devout worshiper.

On the other side of the road he paused, for only a few hundred yards now divided them from the two ahead, making their way toward the low door which led to the Royal Enclosure—that goal of the snobbish and the merely curious, and the peaceful and secure haven of the favored few who felt that they had a right to be there. Hyacinth was one of these, for Lord Windermere had been Master of the Buckhounds himself, and giver of those treasured tickets for which he was begged, beseeched and bombarded for weeks before the races; but Hyacinth cared for none of these things; she would gladly have crossed the course with the bronzed young fellow at her side, and amused herself by watching the motley crowd who thronged the grass in the distance, if it had been possible.

Presently, Taunton stopped a moment. "Look here, Lady Hyacinth," he said. "Is it my wretched vanity, or did I hear my name mentioned as I came up to you?"

The girl crimsoned. "Yes, she did—I mean I did—in fact, we were speaking of you," she stammered.

Taunton glanced at the glowing, tell-tale cheeks beside him.

"Your mother disapproves of me," he said. "I've often noticed it myself, but I never could tell why; still, I'm pretty sure she was pitching into me, and you—bless your heart—were taking my part."

Hyacinth drew herself up a little proudly; then her reserve passed away under his honest, pleading, anxious eyes. She felt the man's reverent homage enveloping her like a rosy cloud, and some hidden responsive feeling, or perhaps her innate childishness, urged her to be frank with him.

"Dear mother," she said, her eyes following the matronly figure ahead. "She's so good to me; but perhaps she is a little old-fashioned and funny in some ways, and inclined to be a little narrow-minded. She only likes the kind of men she's been accustomed to, and whose people she knows all about. I'm—oh, what am I saying!" cried the girl, distressfully, as she looked up and met a tense hurt look bent upon her.

He tried to smile it off. "No, no, I'm much obliged to you for explaining Lady Windermere's attitude, as I'm particularly anxious to understand it if I can. So she only likes the usual thing, eh? For a chap to be



"Are you ill?" asked Lady Windermere's daughter sweetly. "Can I do anything for you?"

"Don't catch me up like that," said Lady Windermere. "It's very rude. If you can't look at him now you will be able to in a moment, and in the meanwhile you can think of him."

"But I don't want to think of him, darling; it's much too hot," pleaded the spoilt child, enjoying a tiny breeze which crept to her through the pine woods and cooled her pink cheeks.

Nothing she said seemed to please her mother, who, indeed, was decidedly cross.

"How can it be too hot to think of any one?" she demanded. "You are talking like a baby. Anyhow, I insist upon your listening to me, for I want to come to some sort of understanding about your attitude to Mr. Quinten, and there won't be a chance of speaking to you when we get there."

"But, mother, what is there to say about him? He's just a tiresome young man like any other, only I think a little more conceited and airs giving."

is the time to settle matters, and I can see he's extremely in love with you."

All this was poured forth in snatches of disconnected words, becoming more and more rapid as the end of their walk came in sight, and at the close of her speech Lady Windermere gave a gesture of added annoyance, for she saw she had made no impression.

"Aren't you willing to trust me, Hyacinth?" she asked. "Don't you know I would choose wisely for you? Tell me, at all events, that you don't dislike him, for I believe matters are coming to a climax with him, and I really must know what your feelings are."

"Oh, I don't dislike him, mother," said the girl. "He's very kind and—well, yes, he is awfully good looking; but somehow he doesn't seem to me like a real man."

"Indeed!" said her mother, sarcastically. "You have had so much experience, haven't you? I suppose, for instance,

educated at Eton, then Oxford or Sandhurst, then the Life Guards or the Blues; and he must wear the right kind of collar, and know all the jargon of your set—Oh, I know the style, and our friend Quinten answers to the description, so I suppose he's in the running for the Lady Hyacinth Stakes; while as for me, I'm only a hopeless outsider in her eyes. I'm sorry, but the question that really matters is how I seem to be in yours."

She gave a startled look at him, for his last words had frightened her. He had never said anything like this before. They had reached the door leading to the corridor, or at least its outer gate, and Hyacinth slackened her pace involuntarily; it was a tacit encouragement and the only one she dared to give him. Suddenly her eyes straying nervously about, fell on a girl standing by the gate, and looking after Lady Windermere and her escort with a strange, yearning, intent gaze.

She was slight and pale, and seemed very ill. Hyacinth saw her totter as she passed, and she instantly stopped, the two girls forming a contrast as great as night and morning as they stood side by side. "Are you ill?" asked Lady Windermere's daughter sweetly. "Can I do anything for you?"

Taunton stood by, anxious to draw her on, yet glad in spite of himself at this evidence of the heart of gold under the dainty muslin and lace.

"No, thank you," answered the girl, gaspingly. "I have a friend here, and she will be back in a moment; the sun made me feel queer for a second or two."

The voice, the intonation, the manner were those of a lady; not perhaps of a denizen of the great world, but of one who unmistakably had been gently born and bred.

Hyacinth hesitated; she did not know quite what to do. The lines of suffering and anxiety were so clearly marked on the face of the girl opposite to her that she felt as if she ought in some way to proffer her aid, and she turned half appealingly to Taunton.

"Come on," he whispered; then smiled as he met her puzzled look. "I don't think Lady Windermere would like you to talk to any one you don't know."

Hyacinth suffered herself to be led on, but the look on the girl's face still worried her in retrospect.

"Don't you think you could help her?" she said.

It was a remark she would hardly have made to any other of the men she knew, but which seemed to come naturally to this one.

"I will see what I can do," he answered.

They passed through the corridor, where one or two young men saluted her, and then she stepped on to the glare and brightness of the tiny lawn thickly studded with people. It seemed like another world, and she dismissed the thought of that haggard look on a face almost as young as her own.

She crossed the lawn to where she saw her mother, and Quinten brightened up at the sight of her; yet a few moments later he made an excuse for leaving her side, and catching Taunton by the arm, he walked with him into the paddock.

The two men formed an admirable contrast as they walked along side by side, deep in conversation. Marcus Quinten was over six feet, as was Taunton, but the former appeared the taller, being of a slighter build. He was the absolute type of an aristocracy, effete perhaps, but well-bred looking to the point almost of effeminacy. His face was pale, with clear-cut features and mobile lips; it was the face of an actor, expressing every passing emotion, photographing each fleeting feeling. The eyes were curious, for they were singularly earnest, without having any depth. To glance at them cursorily gave one a feeling of confidence in their owner, for it was a gaze as wide and limpid almost as a child's, but to look longer into them brought a doubt. Whereas the longer one looked into Taunton's face, the greater became the inexplicable feeling of confidence which those rugged, though not strictly handsome, features inspired one with.

Marcus had caught his arm and was talking hurriedly and earnestly, and both men stood in a corner of the paddock, for a moment practically oblivious of the fact of the horses slowly parading around in front of their eyes.

"Look here, Jack," said Quinten. "I've been trying to get hold of you all the morning. I must have a word with you; I tried to see you last night, but you were out. The fact is I'm stone broke—absolutely on my last legs. Now, old chap, I wouldn't ask you for an advance if it weren't that I'm absolutely certain of paying you, for I know how awfully good you've been to me, and I feel ashamed, upon my word I do, of taking advantage of it; but it's your own fault, you know; you made me tell you how I was situated, and you were so sympathetic and nice about it that I regularly opened out my heart to you. Also, I think I've been a little use, haven't I, in introducing you

to some charming people over here—not that that fact affects the question, but still I mention it to show you that I'm not ungrateful."

"Yes, and that's the part I don't like," said Taunton. "I don't want to be 'run' in London, as it were, so much money for so many introductions into society. That isn't my line, old chap."

"No, no," protested the other. "You mistake my meaning altogether, and you put it far too crudely. I merely mean that if I've been of use I'm too delighted. I am sure you've been useful enough to me."

"None of your compliments," said Jack Taunton. "How much do you want?"

"Five hundred pounds."

"That's pretty stiff."

"Yes, I know—I know; but listen. My cousin, Lord Vannister, is absolutely losing his health, and the doctors think very badly of him. But, of course, you know Vannister yourself; you saw him when we were up there together, and even then he was a complete wreck. Now, he hates me like poison, I don't mind telling you that, but that doesn't affect the question one little bit; he's bound to leave me every stiver he has in the world, so you see I may not be an incubus on you for long. Only you see, my dear chap, I can't wait; things have positively come to a head with me in every way. Old Lady Windermere—"

Taunton started at the name, and his face became colorless.

"What has she got to do with it?" he asked.

"Why, the old Jezebel has just asked me my intentions! If I wasn't so frightfully in love with the girl I would have told the old cad that they were honorable but remote, but she's such a little darling that I can't risk losing her, and unless I propose to-day, I shall; and if I do, you know, I must have enough money to carry things on until old Vannister is under the daisies."

He rattled on so that he did not watch the face at his side, did not see the full lips tighten, and the honest eyes cloud, but he did notice a certain strangeness in his friend's voice as he spoke to him again.

"How do you know she cares for you?"

"Oh, my dear fellow, I don't worry about that; I've had enough of people caring for me, and there's nothing so awful as a woman who cares too much."

"You speak from experience?"

"Well, perhaps I do. Anyhow, I fancy Hyacinth, and that's the chief part of it."

"Marcus," said his friend, "you've played me one dirty trick over this business, and I'm going to tell it to you straight; you've led the Windermeres to believe that I am insolvent and that you're the man of means. Now, why have you done this? Is it because you believe I might have been in the running, too?"

"My dear fellow, nothing of the kind. How can I help it if they take ideas into their heads? It's not my business to rush about proclaiming your vast rent roll, and besides, old chap, it wouldn't have made any difference."

"I am not so sure," said the Australian. "Anyhow, you might have given me a run for my money."

"Take it, take it," said Quinten, airily, "and let the best man win. Give me that 'money' just to tide me over, and I will find an opportunity of whispering into the dowager's ear that you are worth six thousand pounds."

"Do," said Taunton. His eyes were blazing. "It's the lowest thing I've ever asked anybody to do, but I want my chance."

"Well, you must look sharp," said Marcus, as he moved away with a satisfied nod, and joined Hyacinth.

Taunton was left to reflect on the fool's part he was himself playing; absolutely oiling the wheels of the car that was to pass over his body. One thing he had gained from the conversation, the scornful permission to woo, without which in his rough code of honor he would not have dared to go any further, but so airily had it been given to him that he felt that Quinten must be pretty sure of his own advantageous position.

Jack Taunton knew something now of the fashion in which girls who belonged to the set in which Hyacinth moved are brought up, and he knew that even now, in this twentieth century, with its motors and Marconigrams, there is very little more real liberty accorded to such a girl as this.

He watched her through the long hours of that day, watched her go over to lunch in the Guards' tent, and yet he got no chance for some time to approach her. At length, quite by accident, he found himself near her, and it seemed to him that she looked pale and disheartened. He also noticed that her mother was engaged in an animated conversation, and that Quinten, for a wonder, was nowhere to be seen.

This was his chance, and instantly he seized it.

"Come to the top of the grand stand and see this race," he said.

She gave a quick, furtive look around, then apparently made up her mind and followed him in silence.

It was refreshing to get out of the glare, and to lose, for a moment, the accustomed sights and sounds which had become by now rather wearisome; besides which it was an acute joy to him to have her to himself alone on the top of the stand, under the sloping roof. It was crowded with people, but it was their solitary chance of a tête-à-tête.

He adjusted his race glasses for her, and explained the numbers to her as they went up, and craning forward they watched the race together; but the breathless excitement of the lookers-on was not shared by them, and every now and then their eyes crept away from the exciting scene and met each other. When it was over she turned to go, but he stopped her.

"Don't go, for heaven's sake," he pleaded. "Wait here a moment with me."

The idea was a good one, for presently, as the crowd dispersed, they were absolutely alone, with the scene before them unrolled as a panorama.

"Lady Hyacinth, I'm so wretched," he said. "I wonder if you can guess a fraction of what I'm going through?"

"Why, have you lost your money?" asked the girl.

The answer almost repelled him for a moment, and then he laughed.

"No, I haven't, and if I had I shouldn't care. I'll tell you why I'm wretched, if you like. It's because I'm not a duke, or a prime minister, or a big-wig of some kind."

She looked up at him, and encountered such an ardent look in return that she half trembled with pleasurable excitement, and dropped her eyes to the race card she was holding.

"I shouldn't have thought you were that sort of man," she said.

"Nor am I," he answered. "I never cared a fig for those things till I came over here and saw how they counted with people like your mother, and—and with you."

He had roused her at last; she looked up indignantly.

"They don't count with me a bit. What counts with me is what people are in themselves."

The blood mounted to his brain in a sudden overwhelming flood of joy.

"Is that so, really?" he said. "Is it indeed true? Could you care just a little for a common Colonial, a man who's had none of the advantages of your brothers, but who'd die for you? If you will only say 'Yes' I will go to Lady Windermere at once, and by Jove! I shall have to look sharp to get there before Quinten."

Hyacinth half smiled, and put out her hand, and timidly, very timidly, touched his big brown one, but she shook her head.

"I do like you, Jack," she said; "but it's no use. Mother has been talking to me just lately about it again, and she and my father have set their hearts on my marrying Marcus. I don't want to a bit; but I can't go against my people, Jack, even for you. All I can do is to try to prevent mother settling anything yet, and that I am trying with all my might and main."

She drew nearer to him. "It's a wicked thing to say," she whispered, "but I don't somehow feel as if I could trust him, and if I only knew something against him I believe I should be mean enough to tell mother. You know him so well, Jack; is he really such a nice fellow as they seem to think?"

It was a moment of horrible temptation to her lover, who knew well enough that the impecunious spendthrift whose principles were as shady as his finances, delightful as he might be as a casual friend, would in no sense have appealed to the proud Windermeres as a son-in-law. It was strange indeed that they did not know all there was to be known about him, but little versed as he was in London society, Taunton understood the reason; they were people who lived in such a groove of their own that ordinary gossip and rumor passed them by, and in spite of their exclusiveness, they were just the people to fall a prey to the adventurer. But he shook his head smilingly.

"No, no, my little lady; we mustn't go to work that way. You wouldn't really like me any the better if I did trump up any stories against him. He is, no doubt, neither better nor worse than the rest of us. Of course, if I really knew anything about him that would unfit him to marry you, that would be different."

"You are so good," she said, admiringly.

The words turned his head. They were standing on the steps preparatory to descending; he a step or two below her, and their faces on a level. Suddenly he bent forward and kissed her, and as if yielding to an overmastering feeling, she did not repulse him, but rather fell into his arms, turning her face upward to his. The arch of the stairway sheltered them from observation, and bending his head,

he kissed her passionately again and again.

Taunton was the first to recover himself, and half dazed as he was with a mingled sense of bliss and misery, he put her from him.

"Oh, by Jove! I'm sorry," he said. "You see what a cad I am; you'd better have nothing to do with me."

But Hyacinth looked at him with shining eyes.

"I'm not sorry," she whispered. "Whatever happens I shall always be glad."

CHAPTER II.—HONOUR

QUINTEN passed out of the Enclosure with a buoyant step. He knew Jack Taunton's word was as good as his bond.

He walked along humming a little tune, and then catching sight of a man ahead that he wanted to speak to, he hurried after him to the outer gate. Quick as his footsteps were, however, he lost sight of the man he was endeavoring to overtake, and was preparing to retrace his way, when a woman's voice called him by his name, and wheeling around sharply, he perceived the girl still standing where Hyacinth had left her over two hours ago. If she had looked pale then, her pallor had intensified to a ghastly whiteness. With her was a friend, another young woman, who appeared to be persuading her to leave her point of vantage, when Quinten's appearance startled them both.

He turned, and evidently recognizing her, stopped short.

"Honour, what on earth are you doing here?"

"I have been here for hours," she said, drawing her breath sobbingly. "You passed me twice. Oh, how could you be so cruel as not to stop?"

"My dear girl, I didn't see you, and if I had I should have hardly believed it could be you. It's incredibly foolish of you to have come here; you never used to be so fond of a race course."

She threw up her head with an angry movement.

"Races! What do I care about races? I came to this hateful place because I knew you were going to be here."

"Very absurd of you then," he answered shortly. "Let me tell you, my dear, that I don't intend to be followed about in this kind of way, and if we are to remain friends you must please to drop it."

"Remain friends?" she said, and the trembling indignation in her voice made it more poignant than if she had screamed aloud. "How dare you talk to me like that? You are treating me as if I were not your wife."

"Look here, Marcus," she said, speaking rapidly, and motioning with her other hand her friend to a greater distance.

"Do not imagine I do not see what you're trying to do. I am not such a fool as that. You are trying to desert me. What other explanation is there of the way you have treated me? You married me; you seemed to love me, and I, fool that I was, adored you. You remember what happened afterward; no sooner had we got back to my little lodgings than your servant brought you a telegram. Oh, I don't know whether it was written by yourself, for I seem to doubt everything now; but anyhow you left me before we had been an hour married—left me with kisses and promises, but left me never to come back. Do you remember how I wrote and wrote to you, letter after letter, and all I received in return was your money and false excuses. Why should I be left like this? What have I done? You have not given me a chance of doing my duty to you. Sometimes I think it must all have been some dreadful trick. Marcus, I cannot bear it! I may not be a smart lady, but a lady I am, and you knew my position when you married me. I bore it all, thinking it was just some waywardness on your part, and that you would come back and be sorry, and that I would forgive you. But now the things I hear are too infamous." She paused, half choked with her own anger. "You are always with this Lady Hyacinth Windermere. I believe you mean to try to make people believe you are going to marry her, but can you for an instant imagine that I shall let you do such a thing; even if you didn't marry me in church, I am your wife, and I intend to claim my rights."

Her voice rose jagged and frayed in tone, like a broken instrument, almost to a scream. She caught at the railings by which she was standing, but she still faced him with blazing eyes.

Quinten was agitated and desperate at the thought of the uncomfortable position he was in. He began to lose his head.

"I shouldn't talk so much about my 'rights' if I were you," he said. "You think yourself so clever, but it never occurred to you that there may be something behind it all. Oh, yes, I know I'm an awful blackguard, and all that sort of thing, but—well, my dear, it's done every day, and you may as well know the truth now as later."

"I am your wife," she repeated with dry lips. "I am your wife."

[TO BE CONTINUED]

A Page of Doll and Animal Patterns



No. 1245—Jointed Donkey

Pattern cut in one size, for donkey 16 inches long. Material required, three fourths of a yard of thirty-six-inch fabric and two buttons for eyes.

THIS nice-looking donkey with the fringe tail will make a fine Christmas present for a small boy, and the woolly lamb is also most attractive. The donkey, the Tige dog and the bear are all jointed. Disks of very heavy cardboard may be used for the joints; the tin tops on sarsaparilla bottles or wooden button molds answer the same purpose. The different parts of the animal are joined by passing wire nails or picture wire through the small holes in the centers of the disks and fastening them at each side.

WHAT shall we give the little folks for Christmas? This is the question that comes up every year to puzzle all busy mothers who have so little time which they can call their own and so little money to spend in preparing Christmas gifts.

It is because Miss Gould realizes this Christmas problem that she designed this page of patterns, any one of which can be quickly made up, and will cost but ten cents.



No. 1241—Rag Doll, Dress and Sunbonnet

Pattern cut in one size, for doll 22 inches high. Quantity of material required for this doll, three fourths of a yard of thirty-six-inch material. Quantity of material required for dress, one yard of thirty-six-inch material, one fourth of a yard of velvet and one eighth of a yard of lace. Quantity of material required for sunbonnet, one fourth of a yard of material.



No. 1246—Woolly Lamb

Pattern cut in one size, for lamb 13 inches long. Material required, five eighths of a yard of thirty-six-inch material; chamois for face and buttons for eyes.

In making the rag doll, the features of the face can be worked in with embroidery stitches, or indicated with water-color paints if you happen to be a bit of an artist. Worsted can be used for the hair. Pattern No. 1241, which costs ten cents, provides the pattern for the rag doll, dress and sunbonnet. Pattern No. 1050 also supplies the pattern for the doll as well as the dress. But the other doll patterns on the page are simply clothes for the doll.



No. 1048—Doll's Reefer and Automobile Coat

Pattern cut in one size, for doll 22 inches high. Quantity of material required for the reefer, three eighths of a yard of thirty-six-inch material, with one fourth of a yard of contrasting material for collar and wrists. Quantity of material required for the automobile coat, three fourths of a yard of thirty-six-inch material.



No. 1242—Doll's Red Riding Hood Set

Pattern cut in one size, for doll 22 inches high. Quantity of material required for the dress, three fourths of a yard of thirty-six-inch material; for the apron, three eighths of a yard of thirty-six-inch material, and for the cape and hood, five eighths of a yard of thirty-six-inch material. These three patterns can be obtained for ten cents.



No. 840—Boy Doll's Outfit

Pattern cut in one size. Quantity of material required for the sailor suit, one half yard of twenty-seven-inch material, with one fourth of a yard of contrasting material for collar and shield. Quantity of material required for the jumper, one half yard of twenty-seven-inch material. Quantity of material required for the overalls, one half yard of twenty-seven-inch material.



No. 1052—Jointed Tige Dog

Pattern cut in one size. Quantity of material required, one half yard of thirty-six-inch material, with one eighth of a yard of white material for paws and chest and two buttons for the eyes.



No. 837—Toy Bear
15 inches high.



No. 1050—Rag Doll and Dress

Pattern cut in one size, for doll 22 inches high. Quantity of material required for rag doll, three fourths of a yard of thirty-six-inch material. Quantity of material required for dress, one yard of thirty-six-inch material, with three yards of lace for frills, and one eighth of a yard of all-over lace if high-neck dress is desired.



No. 1049—Doll's Kimono and Dressing Sacque

Pattern cut in one size, for doll 22 inches high. Quantity of material required for long kimono, three fourths of a yard of thirty-six-inch material; for short kimono, one half yard of thirty-six-inch material. Quantity of material required for dressing sacque, one half yard of twenty-seven-inch material.

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Things to Read Out Loud

A Bounteous Bill of Fare

THE amount of food consumed in a day by the hungry children of Father Knickerbocker would require a record-breaking farm to produce. The cattle to furnish its dairy products and flesh for food would remind the returned shade of the veteran plainsman of the uncounted herds of buffalo that once herded there. The poultry necessary to lay the eggs and supply the roasts and fricassees would scratch up miles of turf in its search for food. To grow the daily supply of Irish potatoes would require over five hundred acres of an average producing farm. The dairy cows necessary to give the milk to make the butter to spread each day the New-Yorkers' daily bread would, if stood in stanchions side by side, reach out in a line over seventy-five miles long. And this does not take into account the cows that are needed to supply the milk for the nourishment of the little babies and for the coffee of the bigger ones.

Basing the estimate of the butter consumption on the receipts for June—and the receipts for the month ending September 12th are but a few tubs less—it would require one great dairy of 1,144,774 cows, producing at the rate of over five thousand pounds of milk of average richness per year, to furnish enough milk from which to make the butter for one day's supply for the city of New York. The butter receipts for June were 343,432 tubs. These tubs average about sixty pounds, making a total of 20,605,920 pounds, or 10,500 tons of butter for the month.

To haul to the New York market this monthly supply of butter it would take a train of five hundred and twenty-five cars, or twenty-one trains of twenty-five cars each, or a solid line of cars, without engines, over four miles long. At this rate the yearly consumption of butter would be 126,000 tons, or nearly 250,000,000 pounds.

The daily butter ration, according to the June estimate, would be 686,864 pounds, or about three hundred and fifty tons. To make this butter from an average grade of milk would require about 515,148,000 pounds of the lacteal fluid each month, or 17,171,600 pounds a day, which, expressed in quarts, would be 8,001,686, or over 250,000 cans for the daily "skim." This monthly butter ration, if molded in bricks six inches long and laid end to end, would make a line that would reach from New York to Denver, and some to spare, or make a double line from New York to Chicago, with nearly two hundred miles left over for switches—a sweet-scented trail of the golden wealth of the clover fields nearly two thousand miles long.

That New York is neighbor to Boston is evidenced by the fact that the city consumes nearly one hundred thousand bushels of beans of different varieties in a month, about three thousand bushels, or three carloads, a day.

During one recent month the receipt of white potatoes was 618,626 barrels of one hundred and sixty-eight pounds each, or a total of 103,929,168 pounds. This would take a train nearly thirty miles long to bring to the Metropolitan tables the fifty thousand tons of "praties" used in a month. The daily consumption would be nearly 58,000 bushels, 3,464,306 pounds, or 1,732 tons, that would require a train a mile long to bring from the potato fields to the city.

You will be sure that the New-Yorker is fond of the toothsome chicken (although some of it requires much tooth-someness to masticate) when you know that they used during one summer month 21,191,500 pounds, or 10,595 tons, a daily average of 706,383 pounds, or three hundred and fifty-three tons. In round numbers nearly 5,500,000 fowls are used a month, or 183,000 daily. About half of this poultry comes to the market alive, and from fifty to sixty cars are received each week, mostly from the West. These figures show why the farmer is finding the poultry business as a side line more profitable each year, and leaves little cause to wonder that so many are going into poultry raising as a regular and special business. But the sale of fowls is only a part of the poultry end of the market, for there are the eggs.

The receipt of 3,500,000 eggs one day in early September from Iowa shippers is eloquent testimony that the Iowa farmer knows what business pays, and that he is paying attention to the business. Statistics show that Iowa furnishes more eggs to the market than any other state in the Union, with Ohio and Illinois in second and third place, respectively, while New York stands away down ninth place.

June is not noted as a "hen-fruit"

month, but New York consumed 19,638,930 dozen, or 235,667,160 eggs, during that month, or an average of 7,855,572 eggs a day, or nearly two apiece for all; the greater part of these were used in baking pies, cakes, rolls and in other ingredients that the poor do not often enjoy, so the average is much higher for those who can afford them; for eggs in New York cost much more than in the stores of the inland towns.

The eggs used for the month named computed in liquid measure would make 3,682,300 gallons, or 115,072 barrels. If placed end to end they would stretch out nearly eight thousand miles, or almost twice across the continent from New York to San Francisco.

The items that have been named that enter into the New York bill of fare which are the product of the farms are by no means all that the people of that crowded city eat. The list does not take into consideration the trainloads of flour that are used; neither the trainloads of beef, veal, pork and mutton that come in from the West daily, nor of the many other products of the farms, such as corn, oats and wheat in the form of various "health foods," nor of the fruits and vegetables, of which the consumption is enormous.

So you see, New York is indeed a hungry town, and one, too, where the appetite is pretty liberally satisfied; a market that the farmer finds it profitable to supply with his produce.

Making Young Sailors

PERHAPS the most interesting school of the educational system is the nautical school which the board of education maintains aboard the U. S. S. "Newport" at an annual cost of fifty thousand dollars. Of such efficiency is this institution that it acts as a recruiting station for the merchant marine, and not a few of its graduates receive responsible commissions, such as midshipmen, on transatlantic and coastwise steamers.

In this institution young men are instructed in the science and practise of navigation, including steam and electrical engineering. The course extends over a period of two years. Every summer the school goes on a practise cruise of six months, usually to the Madeira Islands, off Spain, during which the students are given an opportunity to apply the knowledge acquired during the long winter months. The "Newport" returned only the other day from such a cruise. Boys over sixteen years of age are eligible for admission. They are required to pass severe physical and mental examinations and then are put upon probation for two weeks, when, if no reason to the contrary appears, they are admitted permanently.

In order that the school may perform its best work a movement has been started for the building of a modern ship, equipped with the latest nautical instruments, at the cost of about three hundred thousand dollars.—New York Times.

Auctioning in Japan

THE American woman with a penchant for bargain-day shopping would find very little attraction at a Japanese auction. Instead of the noise and jam attending an American auction, in Japan no one is allowed to openly bid. Conversation is whispered. Slips of paper are passed around among all the buyers when an article is put up for auction. These are handed back to the auctioneer after the bids are written on them. He puts them into a box as each one is handed in. When all bids are finished, he opens the box, reads out the bids, and hands over the property to the highest bidder.

Tunnels in Place of Ferries

IT HAS been estimated that by 1920 New York's fleet of ferry boats on the North and East rivers will have disappeared altogether, and Manhattan Island from Thirty-fourth Street to the Battery will be devoted almost exclusively to business. The subterranean and subaqueous tunnels now being constructed will bring this change about.

The McAdoo tunnels, as they are popularly known, have already had a telling effect on ferry-boat travel, their operation making a distinct difference from points south of Thirty-fifth Street. Chief Engineer Jacobs of the Pennsylvania Railroad says that by 1911 the traveling population of Manhattan will be riding in swiftly moving trains through six, possibly eight, tunnels under the bed of the East River and through four or five steel tubes bored under the Hudson.

Before the early summer rush begins one thousand daily trains will be running

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into the Manhattan Hudson terminal. There will also be under construction a mammoth central railroad passenger station at Harrison, New Jersey. The big power house which will furnish the electricity is located on the east bank of the Passaic River, south of the terminal station.

The immense terminal at Courtland and Church streets, with its vast underground accommodations, over which towers a group of buildings, with a population of over twelve thousand, is an example in tunnel building that will be followed in all future underground and underriver constructions. Instead of the trains passing each other in pillared galleries, they pass through individual concrete tubes, pushing the air out ahead of them and drawing in a fresh supply from the rear by the suction created.

The terminal at Courtland and Church streets extends to the Pennsylvania terminal in Jersey City and connects with the New York subway at Fulton Street, so it is possible for passengers who board a train on any part of the Pennsylvania system in the Far West to disembark at the underground station of the local subway without using a ferry boat, and continue up town, making connections with the East River tubes, and be carried to any point on Long Island.

With the passing of the ferry boats one question whether the scintillating electric signs on the river's bank will long remain.

The mammoth terminal of the Pennsylvania Railroad, embracing the territory bounded by Thirty-first and Thirty-third streets and Seventh and Ninth avenues, which will be occupied in part by the new post office, will be ready for operation in the early summer of 1910.

The ferries that have so far been most affected by the Hudson River tunnels are the Twenty-third Street, Wall Street and the Roosevelt. The Ninety-second Street ferry, which is the oldest of the seventeen ferries that connect Manhattan with the mainland, will also be a losing proposition after the Belmont tunnels are put in operation.

It is predicted that the surface cars will disappear with the ferry boats, because the future method of travel will be a combination of the subway and the elevated. The elevated will survive, because part of the system of travel will be a combination of the subway and elevated.

As can readily be seen, the tunnels will in a few years change the topography of old New York by distributing business over a wider territory. However, convenience and speed will inevitably tend toward centralization, and in consequence of this, tall building construction will proceed even more rapidly than it has ever before.

The total cost of the tunnels will be about ninety million dollars, an amount far beyond the expenditure of any similar engineering project in the world. The completion means the most stupendous engineering feat of modern times, and will mark an epoch in the world's history of transportation.

MARY ELEANOR O'DONNELL.

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XMAS PRESENTS that are guaranteed. Watches and Rings for all members of the family. Prices of each \$2.00, \$3.50, \$4.00, \$5.00, \$7.50 up to \$25.00. All rings solid gold.

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AGENTS: \$103.50 Per Month Sure THIS DOES IT ALL

The money made selling our Shears and other useful patented articles astonishes agents. W. C. Giebner, Coils, O. sold 22 pairs of Positive Tension Shears in 2 hours, made \$13.50. We make \$5.00 to \$7.50 up to \$25.00. Write to MAKE \$3 to \$10 per day. We have more patented goods for sale through agents, that are not found in stores, than any other house in the U. S. Samples free to workers. INVESTIGATE NOW. A Postal will do. Address Thomas Mfg. Co., 172 Home Bldg., Dayton, Ohio

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\$18 to \$30 A WEEK SURE Farmers "Ever-Ready" Tool Kit does it. 10 TOOLS M.D. Finch made 47 in 9 hrs. Had no experience. You can do it too. **FREE SAMPLES** to workers. **Foots Mfg. Co., Dept. 701, Dayton, Ohio**

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AGENTS—New Invention: never before sold in your territory: coin money: automatic game fastener: horse owners wild about them: sells on sight. Any person getting territory will make a fortune. Write at once. **Automatic Fastener Co., L 144, Cincinnati, Ohio.**

An Important Word To Our Readers

We have set aside this page in this number of FARM AND FIRESIDE for a twofold purpose. **First and Foremost** to heartily thank those members of our great family who have been flooding our mail with subscription renewals. Of all the many thousand who have written to us and sent in their money, **more than half** have sent in 50 cents or \$1.00 and secured themselves against the increased price for two or more years to come. Isn't that a vote of confidence, an expression of loyalty? We think it is a right royal one—and that's the reason our hearts are full of gratitude, of enthusiasm and courage as well—courage to do our downright best to make a farm paper which has never been approached in helpfulness and in entertainment.

To give you an example of the energy and money we are putting into this serious, important business of editing FARM AND FIRESIDE:—

Two weeks ago one of the brainiest men on our editorial staff went to Washington, primarily to arrange for a Washington Letter every now and then in FARM AND FIRESIDE. This letter is going to be different from any Washington Letter you ever heard of. It isn't going to be a rehash of newspaper talk; it isn't going to be a synopsis of the Agricultural Department Bulletins. It will be written by a man who has a wide knowledge of agricultural interests, and who understands what is going on "behind the scenes"—a man who will study motives and causes, and who knows where to find the milk in the cocoanut. This letter will be written without fear and without prejudice. While there and in response to a cordial invitation, he spent fifteen or twenty minutes with President Roosevelt, discussing confidentially matters which are of vital interest to the farmers of this country. This incident simply shows where FARM AND FIRESIDE stands as an important factor, for indirectly, if not directly, you who read FARM AND FIRESIDE will get the benefit of this conversation with the President, and of other conversations equally helpful and enlightening. But it is time to take up the second purpose of this page, and that is to invite all of you who have not sent in your renewals to take advantage of this

A Few Short Words About Farm and Fireside

I take two other papers, but never receive them as regularly as I do FARM AND FIRESIDE. I think FARM AND FIRESIDE the best paper I have ever read, regardless of price.
GEORGE A. COLEGROVE,
Clyde, N. Y.

The only copy of FARM AND FIRESIDE I have ever seen (October, 1908) indicates it to be by far the best farm paper I have yet seen, hence my subscription. I take two others (mostly at four times the cost, being monthly at 50 cents per).

E. E. DYER,
Bayview, Oregon.

I do not wonder that you are going to raise the price for such a paper as you publish. If I thought I would live for five years more I would surely subscribe for that length of time. Am 79 years old.
C. S. COULTER,
Oxford, Ohio.

Owing to the high price of paper and labor you will be justified in making the subscription price 50 cents.
E. C. WAY, P. M.,
Woodstock, Conn.

FARM AND FIRESIDE is well worth the price, and the more so.
W. W. MECHLING,
Newball, Pa.

My husband would rather give up his tobacco than FARM AND FIRESIDE. He tells the neighbors that it is the best farm paper in the world.
MRS. M. M. MATTESON,
Blackstone, Mass.

Of course we wish to renew our subscription to FARM AND FIRESIDE. We take several farm papers and think FARM AND FIRESIDE way ahead of any other. How you have ever managed to furnish such a paper for 25 cents a year, I can't understand. It is well worth **much more**.
MRS. C. M. VAUGHAN,
Wilton, Maine.

We are much surprised that you can give so much for the money.
MRS. S. M. MARAGON,
Franklin, N. Y.

I consider your offer an opportunity which is worth three times the money.
AARON H. ADELL,
New Rochelle, N. Y.

Great Last Chance

We have had room here to give you hardly a hint of the big, strong paper FARM AND FIRESIDE is going to be during the coming year, and during the years to follow. We haven't told you of the improvements and additions we are making to the Household Department, of the wonderful lot of stories we are collecting, of the great novel that starts in this number, and of the exceptional opportunity Miss Grace Margaret Gould has to secure the latest fashions, and the most approved patterns—patterns which combine style and practicability.

All of these points are just what is going to make FARM AND FIRESIDE invaluable to you. The very best investment that you can possibly make is to send us a dollar for a five-year renewal of your subscription. FARM AND FIRESIDE will then cost you but **20 cents a year** while others will be paying a great deal more. Even if your subscription is now paid up for some time to come, you will save money by sending us the dollar, and we will put your subscription ahead five years from the time when it now expires. This means that FARM AND FIRESIDE will cost you less than a cent a copy—with all the good things mentioned above.

If you can't renew for five years, send us 50 cents and we will put your subscription ahead for two years and three months. That will save you money, too.

Even if you send us only 25 cents for a yearly subscription, you will save money, for the price of FARM AND FIRESIDE goes up in just a few weeks. But unless your subscription is paid in advance you will not get all these good things—nor the other two beautiful pictures like the one in this number, nor the splendid big Christmas, Mid-Winter and Easter numbers. Cut out the coupon below, sign your name and address, and send it to us right off with a dollar bill.

How to Get Tissot's Famous Bible Paintings Without Cost

If you will get two of your neighbors or friends to each give you 25 cents for a full year's subscription to FARM AND FIRESIDE, and you send the money to us, we will send you, **absolutely without cost** and carefully packed and prepaid, 24 of Tissot's Famous Bible Paintings—12 from the Old Testament and 12 from the New Testament—all in full color and each picture separate from the others.



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These are the most-famous series of paintings in the world. Tissot spent sixteen years in the Holy Land studying the country, the customs and the people. He makes real to us the great Bible characters, such as Moses, Daniel, Jacob, Joseph and Ruth. And in all of these pictures he depicts the wonderfully gorgeous colors of the Orient.

Among the pictures are the following: The Wise Men on Their Way to Bethlehem; Jesus on the Shores of Galilee; The Fall of Jerusalem, and many others equally famous. These pictures were prepared especially for FARM AND FIRESIDE by the American Tissot Society of New York. They are the official authorized reproductions and are full cabinet size.

These famous pictures have been exhibited in all the large cities of Europe, England and America. Over a million people have paid 50 cents each just to see

them. Now you can have the whole series of twenty-four in your own home. You can actually own them—absolutely without cost. Each picture is reproduced in all the luxuriant colors of the original oil paintings.

Bishop John H. Vincent says, "Simply to look over this collection is a step in one's education." Rev. Newell Dwight Hillis says, "A storehouse of beauty and never-failing delight."

If you can't get two subscribers, get one. For one we will send you the twelve Tissot pictures of either the Old or New Testament, whichever you prefer.

These offers are positively limited to January 1, 1909, after which the price of FARM AND FIRESIDE will be increased. Send all orders to

FARM AND FIRESIDE, Springfield, Ohio.

The complete set of 24 Famous Tissot Bible Pictures—12 from the Old Testament and 12 from the New Testament—will be given without cost to every one who renews or subscribes to FARM AND FIRESIDE five years at \$1.00, using the coupon at the right.

They will also be given for two new yearly subscriptions at 25 cents each.

FARM AND FIRESIDE, Springfield, Ohio.

Gentlemen:—Enclosed find \$1.00, for which put my subscription ahead five full years, and send me the 24 Tissot Pictures prepaid.

Name

St. or R. R.

Town

Date

State

Some of the Many Letters Recently Received

I intend to keep FARM AND FIRESIDE as long as I live.
MRS. E. R. WOOD,
Boulder Creek, Colo.

I would not miss FARM AND FIRESIDE if it cost me \$5.00 a year. We are taking a good many papers, but we get more knowledge from FARM AND FIRESIDE than from all the other papers put together.

MRS. ELIZA GOFF,
Buckhorn, Mont.

One of my subscribers told me today that he wouldn't miss the Christmas number of FARM AND FIRESIDE for a dollar.

PAUL SPENCER,
Iowa City, Iowa.

As to the cheap price, it is a wonder to me that you can possibly print FARM AND FIRESIDE at that figure.
CLARA SKINNER,
Wilsonville, Ontario, Can.

I am glad to hear that you have decided to raise the price. Your price has been entirely too low, and I would say that FARM AND FIRESIDE is very cheap at double the price.

A. H. CRAWFORD,
Alleghany, Pa.

Farmers appreciate your efforts to improve FARM AND FIRESIDE. If it is more expensive, charge more for the paper—it will be well worth double the present price.

WM. A. WELLS,
Walla Walla, Wash.

Best paper for the money printed.
ALICE ROST,
Bellingham, Wash.

Best paper for the money ever published.
H. B. LEIGH,
Bloomfield, Neb.

I have taken FARM AND FIRESIDE twenty-seven years. It would be as hard to do without my meals as without your paper, which I will always take as long as I have the price of a subscription.

G. W. SHEETS,
Savannah, Ga.

I think my subscription is already ahead for a year or two, but I can't afford to let your offer go. I enclose a dollar for five years more.

E. M. SHULTZ,
Fayetteville, N. C.

Sunday Reading

Giving Thanks

LET US give thanks to God upon Thanksgiving Day. Nature is beautiful, and fellow men are dear, and duty is close beside us, and He is over us and in us. What more do we want, except to be more thankful and more faithful, less complaining of our trials and our time, and more worthy of the tasks and privileges He has given us. We want to trust Him with a fuller trust, and so at last to come to that high life where we shall "Be careful for nothing, but in everything, by prayer and supplication, with thanksgiving, let our request be made known unto God," for that and that alone is peace.—Phillips Brooks.

Making Things Sunshiny

HAVE you ever had your day suddenly turn sunshiny because of a cheerful word? Have you ever wondered if this could be the same world, because some one has been unexpectedly kind to you? You can make it to-day the same for somebody. It is only a question of a little imagination, a little time and trouble. Think now, "What can I do to-day to make some one happy?" Old persons, children, servants, even a bone for the dog, or sugar for the bird! Why not?—Maltbie Davenport Babcock.

The Force of Example

Have a good conscience and God will well defend thee.

Esteem not thyself better than others, lest perhaps in the sight of God, who knoweth what is in man, thou be accounted worse than they.

Endeavor to be patient in bearing with the defects and infirmities of others, of whatsoever sort they be; for that thyself also hast many failings which must be borne with by others.—Thomas à Kempis.

No man or woman of the humblest sort can really be strong, gentle, pure and good without the world being better for it, without somebody being helped and comforted by the very existence of that goodness.—Phillips Brooks.

Keeping the Heart Tender

Rejoice with them that do rejoice, and weep with them that weep.—Romans xii, 15.

THE Christian is to be no hermit, no recluse who draws his heart into his shell and goes self-absorbed along the way of life, thinking only of his own affairs. His heart is to be open to the cries of joy as well as sorrow. He is to have a tender heart, easily reached with the gladness or the sorrow of his neighbor. "Rejoice," says Paul, "with them that do rejoice; weep with them that weep."

The way this command is put robs it of all possible selfishness. We are to rejoice with other people in their joy. A great many selfish people envy the joy of others, and would, if they could, rob them of it and leave them bare, carrying all the joy away for themselves. But the Christian idea is to rejoice with the one who is glad, and thus reinforce and increase his gladness. And we all know how much there is in that. Every man who has had a sudden gladness come upon him has had the desire to tell it to some one else. The joy of any great vision, such as a splendid waterfall or a glimpse of a great snow mountain, or some scene of wild beauty in the forest, is a small thing if one has the experience alone compared to what it is if you have a congenial soul with which to share it. Such sharing, instead of dividing and subtracting from your own delight, multiplies it many times. And the same law holds good in all other joy.

How can we keep our hearts tender? The answer is very simple: By putting ourselves constantly in helpful relations to others. Do the kind deed on every opportunity, and you may be very sure that the kind feeling will soon come to be natural to you. The difficulty is that we often curb our kind feelings and restrain them. We shut back the sympathetic word that is on our lips until our tongues become dumb to that kind of speech. Give your heart a chance to show its kindness, give your lips the opportunity to speak the sympathetic word. Give your hands and feet free will to go on their missions of kindness and cheer and you will soon see that your heart is growing tender and mellow, so that none rejoice and you are not glad, and none are sorrowful and you are not stricken.—Louis Albert Banks, D.D.

Asking Better Than Telling

PEOPLE are always readier to do what they are asked to do than what they are told to do. It may be necessary in military life to issue "orders," and peremptorily to tell the individual to do this or to do that. But it is seldom necessary to follow this style of speech in ordinary life.

In the home, the kitchen, the office, the store, the school, life is pleasanter and work runs more smoothly when we recognize the right of every one—grown-up or child—to be asked to render a service or do a duty, instead of jamming a "do this" or "do that" at them. The more courteous method invites co-operation; the dictatorial method suggests compulsion. It is only a trifling difference in words—"will you please" is enough to accomplish it—but the difference in feelings and results is not trifling. The application of the Golden Rule is always worth while.—Sunday School Times.

A Prayer

Lord, as I journey day by day
Along life's rough and rugged way,
I ask not that my path should be
From pain and sorrow ever free,
Nor that within my home so dear
No grief shall come, no saddened tear.
But this I ask, on bended knee,
For strength, and grace, dear Lord, from
Thee,
To bear whatever Thou shouldst send,
Brave and unflinching, to the end.
—Lotta L. Kerr.

God is Patient

How patient is God! He knows how to wait. Think of the thousands of years He has waited for the coming of His kingdom, for the overthrow of wrongs on the earth, for the evangelization of humanity. We are a little like God in this. We have not learned the lesson of patience; like the servants in the parable, we want to root up the tares on the instant. But the Lord is willing to wait until the end of the harvest. He knows that then the good grain will be gathered into the garner and the tares destroyed. All who work for God should learn His great lesson of patience.

The Secret of Happiness

IT is just as impossible for a person to reach the normal state of harmony while he is practising selfish, grasping aims, as it is to produce harmony in an orchestra with instruments that are all jangled and out of tune. To be happy, we must be in tune with the infinite within us, in harmony with our better selves. There is no way to get around it. It is nonsense for a man to say that this is "goody-goody" philosophy. It is scientific truth.

The idea that we can practise wrong in our vocations, in our dealings with men, or in our pleasures, and then periodically seek forgiveness in our prayers or through our churches—the idea that a man can do wrong and be forgiven without remedying the wrong that he has done, or without forsaking the sin committed, has done more harm than almost any other thing in civilization.

A clear conscience, a clean life, the elimination of selfishness, jealousy, envy and hatred, are necessary to all high enjoyment.

One trouble with many of us is that we try to make happiness too complicated an affair. But happiness really flees from complication, ceremony and pretense. You can never force pleasure; it must be natural, and come from sane living.—Success Magazine.

Your Cross

Seek not to drop the cross you wear,
Or lay it down, for if you do
Another shall be built for you
More difficult to bear.

The cross is always made to fit
The back which bears it. Be content:
Accept the burden which was sent
And strive to make the best of it.

Think not how heavy is your load;
Think not how rough the way or
long;
Look up, and say, "Lord, I am strong,
And love makes beautiful the road."

Who toils in faith and knows not fear
Shall live to find his cross some day,
Supported all along the way
By angels who are walking near.
—Ella Wheeler Wilcox.



Where the Door Opens Constantly

You can quickly heat and keep cozy the draughty hall or cold room—no matter what the weather conditions are—and if you only knew how much real comfort you can have from a

PERFECTION Oil Heater

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you wouldn't be without one another hour. Turn the wick as high or as low as you please—there's no danger—no smoke—no smell—just direct intense heat—that's because of the smokeless device.

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The **Rayo Lamp** meets the need of the student—a bright, steady light—ideal to read or study by. Made of brass—nickel plated, latest improved central draft burner. Every lamp warranted. If your dealer does not carry Perfection Oil Heater and Rayo Lamp write our nearest agency.

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Without Cost to You

Boys

Here is your chance to get a dandy guaranteed watch or air rifle, free of all cost, for just about half a day's hustling for Farm and Fireside. Snap up this opportunity!

Description of Air Rifle

Repeating, hammerless, durable, shoots accurately. Extremely simple in construction. Gives a boy lots of healthful outdoor pleasure, cultivates manliness. Uses no powder—just air. Shot costs but 10 cents per 1000. Nickel plated, solid wood stock, pistol grip, true sights, impossible to get out of order.

How to Get It

Just write your name on a postal card or letter, and say that you want an air rifle, and mail it to us right away. We will send you by return mail a receipt book with eight coupons, and a sample copy of Farm and Fireside. Each coupon is good for a year's subscription to Farm and Fireside. You sell the coupons at 25 cents each. Send us the money and the names and we will send your rifle to you immediately. That's all you have to do. *Thousands of boys have done it.* You can do it in half a day if you try. Write now to address below.

Description of Watch

Movement Regular sixteen size, and only three eighths of an inch in thickness. Nickel plated. Lantern pinions (smallest ever made). American lever escapement, polished spring. Weight, complete with case, only three ounces. Quick train—two hundred and forty beats a minute. Short wind; runs thirty to thirty-six hours with one winding. Tested, timed and regulated.

The Guarantee In every watch will be found a printed guarantee by which the manufacturers agree that if without misuse the watch fails to keep good time within one year they will repair it free of charge, and return it.

DESCRIPTION—Plain center band, elegant nickel case, snap back, Roman dial, stem wind, stem set, medium size, oxidized movement plate, open face. Engraved front and back.

How to Get the Watch

Just send us your name and address on a postal card or letter to-day and say you want the watch. We will send you by return mail a book of eight coupons, each one of which is good for a year's subscription to Farm and Fireside, and a sample of the paper. You sell the coupons to your relatives and friends at 25 cents each. Send the eight names and the \$2.00 to us and we will send you a dandy man's size watch by return mail. That's all you have to do. It is easy to sell the coupons for Farm and Fireside. Write us to-day.

Farm and Fireside
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The Household



Handkerchief Dust Cap

EVERY woman knows that it is the part of wisdom rather than vanity to look neat and attractive when she is doing her work about the house. The woman who is slovenly and careless in her dress, no matter what her occupation, is pretty apt to be careless in her work. One affects the other. When sweeping, of course a dust cap is a necessity, but there is no reason why it should be unattractive. Something new in a dust cap is made from a handkerchief, and is quite apt to add to the appearance of the woman who wears it. It is a pretty, quaint-looking little cap, and can be bought for fourteen cents. The handkerchief used in making it has a striped colored border in dark blue and white. The cap can be worn as shown in the illustration, or pulled over the forehead, concealing the hair entirely.

To Clean Wall Paper

IF NEW wall paper cannot be put on this autumn, and the old paper has been spattered with grease in the dining room, mix powdered pipe clay with water until it looks like cream. Put this on the spots, and let it remain until the next day.

Take a stiff brush to get it off, and if this is not successful, try a knife.

Thick crusts of very stale bread rubbed downward will remove many other kinds of stain and soil.

Cleaning Hot Irons

LAY a mat of fresh green cedar on the ironing table, pass the hot iron over and over it, and the iron will be as smooth as glass. Clip the cedar off, discarding any hard stems, and pile up the twigs. It is just rough enough, and has a peculiar volatile oil that does the work of cleaning and smoothing irons better than anything I have ever seen tried.

Knitting the Holder

TAKE a pair of fine steel knitting needles, about No. 16, and cast on forty-two stitches, which should give a width sufficient for the top of the iron. Work in brioche, or suspender stitch.

First row—Wool over needle, slip one (picking it up as though to purl), knit two together, and repeat to end of row.

Repeat the first row six times, giving the border across one side. Now knit plain for a depth of two and one fourth inches, for the center of the holder. In knitting the first plain row the slipped stitch of the brioche is knitted first, then the thread which lies over it. When the center has been finished make the second border of seven brioche rows, and bind off.

Next for the lining. Fewer stitches are here cast on, because the cotton used is coarser, with more body. Cast twenty-eight stitches on the same needles used for the outer section, and knit plain until the lining is as deep as the outside, less half an inch.

When curved into the proper shape the lining will fit perfectly inside the other piece. Lay them in position and join the edges at one side by there picking up and knitting thirty-seven stitches. For this the wool is used, not the cotton, and in joining, the extra length of the top is distributed evenly on the lining. On the thirty-seven stitches now work as follows: Knit twenty-one along the row, *turn, knit two together, knit three. Repeat from * until four stitches remain, then knit and bind.

The second side of the holder is joined in the same way, then a small sheet of asbestos run between the two sections.

Little Helps

Potato peeling is excellent to clean knives.

Cold rain water and soap will remove machine grease from washable materials.

Bruises if bathed immediately with hot water will neither become discolored nor swollen.

To prevent scum from forming on the surface in pickle jars, lay over the top a few slices of horse-radish root.

As a poltice for inflamed eyes, potato scraped raw, and folded between layers of thin fine linen, makes an excellent and soothing bandage.

To clean fine, delicate lace, put it away in wheat flour for twenty-four hours. Unless very badly soiled it will be found quite clean and will only need to be shaken free from the flour to look like new.

Japanese Cleansing Cream

ONE ounce of white castile soap, one ounce of liquid ammonia, one ounce of sulphuric ether, one ounce of alcohol and one third of an ounce of glycerine. Cut the soap in small pieces, and dissolve in one pint and one gill of cold water; when dissolved, add the other ingredients, and one pint and one gill more of cold water. Shake well before using. This is an excellent cleanser, and will be found most useful about the kitchen.

Cream of Tomato Soup

PUT a quart of tomatoes in a kettle, add one cupful of water, and boil for about ten minutes; season with salt, pepper and sugar to taste, then add one half teaspoonful of soda just before pouring in one pint of milk; add one cupful of cream in which a little flour has been blended. Boil up, and serve with oyster crackers.

Apple and Pork Roast

SEASON a quantity of pork cutlets with salt and pepper. Pare and core some tart, juicy apples, and flavor with the grated rind and the juice of two lemons, and strew among them plenty of sugar and a grating of nutmeg. Place a layer of cutlets in the bottom of a baking dish, then a layer of the apples with their seasoning, and so continue until the dish is full. Cover with a rich puff paste cut in small biscuits and laid close together over the top of the pie. Bake in a slow oven until the pork and apples are thoroughly done.

Scalloped Cauliflower

BOIL the cauliflower until tender; put into a baking dish, and pour over it a sauce made by blending one tablespoonful of flour into one spoonful of butter and one pint of hot milk. Cook until smooth and thick before pouring over the cauliflower. Bake thirty minutes. Of course, the cauliflower should be broken into small bits before putting into the dish.

Carrots and Onions

SCRAPE and slice some nice carrots—enough to make a quart. Put in a frying pan a piece of butter the size of a walnut; then put in the sliced carrots, and add enough water to cover. Slice two large onions on top, and cook for an hour. Allow all the water to boil away. Brown nicely, and be careful not to let them burn. Season with salt and pepper to taste.

Potato Recipes

CREAMED POTATOES—Chop cold boiled potatoes finely. To each pint allow one half pint of cream sauce made by rubbing together one tablespoonful of flour and one of butter; add one half pint of cold milk, and stir until boiling; add one teaspoonful of salt and a dash of pepper, and mix with the potatoes. Turn the potatoes into a dish; cover the top with finely chopped cheese, then press the cheese down into the potatoes. Bake until a golden brown.

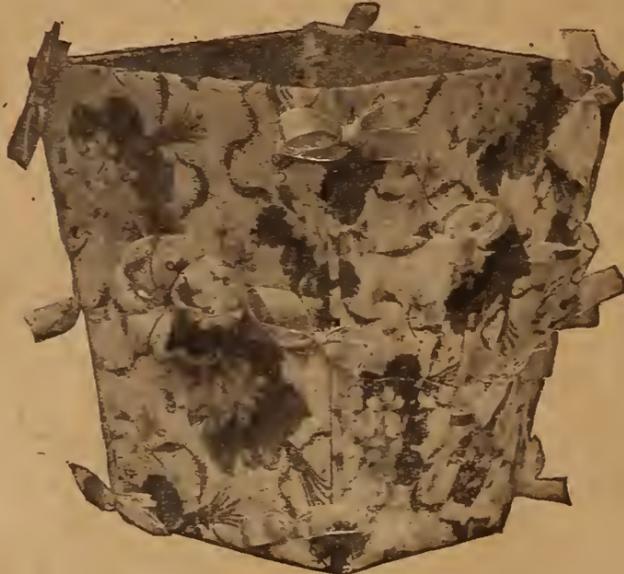
CREAMED STUFFED POTATOES—Bake as many large potatoes as desired. When done, cut off the top and scoop out the inside. Put the inside of the potatoes into a sauce pan, add a large lump of butter, salt and pepper to taste, and milk enough to cover them. Cook for four minutes, stirring occasionally, after which restuff the skins with the creamed potatoes.

Rice and Apple Souffle

BOIL two tablespoonfuls of rice in one pint of milk until soft; sweeten, and add the beaten yolks of two eggs. Pare and core some apples, and stew them in a little sugar sirup until tender, but not broken. Make a wall of the rice around the edge of an earthenware dish, put the apples in the center, fill their cavities with some red currant jelly, and fill in the spaces between with the rice; cover with the whites of the eggs beaten to a firm snow with four tablespoonfuls of powdered sugar; brown delicately in the oven, and serve with cream.

Chocolate Caramels

TWO and one half tablespoonfuls of butter, two cupfuls of molasses, one cupful of brown sugar, one half cupful of milk, three squares of chocolate and one teaspoonful of vanilla. Put the butter into a kettle; when melted, add molasses, sugar and milk. Stir until the sugar is dissolved, and when the boiling point is reached, add the chocolate, stirring constantly. Boil until, when tried in cold water, a firm ball may be formed in the fingers. Add vanilla, turn into a buttered pan, cool and mark in small squares.



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The Thanksgiving Box

By L. Ten Broeck



AS THE next best thing to having Harvey home for the holiday, Mrs. Wynne prepared a bountiful Thanksgiving box for him. Even grandmother added her own peculiar gift in her own peculiar way. And as the expressman promised that the box should be delivered at the State University early the next morning, Mrs. Wynne laid her letter inside. It explained that as father and she were called unexpectedly to New York, Harvey must eat his Thanksgiving dinner in his college room.

Had the bountiful box been delivered as promptly as the expressman agreed, Harvey would not have been there to receive it. He was already off to the city on what he had long planned should be the day of his life. There were old friends to meet and greet, and the theaters to attend; and then, oh, then, if Fate were only propitious, he would take the same train as Agnes Lovering for the little village of Harmonia, where they both lived; and who could say what chance for gallant word or deed might not come to one whose heart was so tried and true.

Miss Lovering was a very superior young woman, as well as a very pretty one. She stood at the head of her class at the Wagnall Female Seminary, and was regarded by the college lads, who sought a glance or a smile from her, as more devoted to learning and more disdainful of love than Minerva herself.

Harvey had fastened his eyes upon her, Sunday after Sunday, from his seat in the gallery; but this hypnotic influence, popularly supposed to be irresistible, was without effect. Seemingly the girl had forgotten the days of long ago, when their families were so intimate and he and she had been little sweethearts.

But other lads and maidens were more presuming and less austere. It was not hard for Harvey to learn from the current gossip that Miss Lovering would break the harsh routine of years, not only by going home for the holiday, but by stopping in the city to attend a pink tea that afternoon. Hence, she must take the seven-o'clock local on the single-track branch that ran to Harmonia, since it was the only night train there.

When Harvey counted his money, after luncheon and theater and foregathering with old friends, he found he had just three dollars remaining. Not a large amount, he reflected comfortably, but yet twice as much as he needed, since a ticket to Harmonia cost a dollar and a half.

There were unusual crowds in the streets near the station. In the building was a press of excited men that made progress difficult. Harvey struggled toward the ticket office, until a fierce human eddy caught him up and whirled him into a remote and almost empty corner. He turned indignantly—and faced Agnes Lovering, plainly agitated.

"I hope you will pardon me, Miss Lovering," he said, "if I offer to help you in any way I can. There is some sort of labor trouble brewing—those fellows are very unmannerly. I don't flatter myself that you remember me as I remember you; but we are going from the same place to the same place, and that ought to count for something."

"It will have to count for a dollar and a half, I fear, Mr. Wynne," the girl replied with a forlorn smile. "My purse has been stolen, and I haven't a ticket."

"Just one moment, please; I'll be back in a jiffy," cried breathless Harvey, plunging into the maelstrom, and then sweeping back, tickets in hand.

"Now the satchels; and if you will come this way, we'll avoid all this hurly-burly—a threatened strike, I believe," Harvey continued. "And please, Miss Lovering, don't make anything of this trifle of a favor—the greatest possible pleasure in the world to me. You know you can return it directly you see your mother."

"My stepmother, you mean," Agnes corrected proudly.

All the while he was seating the girl in the less grimy of the two grimy cars, Harvey kept wondering why it was that his own people had nothing to do with Mrs. Lovering, the young and pretty widow of the richest, most respected man in the village and their own former friend; and why it was that the widow lived so alone in the great house, once the center of social life, with even her stepdaughter only occasionally visiting her. Agnes' coldness had kept him from

asking questions about her; but now he wondered the more, as he sadly realized what might have been.

With a jerk and a puff the little train pulled out and rattled leisurely along the sparsely populated route that led to Harmonia. Excepting a knot of laborers by the stove, who kept dropping off at every way station, the only other occupant of the car was an old woman at the other end, who, from her nods and starts, was also dropping off to sleep behind her green veil. The two were alone, traveling through the wilderness to the golden land of dreams.

Unconsciously, their talk grew more confidential. Harvey told how anxious he was to be through with college, and out into active life.

"You see, I'm not a great scholar like you, Miss Lovering," he said. "I don't care a snap for the dead and gone Greeks and Romans. I want to be a part of the present—to have a hand in doing the big things that are being done. Father has a friend in New York, an engineer, who undertakes anything—to move a mountain or move a sea. He offers me a chance with him—I can hardly wait—I have reasons deep in my heart, Agnes—excuse me, I used to call you Agnes—"

"Don't you think we have been waiting here for a long time?" asked Agnes with an anxiety more apparent than real. "It is only a watering tank, in the very midst of the woods. See that man running with a lantern. And hark, what did he say?"

Harvey heard distinctly what the trainman was calling to his mates in the cab. Silently, with set face and squared shoul-

by the gaping shed glowed warm and welcome life. A fire was blazing under a kettle suspended from three sticks. Just beyond was a rude table, with a propped-up board by it for seats, whereon a short, thick-set man was spreading appetizing articles of food, whistling merrily the while.

Unkempt, not overclean, this man, in blue jumper and overalls, with the crown of a white felt hat stuck jauntily on the side of his head, yet there was such a friendly light in his roguish black eyes that Harvey, as he approached, could not help liking and trusting him.

"Here's hopin' that you slept sound in your private kyar, sir," began the man, with a tug at the lock straggling from his rimless hat.

"So soundly that the ladies and I would like to arrange for some of this good food."

"Only a sample, sir, of what is comin' on for youse at high noon, whin the T'anksgivin' boord is sprid, glory be."

"But I don't see where you get it."

"No need to see, sir, whin the taste will be so scrumptus."

"We will pay you well," Harvey went on. "While I am most unexpectedly out of funds just now, my father is Alfred Wynne, the lawyer, of Harmonia."

"Wonders niver cease," murmured the man.

"And that young lady by the car is the daughter—I mean the stepdaughter—of Mrs. Lovering, who lives in that big house."

"They keep comin' hard," mused the man awedly. "Well, sir, you may depind

into the circoot, an' flag the magnets. They'll sind the kerboose arter youse before dark, niver fear. Though it's back to town you'll have to go—there's an expriss kyar derailed just beyond—an' not so wuss for us, eeder."

Off went Bubbles on his mission. Miss Purrett washed the dishes, and set the table against the mysterious feast. The young couple strolled through the woodland, gaining in a few hours the intimacy of which the years had cruelly deprived them. Unreal, vivid, yet altogether delightful, it was like being called back from the land of dreams when they saw Miss Purrett waving her green veil, and Bubbles staggering to the table with a great box on his back.

"Before the festivities preceed!" announced the bowing Bubbles, "I want to call united attentun to the sooperscriptun thereof."

And one and all read with glad amaze the name and address of Harvey Wynne on the lid.

"A Thanksgiving box from home," exclaimed Harvey. "I don't understand."

"Here's wan explanatun," replied Bubbles, producing Mrs. Wynne's letter, "an' the strike did the rist."

While Harvey read his letter aside, the others brought out the goodies from the box—the over-rich turkey, the luscious duck, the crispy browned quail, the celery, biscuits, pies and cakes.

"An' cranberry jell," cried Bubbles, holding up a bright red jar. "Don't pinch me, please, until it's out an' down."

But there was a grave shade on Harvey's face as he took his seat, which Bubbles was quick to note. "Pleasure before business, Mr. Wynne," he warned, "as the shofur said whin he sneaked the otto for a joy ride."

Pleasure indeed there was and to spare in this open-air banquet under the great, bending trees, with Harvey and Agnes so tenderly conscious of each other, and Miss Purrett so alertly kind to them both, and Bubbles so important in his protection of them all. Unreal, yet vivid, and altogether delightful, this day of dreams.

When the sparse remnants of the feast had been cleared away, Bubbles cocked his eye at the already declining sun. "The spicial limited dummy will be here d'reckly," he reflected. "The bist way to be rid of unpleasant business is to do it—the pore, dear young leddy. Might I hev a wud with you to wan side, mem."

Miss Purrett returned from the whispered talk with a sober but resolute look. "Dear Agnes," she said, "what you must have long dreaded has happened. Your unworthy stepmother has run away with that man whose attentions to her caused such unfavorable comments in Harmonia. You have no home, dear—I can't stay with you—"

"She has a home," asserted Harvey, pressing forward. "I love Agnes—I have always loved her. She has a home in my heart, the darling."

Agnes turned to Miss Purrett. "That is why I have been so reserved and strange," she said. "But I can work—I can teach at school."

"You might better teach at home, my dear, your new home," returned Miss Purrett smartly. "There is

no time like the present, and I am a regularly ordained minister of the Gospel."

"Never! Never!" Agnes protested. "I wouldn't wrong poor Harvey so."

"Listen," said Harvey, and he read from his mother's letter, as follows:

"Your father goes to New York to see if he can recover anything from the Lovering estate for Agnes Lovering. Her father was so infatuated that he left practically everything to his second wife, who has since been behaving so shamelessly; but he did name your father as one of the executors. Agnes has my deepest sympathy. She is a lovely girl, Harvey, just the sort I should like to see you wed some day."

"An' here's the good book, all right an' tight," added Bubbles.

"It is a prayer book from grandmother," explained Harvey. "And see, right by the marriage service, she slipped in a twenty-dollar bill. We will join our parents in New York, dear Agnes."

"An' I will be the witness, glory be," shouted Bubbles.

And as a whistle told of the approach of the relief train, Harvey and Agnes, hand in hand, stood before Miss Purrett, with Bubbles as best man.



"Don't you think we have been waiting here for a long time?" said Agnes with anxiety more feigned than real"

ders, he hurried out, just in time to meet the crew deserting the train.

They were called out on a general strike, they declared, and not a smitch of work would they do. No doubt the big bosses would send help by morning, if they could get it. As for them, they were off to town to join their comrades. Despite Harvey's fierce threats and fiercer struggles, they rushed a hand car from the shed; and away they whirled into the darkness.

Harvey found the old woman, very much awake, in close attendance on Agnes. "So we're marooned, young man," she said briskly. "Well, we must grin and bear it. There's not an inhabitant within a dozen miles, as I ought to know for the times I've ridden this circuit, except a few charcoal burners—and the further off they are, the better off we are. I'm Abigail Purrett, Bible reader, and preacher of the Word. This child is now in my charge. If you are very good you may sleep down by the stove. Good-night."

Harvey left the car early the next morning, determined to dare and to do for the mistress of his heart. The day was gray and raw, a fit setting for the bleak and desolate landscape. But over

on all the luxuries of the four seasons, certing, sure pop—I, Bubbles be name, an' uncommercial traveler per bumper an' tie be perfish, gives you me wud. An' if there's annythin' comin' to me for what sh'u'dn't properly come to you, thin, for what I may receive, I'll be july grateful." And Bubbles' voice sank from its frank, free tones into a beggar's whine.

A merry breakfast, truly, in the heart of the wilderness, with the bright sun driving away the bleakness and desolation even as suspense and anxiety vanished before blithe laughter. Once and again Harvey looked up bewildered at the taste of some dainty or the sight of some pretty dish. "Why, this is like what we have at home," he would say.

"It will be more like it later, so don't overdo," Bubbles replied. "There's a tuckey it wore a sin not to pick to pieces for its own relief, an' ducks, an' quails, oh, Lardy, an' mince pies, an' a chickelet cake—I've niver seen the like since I wintered with Dilmanico's."

It was all as delightfully unreal yet vivid as a fairy tale. From riding on trucks and tramping on tracks, Bubbles had a shrewd knowledge of railroads. "There's a tilegrap' tin mile away," he said, "an' I won't do a t'ing but break

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And we give you our word for it, you will get many times your money's worth.

FARM AND FIRESIDE, Springfield, Ohio

Three Useful Novelties



No. 30—Small Leather Purse

THE leather used for making this useful little purse is a very thin ooze in a beautiful shade of golden brown. The design is stamped on the leather, all ready for cutting, and the cutting may be done with a pair of sharp-pointed embroidery scissors. The purse is lined with satin of a lighter shade of brown. First cut out the design, and it is a very easy matter to do this. Cut a piece of satin just large enough to cover the open spaces, and paste it on the under side of the leather. (This is done so that the upper side of the satin will show through the cut spaces.) Next baste the lining, with turned-in edges, to the leather. Bring the satin out almost on a line with the edge of the leather. Machine stitch the pocket (to which a satin lining has been basted) across the top, baste it securely in place on the back of the purse, and then stitch all around the purse, making the row of stitching as close to the edge as possible. Around the pocket you will have to stitch through two thicknesses of leather and two of lining, but this is perfectly easy to do. Sew on a snap fastening and the purse is complete.

The flowers on this novel calendar are blue with yellow centers and the leaves are green. Two pieces of cardboard are covered with linen and then sewed together with over-and-over stitches. It is a good idea to use a thin layer of wadding under the embroidered front. The linen may be stretched over the cardboard and pasted in place on the back. A little cord to hang it up by is fastened in the top (at the center). This cord should be slipped between the boards and fastened in place when they are sewed together. We cannot send these cardboards through the mail, so send a paper pattern from which to cut them.

This work bag is sure to appeal to the woman who does a great deal of sewing. It is made of blue linen, with the Wallachian embroidery in white, with white drawing ribbons. It is four-sided, and is novel as well as practical. This bag may also be made of gray crash, with embroidery in colors—the scrolls green, rings brown, and flowers rose—with rose-colored ribbons. It may be lined with a contrasting color. The bag may be laundered.

Wallachian Embroidery

WOULD you like to know all about Wallachian embroidery? Undoubtedly many of you have an idea that it is very hard to do. Indeed, it is a very simple style of needlework, and is almost more effective than any other embroidery. Buttonholing and outline stitch are worked in very heavy thread. Buttonholed eyelets are a distinctive feature of this embroidery. Occasionally a little padding is used to make the work stand out, but this is not often necessary, as the embroidery thread is in itself quite heavy. Mercerized cotton, letter C, is used for the flowers, leaves and outline; letter D, for the buttonholed edge.

In making the eyelets, work a chain stitch just inside the outer line, punch the eyelet with a stiletto, and work with close buttonhole stitches. The effectiveness of the Wallachian embroidery depends largely on the correct slant of the stitches.

There is always a good market for hand-decorated novelties. One woman who was handy with the brush made quite a little money making dainty little novelties, such as match scratchers, folios for veils, booklets to hold embroidery silk, handkerchief cases, needle rolls, pillow covers, laundry bags, etc. These she decorated either with pen, in indelible ink, or with water colors. One article that she made proved so popular that she received as many as seventy-two orders for it. This clever woman made a specialty

of getting things that would please the young ladies, for they are always wanting something new and catchy for their rooms. Just before the holidays she would send cards to her friends, stating that she had hand-painted novelties now ready for them to see, and when they called they would give her their orders, so that she could get them ready in time. She found the work delightful and profitable. Another woman was handy at making dainty

pincushions. She always saved her odd pieces of silk and satin, and when the holidays came around they came in mighty handy for the making of attractive and useful little pincushions.

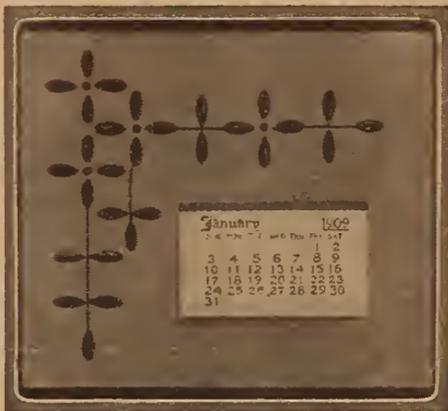
Still another woman used her spare moments in making bureau scarves out of fine white linen hemstitched handkerchiefs. Three handkerchiefs are all that is necessary for the making of one scarf. The handkerchiefs should be joined together by lace insertion, and the edges of the scarf finished with a band of the same insertion and a ruffle of lace to match. Over a lining of delicate pink or blue silkoline they are most effective.

Price List

No. 30—Small Leather Purse. Stamped on leather ready for making, 35 cents.

No. 31—Desk Calendar. Stamped on brown linen, 25 cents; thread, card and calendar, 10 cents. (Use two threads of material.)

No. 32—Work Bag of Blue Linen. Stamped on blue linen, 55 cents; thread, 20 cents.



No. 31—Desk Calendar



No. 32—Work Bag of Blue Linen

NOTE—Order Miss Parsons' embroidery patterns by number from the Embroidery Department, Farm and Fireside, Springfield, Ohio. Remit by money order, currency or stamps.

Saving the Pennies

"SAVE the pennies, and the dollars will take care of themselves," has been said so many times and for so long that it has somewhat lost its effect, or its effectiveness, at least. But the value of its application in this day of many millions of dollars has rather increased than depreciated. The details in the transaction of our involved business system to-day are so numerous and voluminous that the penny takes a high place in the councils of the rich, and most certainly should in the domestic and business economy of the people who are much less favored financially.

The big things are of such importance that every man gives them attention; it is the little things that total up the losses. "It's only a cent. Who cares for a cent?" says the frivolous improvident, with a passing laugh. But it is the penny in the business world that goes to heap up the millions. The men who would qualify to successfully handle matters involving hundreds of thousands and millions, and even hundreds of millions, of dollars must give their undivided attention to the saving and making of not only cents, but mills. The greatest fortunes of the country have been acquired by prudent men who have devoted their days and nights to the conservation and the gaining of these little amounts.

For instance, the railroads want to advance freight rates ten per cent. They say that this small sum added to the price of any commodity sold at retail would be so insignificant that nobody would notice it, that they wouldn't care about it even if they knew they had paid the additional tax. To be sure, it wouldn't make much difference with the individual pocketbook to have to pay the tiny advance in price necessitated by the increased freight rate on a suit of clothes, a pair of shoes, a ham, a sack of flour, a pound of coffee or a box of your favorite breakfast food, but if the revenue were computed on the basis of the business done in the United States during the year 1907, this little "unnoticeable" increase in the freight rate would give the railroads the rather substantial sum of one hundred and sixty million dollars in addition to their present earnings. The owners of our transportation lines are the men who take careful account of the pennies.

At a recent meeting of the Standard Oil Company managers John D. Rockefeller hauled one of the managers "over the coals" in no uncertain manner for his failure to account for eighty odd barrel bungs that were worth when new not more than a dollar. He sounded the keynote of industrial success when he said, in part:

"The serious blunders somebody is bound to detect. Big mistakes all of you will know about. It is the little things that in the aggregate amount to more than the big things, because there are so many more of them and which decide for success or failure."

Here in a nutshell is good, common-sense business advice which it is worth cutting out and pasting up where we can always see it every time we look at the clock.

The penurious guarding against the expenditure of cents is, however, in most instances, false economy, and worse. Neglect in the attention to little things, the cost of which amounts to but a few cents, sometimes results in the loss or the cost of a fortune. For example, a rotten tie on the New Haven Railroad resulted in the wreck at Greenwich, causing loss of life and much injury to passengers. The original cost of a new tie is from fifty to seventy-five cents. It would have been incalculably cheaper to have paid for a new tie rather than for a new train, together with the costs of the damage suits and the tens of thousands of dollars damages for loss of life and limb.

The wise heads of the great Pennsylvania Railroad have inaugurated a new plan to meet the tie question. They have established their own forestry department, and now have growing nearly two and a half millions of trees to furnish ties. A year ago they planted nearly half a million seedlings and twenty-five bushels of acorns. And that is the meat of the whole problem. They found that acorns were cheaper than ties, and that new ties are cheaper than railroad wrecks caused by old ones that are rotted or decayed.

When the farmer realizes that oil is cheaper than machinery bearings, that axle grease is cheaper than new boxes and spindles, that neat's-foot oil is cheaper than leather, that shelter is cheaper than new tools and machinery, that proper winter care and comfort for the animals is cheaper than feed, that paint is cheaper than implements and buildings, and a hundred and one other ways in which pennies may be economically invested in the saving of dollars, he will have learned an important lesson that will help him a long step on the way to success.

R. M. W.

Of Interest to Women

Beauty Hints

To Clear the Complexion

THE face should be washed every night with warm water and some pure, bland white soap, and thoroughly rinsed in clear water, to keep the complexion free from blackheads and pimples. Twice a week apply a saturated solution of sulphate of magnesia. Be careful, too, of the diet. Eat as much fresh fruit and vegetables as possible, and drink three pints of water a day.

Hygienic Living

THE reward for living a hygienic life is in the almost immediate improvement of bodily and mental health, and with health comes the reward of bright eyes, a clear, transparent, glowing skin, a brisk, youthful walk and a well-developed figure. It is one of the primary qualities of beauty, without which no perfect harmony of features can make a woman lovely.

It is due to the general ignorance of the plain laws of health that there exists so many fretful, disagreeable women, to say nothing of the thin, haggard-looking ones and those to whom good looks seem a lost ambition.

We owe certain obligations to our friends and the world. Cheerfulness and beauty are due humanity.

A Lavender Lotion

QUITE the most delightful beautifier for the purpose of softening water is the lavender lotion. If you use it once you will feel that you must always have it. The formula is most simple: Four ounces of alcohol, one half ounce of ammonia and one dram of oil of lavender. The alcohol dilutes the ammonia and makes it safe to use, while the lavender gives a most delicious fragrance to the bath.

The Invigorating Bath

IF THE morning bath is a cold one, there should be at least three hot, soapy, cleansing baths each week. A quick bath is the best remedy in the world for lassitude, a fit of the blues, a headache and a lot of other minor ills. There is nothing so conducive to a clear skin, for by stimulating all the pores of the body, less of the impurities of the skin are sent out through the more sensitive glands of the face.

Advice for the Tired Woman

THE tired-out woman usually eats the wrong kind of food. When tired out one should select foods not for their food values alone, but for their recuperative powers. Hot soup of any kind quickly refreshes the tired woman. Every woman should learn, too, the value of change of clothing. Take off the shoes or slippers that you have been wearing all day, and put on another pair of shoes or a pair of slippers. Take off the blouse you have worn all day, and the collar which has been around your throat since morning, and put on a different blouse and collar.

You have no idea how a fresh blouse rests one, especially a fresh bit of neckwear. Changing the underwear is also helpful, especially the corsets. A change of corsets will make you feel just like you were commencing the day, instead of ending it.

How to Have Pretty Teeth

TO KEEP the teeth from decay it is necessary to keep them as clean as possible. A good, stiff brush should be used, and the teeth brushed inside as well as outside. The brush should be used up and down the length of the teeth as well as across. They should be brushed after eating. To keep the mouth sweet and clean, rinse it after meals with a saturated solution of boric acid or bicarbonate of soda in the proportion of a level teaspoonful to a glassful of water. Be sure, also, that the tooth brush is kept clean. A new tooth brush should be secured once every two months, if not oftener, as the bristles become worn and are liable to injure the gums.

When the teeth are disfigured with black which will not come off with the ordinary brushing, get some very finely powdered pumice stone, and with an orange-wood stick apply it to the spots.

First dip the stick in the water, so as to make the powder adhere. Some prefer to make a little paste with glycerine.

Do not neglect the dentist. One should make a practise of having the teeth seen to twice a year. Those who are troubled with a deposit of tartar should have it removed every six months.

Good Massage Cream

AN EXCELLENT massage emollient for the neck, bust and arms is made by mixing one ounce of cocoa butter and two ounces of lanolin.

A Good Loser

SUCCESS is possible to any one who has acquired the art of being a good loser. It is the temperament possessed by those who can work on without encouragement, and refuses to be dismayed by failures, that has a certain faith that what has been done by one may be done by another, with an ambition to learn and to keep on learning; this is the temperament that has mastered the art of losing, the temperament that will win out sooner or later.

There is no question but that in every life there is a certain element of luck. But the really lucky ones are the good losers, those who have had their eyes focused for every passing opportunity, who listen to other people's ideas, who read and study and think and who utilize every passing moment.

Disappointments Will Come

NOBODY gets through life without disappointments, heartaches and the breaking of pet illusions—rude awakenings from pleasant dreams—so one might just as well consider disappointments necessary; and they really are, too, since they teach us what not to do and how not to be.

The man or woman who dislikes work, who has never learned how to take defeat, will always be a drifter. He or she may have success in a small way, but without tireless energy one cannot work to the utmost capacity.

Everything comes to him who waits, but usually they are the kind of things that he doesn't enjoy. Watch for luck and you will surely miss it, for luck is the outcome of patience and toil.

There are worse conditions than those caused by hard work and poverty, and one will always have both troubles if one looks sour and fretful.

If there is anything irritable, it is the way some people talk of their troubles—as if they were a kind of treat—not cheerfully, but with a kind of gloomy joy; in a word, they are resigned.

It is a mighty big humbug to say that we are thankful for trouble. We may eventually live to see that they were right and best for us, but at the time it is sheer hypocrisy to wag our heads solemnly, and say, "Happiness is a snare, anyhow. It is foolish for any one to expect happiness in this grizzly old world."

People who talk that way don't deserve any happy times, for they are incapable of appreciating them.

We weren't put here to be miserable. The idea that life is for suffering and not enjoyment is fast being shelved. If the Lord approves of suffering and lamentation and tears, He would not put so much in the world to make us hopeful and happy.

There is nothing more common than trouble. We all have our troubles, but it is the wise ones of earth that keep their burdens in the background. It is so common and cheap and selfish to be continually parading your grievances.

And when these whiners hunt for happiness, they do not know it when they see it. One sometimes thinks that the poor are practically more philosophical than their wealthier neighbors. The poor show a ready and cheerful submission to hard luck. And yet, if these same individuals of optimism chance to acquire money, they make splendid worriers.

Wealth has spoiled a lot of good people; it has also made a lot of good ones. The chance to be generous, the privilege to do good and to help the less fortunate ones, is the greatest blessing of good fortune.

To Make Others Happy

TO MAKE others happy is to be happy and to have a memory that will keep you happy every time that you recall it.

Don't brood over trouble. Don't be a hypocrite, either. Put aside your resentment and your vanity. Do not waste a moment, either, sighing for what Fate has denied you. Learn to be a good loser—that's the great secret of winning.

Work to be fruitful must be the expression of our best selves. We owe this to the world in exchange for what it gives us. Since we receive so many things whose production involves drudgery, we must be willing to contribute our share of drudgery in return—and there is drudgery in writing a symphony.

In every lot there will be the discipline of disappointment and discouragement, but if we choose some work that we like or have a real interest in there will be daily compensation that will repay us.

But whatever our lot, we should all learn the wisdom of that helpful little prayer:

"Help me to win, if win I may; but if I may not win, make me a good loser."

The Value of Rest

THIS is the season of the year when one's nerves are liable to be in poor condition. Busy wives and mothers should stop and take account and go slow perhaps for a while.

What does it mean when you tap and drain your nervous force? If the doctor should tap a vein in your body, and let the red blood flow out, you know that it must be stopped before long, or your life will have flowed out in that stream. Now what does it mean when you tap a nerve? You do it very often, and for long periods together. You do it when you take care of the baby all day long, besides attending to your other work. There is a constant flow of the nerve force—listening, watching, soothing, guarding and feeding that baby—while all the time your other energy is doing the daily tasks. The nerve force flows away all day.

If you are a strong woman and not of a nervous temperament, you will feel cross and irritable at night. Life will just look like a big tangle of cross purposes, in which you yourself are thrown around. You are not able now to be your husband's happy sweetheart; you are not able to pet, and soothe, and coax the children into good behavior. No; your nerve force is all used up. If you let this go on day after day, it is taking your life, just as surely as though the blood were flowing from your veins; it is taking that higher life, the life of love and friendship with the people you care about, away from you—the life that is the dearest part of life to every woman.

Be a Good Manager

Now you ask me what to do to remedy this. It is going to be a matter of good management. You are a good housewife and a good manager, and you can manage this if you will just put your mind to it. In the first place, I must tell you that sleep is the greatest builder and reconstructor of the nervous system. You must sleep longer. Add an hour to your night's rest. But how? This is where your talent for managing must display its power. It is hard to make the evening an hour shorter. The family is used to having it just so long—but it must be done. Some women I have known have accomplished this by putting the supper hour half an hour or an hour ahead of the usual time. The minute the afternoon's work was done, supper was on the table. In this way was saved half an hour or an hour of loitering. Sometimes the thing can be done by putting an evening task into the afternoon. This makes more rush, but if it saves an hour's sleep it more than compensates. Do it your own way, you good-managing mothers, but make it that every one gets an hour's more sleep.

This is the greatest part of the task done. Now, the second is easier.

Certain Pleasures Are Restful

NEXT to sleep, the greatest builder and restorer of the nervous system is pleasure. Here your managing talents are called upon again heavily. You must provide pleasure and diversion. When you are having a good time there is no strain on the nerves or outgo of energy. On the contrary, there is an income. It is good for the nerves. You surely must recall many a time when, after a friendly cup of tea and a cozy chat with a dear friend, you found yourself wonderfully refreshed and buoyant. Now plan for yourself and your dear ones all the pleasures you can. Plan a new dress for yourself, just the kind you want, and think and plot to have it to suit you, and take a pleasure in wearing it. Plan a birthday celebration with a cake for the children, and don't think of the cost; just think how in all the after years they will look back and remember the mother love that tried to give them childish pleasures. Try to have pleasant social intercourse with your neighbors. Invite the ones your husband likes over to tea on Sunday, and let him have a good political chat with his friend. Be sure they have the kind of tobacco they like, and let them have a cozy place to themselves. It will do them good, and rest them.

All these things are just as much a part of your duty and your work in life as the more homely tasks; and I am sure, in your own clever, managing way, that you will do them, and be proud of your task accomplished.

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Young Folks' Department



Cousin Sally's Letter



DEAR COUSINS:—
A happy Thanksgiving to you all, dear boys and girls! May each and every one of you have many things to be thankful for. And I am sure you have. No matter how unhappy and discontented one may sometimes feel, if we will but stop and look around us we can always find some one who is less fortunate than ourselves. I know a very dear girl who

has to work hard from early morn until late at night to support her little brothers and sisters, but do you think she goes around with a long face bemoaning her lot? No, indeed; she does it with a happy heart, and the bright little faces around her more than repay her for her unselfishness.

A word to the boys: When you see that all of the prize winners this time are girls I am afraid you will be inclined to think that Cousin Sally is partial to them because she is a girl herself. But this is not so. It is because the girls' work was in every way far better than yours. However, do not let this discourage you. Try harder next time and show the girls that you can write as interesting stories as they can.

In selecting the prize stories I take into consideration penmanship, spelling, punctuation, grammar and composition. I noticed that you boys did better work in the drawing contest.

I am glad that all of my cousins take so much interest in our monthly contests; it encourages Cousin Sally to plan better and better things for you all of the time.

I want to thank you for your good letters, and for wishing me a happy time in New York this winter. I wish that I could bring you all here for a week and show you this wonderful city. Wouldn't that be fine? As soon as I can I am going to tell you a great deal more about the interesting places that I have visited and of the wonderful things that I have seen.

Again wishing you all a happy and joyful Thanksgiving, I am, as ever,

Always faithfully,
COUSIN SALLY.

Prize Winners in Story Contest

Mabel Osborne, age thirteen, Waterford, Pennsylvania.

Leah Shaffer, age twelve, Cridersville, Ohio.

Helen Lucille Myers, age twelve, Dupont, Indiana.

Lillian Tucker, age fourteen, Washington, D. C.

Honor Roll

Arthur Wakeman, age thirteen, Wathena, Kansas.

Minnie M. Zimmerman, age fourteen, Beatrice, Nebraska.

Ione Rehm, Meriden, Connecticut.

Amelia Helbig, age fourteen, Springfield, Missouri.

Elsie M. Smith, Decatur, Michigan.

Grace Sabin, age fourteen, Van Etten, New York.

Chester Grau, age eleven, Washington, Nebraska.

Prize-Winning Stories

Letty's Bravery

By Mabel Osborne

IT WAS a beautiful morning in the month of May. The grass along the road was white with daisies.

On her way to school Letty watched Jack chasing butterflies, while Harry amused himself by blowing off the feathery dandelion tops to see which way he should go to seek his fortune.

They had just gone around the turn of the road which passed the railroad bridge that afternoon, when Letty heard a child's cry.

A very little girl, not more than four years old, stood in the middle of the bridge, looking helplessly from one bank to the other. It was not a long distance across, but the child was frightened, and it was not Letty's nature to pass any one in trouble.

"What's the matter?" she called quickly.

"I can't get off!" cried the child. "I'm afraid! Oh, please come and help me!"

"Stand still, then, and I will," called Letty again, beginning to step carefully from one railroad tie to another.

She had gone but a short distance when she heard a rumbling sound. It was the approaching train! The boys called in terror to their sister, "Letty! Letty! Come back! The train! The train!"

There it was, like a fiery dragon, sweeping around the turn; and there was Letty on the bridge, and the child nearer the opposite side. Letty paused for a moment, and then, full in the face of the coming train, she sprang on toward the stranger child, and caught her in her arms just as the engine rolled upon the bridge! Harry screamed wildly; Jack shut his eyes, and dropped on the grass with a sob. There was a rush and a rumble, which seemed ages long, a shriek from the engine, and then all was still again.

That evening, as Letty lay pale and quiet, but very happy, in her bed, Jack stole into the room very quietly, and sat down on the bed beside her.

"You're the bravest girl in the world!" he said hurriedly, "and I'll just own up and say that I never would have dared to do what you did, Letty."

Faithful Juno

By Helen Lucille Myers

ONE day last spring, mama said I might take Juno and Betty to the creek for a picnic. Juno is my dog, and Betty my doll. Mama gave us a lunch, and away we went.

We played along the creek until we grew hungry, then I found a big flat rock which was just the thing for a table. All of a sudden Betty slipped into the water and as I tried to grasp her I lost my balance and fell in. How frightened I was! Just at that moment I felt a woolly form near me in the water. Juno grasped me and pulled me to safety and I put my arms around his neck and cried for joy.

Marvin's Escape

By Lillian Tucker

"WHAT a lovely morning," thought Marvin. "I do wish I was a big boy, then Jack would let me go over to the island with him and the boys. I miss all the fun. They always tell me I'm too little!"

At seven o'clock Jack Mason and the boys started for the island in their row-boat, carrying with them a tent, food and other necessary articles.

Marvin watched them leave with a wistful look, and after some minutes of careful thought, he went to the river, and stepped in his boat. He was about twenty yards from the landing place when it caught on a snag, wheeled wildly about, and with a jerk and a plunge freed itself and glided down the river with the current.

"The falls! The falls!" screamed Marvin. "Some one save me!" Hearing the roar of the water thirty feet below, his heart sank within him.

Livingston Browning, a boy of the village, heard his cries, and in running along the bank found some of the boys' clothes, which he tore into pieces. He tied them together, fastened them onto a piece of rope, and putting a stone on the end, threw it with all his might into the river. Fortunately it fell near Marvin. He grasped it desperately, and none too soon, for a moment afterward the little boat sailed on to destruction.

How Jenny Flagged the Train

By Leah Shaffer

"OH, DEAR!" said Jenny. "I wish Aunt May hadn't bought red calico to bind my quilt with, because it doesn't look nearly so pretty as blue."

Jenny's parents had gone to the city the day before to see a relative who was ill, and they were not expected home until the next day. Her cousin John was staying with her during their absence. He had gone to the village and had not yet returned. It was growing dusk and Jenny was all alone.

The telephone rang, and putting the receiver to her ear, she listened breathlessly to this message: "Take a lighted lantern, wrap it with something red, and run to the curve this instant and flag the train. Hurry! The bridge is on fire and the evening train is almost due!" In a moment she was gone.

When she reached the curve the train was just coming. Jenny took the piece of red calico, wrapped it around the lantern and swung it frantically, up and down, right and left. When the train had almost reached her she fainted. When she gained consciousness she was at home in bed, with her mother sitting beside her.

"Mother," said Jenny, "I shall never dislike red any more." And she never did.

A few days later Jenny received a check for five hundred dollars from the railroad company.

Jenny was known thereafter as the "Brave Girl of Amesbury."

Story for Very Little Folks

By Martha Cobb Sanford

HERBERT's cheeks were hot as fire. Every time he touched them he was sure they would burn his fingers. And he couldn't get to sleep.

Over and over again he thought of all the different things he had had at the party—sandwiches, and ice cream, and cake, and candy. So many kinds of candy! Chocolate creams, and pink peppermints, and gumdrops, and—

But what was the use trying to remember them all! The animal crackers had really been more fun. Herbert laughed to himself there all in the dark when he thought of the elephant's trunk he had snapped off with one bite, the little dog whose tail he had swallowed with a gulp, and the bear he had crunched into a thousand pieces!

Suddenly the strangest thing happened. Herbert found himself lying under a big tree in a forest, and not in his bed at all! His cheeks were hotter than ever and he was rolling over and over in pain.

All at once he felt something cold against his cheek. He opened his eyes, and there was the teeniest little dog you can imagine standing right beside him!

"Oh, I feel so bad," groaned Herbert.

"You feel bad!" barked the little dog crossly. "Well, how do you suppose I feel without any tail?"

At that Herbert sat up.

"Poor doggie!" said Herbert, patting him gently. "I'll try to find you one."

And as he said the words, there was the cunningest little white tail right in his hand! He stuck it onto the little dog, and the little dog wagged it back and forth in glee. This made Herbert so happy that he forgot all about how sick he was, and he got up and ran along the path, with the little dog trotting joyfully after him.

But they hadn't gone very far, when suddenly Herbert heard the most terrifying sound. It was a sort of snoring sound like that Herbert had heard his father make sometimes in his sleep.

Herbert and the little dog stopped short, and out from the trees there stepped an elephant.

Now, if there was one thing Herbert loved to do, it was to feed elephants. He began hunting in his pockets. He knew he had a little piece of candy tucked away somewhere. At last he found it. "But how can I eat it?" growled the elephant.

And sure enough, there was no trunk to come rolling out into the palm of Herbert's little hand to get the candy.

Just then Herbert saw something swinging on a tree. From where he stood it looked very much like an old gray branch, but when he got up to it, it was a really and truly elephant's trunk.

He had some trouble in hooking it onto the elephant, but he got it fixed after a while. Then he gave the elephant the piece of candy and begged him for a swing. The elephant was very willing. He caught Herbert up in his mended trunk, swung him back and forth, and at last threw him a long, long way.

Herbert thought he should never come down to earth again, and when he did, he knew he would be broken into a thousand pieces, like the poor little bear he had treated so badly that very afternoon at the party. Now, he should never be able to mend the little bear, as he had the other animals!

Down, down, down he kept falling. But finally he landed with a bump. He opened his eyes, and there he was right in his soft little bed again, with his own Teddy bear hugged tight in his arms!



I'm a tired and sleepy pussy,
I've been traveling all the day
To come to my new mistress,
And 'twas such a rocky way.



The meeting's called to order!
Attention, if you please!
No one must purr or swish her tail,
Or mew, or even sneeze.



We're a happy little trio.
Don't you think we look quite gay?
Sh! If mother came and spied us,
Whatever would she say?

Glimpses of Fashion

Materials and Colors

FOR both tailored and semi-tailored garments, cloth, serge, velvet and very thick hairy cheviot are much in favor.

Light colors will not be much in evidence except for evening wear. Dark and medium tints will evidently take the lead, with any amount of black, but this is more for dressy than general wear.

Black as a trimming is extremely fashionable, and it is now used in conjunction with colors, where formerly it would never have been thought of, two of these being brown and blue. For hats, also, the mingling with brown and blue is very frequent.

Trimmings

BUTTONS as a trimming are more than ever in favor, and one can't have them too large, either. Some of the newest are the size of a silver dollar. Satin-covered buttons are very much worn. They make a very effective trimming, and are not at all expensive. Coarse soutache braid is much used, especially in button ornaments. Some of the buttons are in the half-dome form, and others are in large ball effects. Fringes, tassels and braid ornaments are much in evidence; they can be obtained in any color that one wishes.

Fashions in Furs

IF THERE are any old furs, such as seal-skin, beaver, otter or marten, tucked away in trunks and cedar chests, bring them forth, steam them, and heat them until dry, and then set about making them do service as trimmings.

Costumes in cloth or velvet trimmed with bands of fur of any width are decidedly smart, and no furs are prettier for this purpose than beaver or sealskin.

An old beaver or otter shoulder cape of the eighties will serve to trim a gown very nicely, and in an old, worn seal-skin sacque one is sure to find enough of the good fur to make into strips for trimming.

The Important Black Touch

PLAINTINGS of black point d'esprit are a very new touch of the moment. They are used in connection with white collars and cuffs. For instance, a white silk waist which has a collar laid in fine tucks will be finished with a little upstanding frill of black point d'esprit at the top, and a wider black frill, which is almost yoke-like in depth, at the bottom. The white tucked cuffs will also be edged at the top with the black point d'esprit plaiting.

Novelties in Belts

VERY original belts are being introduced. They are formed of large metal medals, resembling coins, of the size of a silver dollar. The head, which forms the center, stands somewhat out in relief. They are made of oxidized silver, or silver gilt, or old silver, the last mentioned being the most favored.

Double chains, about two inches long and of the same metal, connect the coins. The buckle is formed of two still larger medals, hooking into each other.

Hat Trimmings

OSTRICH feathers, both curled and uncurled, as well as all styles of aigrettes, are being used in profusion. Paradise aigrettes are also in evidence, as well as broad satin ribbons. Made birds in all colors, and green and blue mixed parrots, as well as the old-fashioned owl heads, are being revived.

A Satin Season

IT IS to be a satin season—not the satin of our grandmothers, so stiff and heavy, but a light, soft, supple material, with a wonderful luster of its own, which adapts itself marvelously to the new clinging type of gown.

At present Paris is wild with enthusiasm over this satin gilet. A gilet, you know, is a little vest. Some of the smartest of these imported small garments are made of black satin bands shaped to the figure and each finished in a point. They are single breasted and button in front. Combined with the satin is a band of Persian embroidery forming the top. Such a vest as this will prove most serviceable to the woman with a limited wardrobe. It will give a new look to a last year's suit, and an attractive look, too. It is generally worn with a cutaway coat, but it is best to make it so that it can take the place of an overblouse and be worn with a guimpe of filet net.

Fads in Hats

IN PLACE of the Merry Widow hat, which was so popular all summer, we now have the Nell Brinkley, which is as large and perhaps even larger than the Merry Widow. In appearance it resembles the top of a solitary mushroom laid on a big platter. It promises to be just as popular and as short lived. In trimming a hat of this type use but little material. One magnificent plume or a large bunch of aigrettes is all that is required in its trimming.

The Woman Martyr

IF THERE is anything more cowardly than going around waving your troubles in the air and throwing everybody you meet in the deepest mourning, it is difficult to find it.

People grow mighty weary of offering sympathy, especially when they know there is no genuine cause for it; and when one of these martyred women is about, they soon take to their heels and run away from her, eagerly, anxiously, animatedly.

Do you know a woman with a long face, sad eyes, a whiny voice, the bad manners of a surly bear and a tale of woe ever ready on her complaining lips?

She has never felt a real pang of sorrow in her life.

Do you know another woman of the same age, bright, cheery, always ready to laugh?

She has suffered deeply, and she is trying to forget it herself, and is willing to let other people forget it.

You will find nearly always that it is the real sufferers who never complain.

The years slip along very fast, Father Time, that wretched old meddler, scratches up our faces soon enough, but don't let him leave the marks on the heart, too.

The world is so wide, so blue, so broad, so arched with splendor. There is no room in it at all for life's pygmy worries. The martyred woman is only making herself and every one else miserable. She might save some wretched child from neglect and torture. She might comfort and uplift some discouraged, half-hearted friend.

Why doesn't she do it?

Why don't we all do it?

It would be a beautiful world indeed if all our kindly thoughts were spoken and all our generous impulses were carried out. No one would think of Death as their best friend if we were all a little more unselfish. Yet we put in white fingers the roses for which the living might have pleaded in vain.

It is very grand to say that you do not care what people think of you, or whether you are liked or disliked, that you have your own life to live. Certainly, if you prefer it, climb on to a nasty, cold, lonely, clammy monument of sorrow, and sit proudly and inconspicuously on top by yourself, but it's a chilly performance.

It is much better to join the circle of good folk around the fire and be pleased if they welcome you and make them like you.

What are you striving for, then?

To be a woman who is slowly but surely lifting herself above the common, every-day, lazy sort; learning to speak because you have something timely to say—something bright, cheery and interesting. Not because you think the air is rather calm and a few voice vibrations might stir it up; to be good and honest always, not for anybody's sake or for any reason, but that greatest reason of all—for the sake of having a clear, clean and beautiful conscience; to know refinement of speech, actions, beliefs, opinions and thoughts. To be kind and sweet, considerate and charitable. To be loved not because you are beautiful or stately, but because you are worthy of the deepest regard, and because you are good and dear and filled with human sympathy and deep, tender emotions.

All sounds nice, doesn't it?

But sometimes there are particularly trying days. The stovepipe falls down, or the floor has to be oiled, or the cook says "good-by," and goes her way.

All these things are but a part of life. Don't you let them count. For happiness is simply lifting yourself above the trivialities of life and gaining self-respect, poise, balance and content.

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Farm Notes

Keep the Shadows Out

SHADOWS on the farm threshold? I wish there were none! It seems as if they never ought to come. The country is so beautiful at most seasons of the year, there is so much to make life free, joyous and happy, that it does seem terrible that anything like a cloud should ever fall to darken the lives of those whose lot has been cast on the farm.

Just now I learned of a farm tragedy. So the shadows do fall! A little one found some tablets left by the doctor, ate them, and the sunshine went out of the home. No one thought the child would reach the saucer in which the dangerous drugs were placed; but who knows the resources of a baby left to itself for a little while? Away from the door the shadow lengthened until it rested out in the little silent field on the hill yonder.

The longer I live, the surer I am that medicines should be kept under lock and key, out of the reach of every one who may get them and use them as they never were intended to be used. Almost



A Good Laugh Coming

at the same time this story came to me I read of a man who took a dose of a deadly drug, supposing it to be an innocent liquid. From this we may infer that it is not always the children who come within the range of the fearful influence of these poisons, for that is what they are, almost without exception. No one is really safe from their power.

So I say, keep all these things out of any possibility of reach by the inmates of the house until actually needed. It is a good plan to have a cupboard especially for these things, and to have it up in a high place, out of reach of the small folks of the household, the key being kept in a safe place, known perhaps only to mother or father. The time is coming when we will not have as many of these things in the house, anyway. As we learn better how to live, we will depend not upon these awfully dangerous drugs, but on the simpler and far less dangerous remedies of Nature, which are always at hand.

The habit of using drugs without professional direction is a very common one among the farmer folk of my acquaintance, and no one knows the great harm that comes from the practise. Even simple medicines may be abused; they are abused constantly, and we need an era of education to enable us to rid ourselves of their lure. Perhaps one of the most common mistakes farmers make is that of taking medicines to produce movement of the bowels. Pills, Epsom salts or castor oil are in frequent use. It is all a great error. I know of one man who has used physic of this kind so long that he has come to need half a dozen

large cathartic pills in order to have any movement of the bowels at all. What has this man done? He has so deadened his bowels that they must be irritated fearfully or they will not perform their functions at all. Like a worn-out horse, they must be lashed every day or they will refuse to do any work whatever.

And the final outcome of this sort of thing? What can it be but a state of chronic disease? Thousands on the back of thousands follow the little one just spoken of out to the quiet sleeping place through the curse of drugging themselves. They are a bit longer on the way, but they reach the end just as surely.

Shadows come, too, through avoidable accidents. It is a fact that we are systematically reckless about many things we do on the farm. I can show you a man who every day harnesses a horse that is liable to kick him to death any moment. I went in behind that horse one day, not knowing its kicking propensities, and I had scarcely passed on out of the reach of her heels when like a flash both hind feet flew past me. It brought the cold chills to my back. I lost no time getting out of the way, I can tell you. And yet day after day that man goes on using that fearfully dangerous animal. He ought to shoot it the first thing he does, before some tragedy comes over his life. He has a wife and two little ones. Is he unmindful of them if he forgets his own welfare? No man ever ought to keep such a creature on the farm.

Then, have you not seen farmers leave their horses in the street with a little one sitting alone on the seat, and the team not hitched? What is this but inviting disaster? How can any thinking man place the lives of his dear ones in jeopardy that way? But the trouble is, we do not think! Ah, the awful shadow which so often falls from not thinking!

A pulley in the barn gives way as a load of hay is being put off. It strikes some one on the head, and again the shadow comes. An old musket is taken down from the chimney place. No one supposes it has a charge in the barrel. A moment later and the cloud drops over the home.

So the shadow comes. But we may keep the most of them away. Let's do it. Let's use the judgment with which we have been blessed. Let's be careful always, and so keep the shadows away from our homes. E. L. VINCENT.

A Sinful Waste

FROM the car window, on a trip East a few days ago, I saw a lot of old railroad ties piled up along the tracks and set afire by railroad employees. The section foremen of the great trunk lines are instructed to burn up the old ties, and forbidden to sell or use any of them for any purpose. In my own locality, as in many other places, firewood is hard to get, and unreasonably high in price where obtainable. All other fuels are also excessively dear. The fuel question is one of the most serious problems of living for many families; and thousands are actually suffering during the colder part of the year from lack of sufficient materials to properly warm their houses. Yet here are great corporations burning up and wasting weekly or monthly thousands of dollars' worth of good fuel and preventing their men from allowing it to be used for some useful purpose or for the relief of suffering and need. I have known of eascs of section foremen to have these ties put in heaps ready for burning, but at convenient places for friends or neighbors to remove them surreptitiously between two days. These foremen run some risk in thus disobeying the strict orders given them by their employers and superiors, but they probably have that natural human feeling of regret to see so much serviceable material go to waste for no good purpose when it might do so much good to people needing it and even willing to pay for it. In spite of the fact that this proceeding on their part is in conflict with their duty, I cannot help feeling more in sympathy with them than with those who are responsible for the order to burn the ties. Undoubtedly this sinful waste is a settled policy which the great corporations have adopted with reasons sufficient to themselves. But I do wish that in these days of rapidly diminishing timber and fuel supply the matter might be brought in its true light to the leading railroad men, and that some philanthropist might arise among the railroad magnates who will put a stop to the great waste of old ties, and allow a proper and sensible use made of them. T. GREENE.

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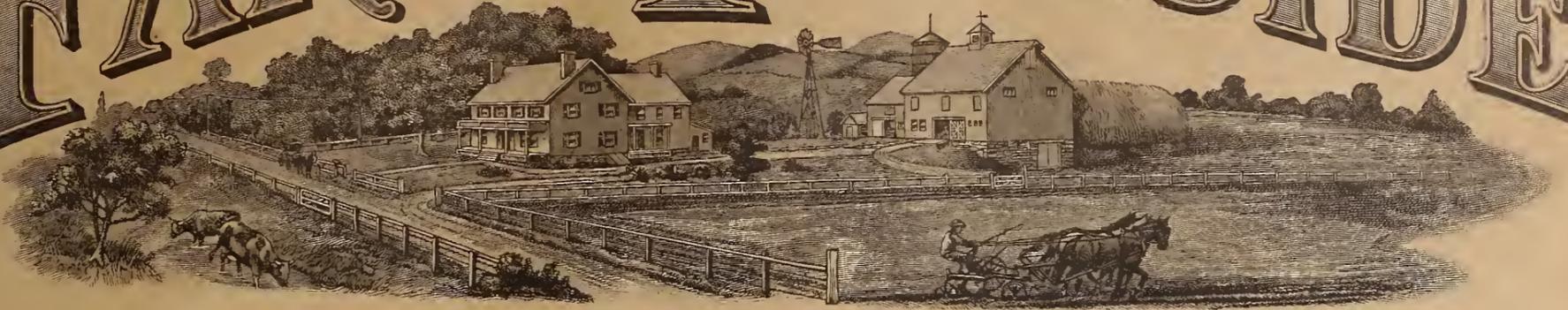
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Springfield, Ohio, December 10, 1908

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The Noble Hen is Queen

AT LAST King Cotton is dethroned, and in his stead there reigns a queen, Her Royal Highness, Queen "Biddy," the American Hen.

The American eagle is a noble bird, but his existence is fast becoming a matter of history, while the American hen, as noble a bird, and far more practical, is coming to the front as a maker of history. If sentiment could be made secondary to intrinsic value, then "Biddy" would soon replace the eagle on the coin of our realm, and she would be more truly emblematic of American industry, if not glory.

The cackle of biddy through the land means the jingle of gold and silver in the pockets of her owner. The wheat fields that spread over the rolling miles, with their wealth of yellow grain, do not yield the treasure of gold to the coffers of the farmer that the stirring cackle of the hen pays as tribute for her care and feed; and she is so constituted that she willingly does considerable effective rustling for herself, all of which she throws in for good measure as a returnable asset with her other valuable qualities—an asset that realizes large in dollars and cents.

The nuggets that she lays in the shape of eggs produce far more wealth than the gold mines of all America, and our appreciation of this should be greater because of the fact that biddy does a good deal of the digging herself. As a matter of fact, according to statistics, all of the gold and silver mined in all the world hardly more than equals the annual production of biddy's eggs alone, and does not come within a measurable distance of the value of poultry and eggs combined.

In using the term "poultry" it is intended that it include chickens, turkeys, ducks and geese, but even the layman will understand what a minor part the members of the family, other than "biddy," play in the game of "Money, Money, Who Earns the Money?" for biddy herself it is that plays down to the front and center of the stage, strutting spectacularly within the radius of the spot light, and with greater éclat and abandon with each succeeding act.

The Old Hen is the Important Factor

Although the mechanical hatcher and brooder have in late years worked a revolution in chicken raising, making possible the establishment of enormous chicken ranches on a profitable commercial basis, opening the way to the production of a hundred chickens where one was raised before, giving the intelligent city man with an ambition and inclination to get back to Nature a chance to become a producer of "squab" chickens, of broilers, of "springers" and capons without the necessity of beginning with a flock, or even a single chicken, if he buys his "sittings," or within a year to grow a flock for laying and breeding limited only by his incubator capacity; yet with all this and the poultry plants, both large and small, that flourish and grow exceedingly fast in almost every state, it will be found that the old hen still carries the pennant in the balance of total production of chicks from the shell; and the ordinary farm-yard fowls, on farms little and big, where poultry

raising is a side issue and incidental to general farm operations, rather than a feature, the half-neglected, partially cared for, ever-foraging, peculiarly contented hen has more to do with swelling the sum of the nation's poultry receipts than the commercial or professional poultry enterprises. It is the general farmer and the "barn-yard fowl" that are the greatest factors in piling up the enormous total of hundreds of millions of dollars that are credited by the government Department of Agriculture as "poultry earnings" for the United States.

Before coming to a statement of these earnings it is pertinent to remark that the statistics of the department cover only the poultry on the farms. No account whatever is taken of the hundreds upon hundreds of thousands of suburban

summed on the farm. When "company" comes to the farm home, especially if from town, and knowing that a visit to the farm means a good "square meal" heaped up and spread out, the town folk are solicitous in their efforts to have on their calling list a goodly contingent of "visitable" friends in the country with whose names they can mentally and otherwise associate fried chicken dinners; and when they come, the fattest "fries" are killed or the choicest "roasters" are prepared the day before. Neither are the farmers averse to the use of chicken meat, and the number they consume would run well up into the millions. A record kept in the household when the writer was a boy showed that for years the family averaged a fraction over one chicken a day for the year; and because

not feel that eggs cost him anything; they are incidental to his products as a farmer. The barn-yard hen "picks up" her living from the shattered and wasted grain, and from other sources that fall by the way, supplemented by insects and worms in the summer, so that her eggs are, to a large number of farmers, just a simple matter of so much clear gain to the farm on which she happened to have been hatched, come through various vicissitudes and scratched her way to maturity.

The egg, too, is taking more extensively every year the place of meats, and in this era of high prices it is more nearly than ever the "farmer's beef-steak." And the wagonloads that he uses in a year! If he should keep an account of the family egg consumption and add up the sum total at the end of the year, it is doubtful whether he would be able to believe his own astonishing figures. Almost the majority of farmers would find that they used in the farmhouse more eggs than were taken to market. And there are other wagonloads of eggs that are marketed on the "exchange" plan, where their value is arbitrarily determined by the country grocer and the farmers "take it out in trade." Many farms secure their entire supply of groceries in this way; yet this additional credit is not added to the poultry earnings of record, and the old hen is practically cheated of much that is her due; possibly one half would not be a greatly exaggerated estimate. However, to be well within a conservative figure, a sum equal to one sixth of the amount as credited by the government statistics may easily be added to the "value of poultry and eggs produced on the farms" last year. As Secretary Wilson says that this industry has advanced at such a rapid rate that no arithmetic can keep up with it, we may expect that this year will be millions ahead of last. It is quite to the point in this connection to say that farm poultry products have increased nearly three times in value since the last census year.

Poultry Earnings Counted in Millions of Dollars

Taking the statistics of the Department of Agriculture as a basis, the total egg and poultry earnings of the farms of the country may be regarded as amounting to nearly seven hundred million dollars. It is easier to appreciate the significance of this enormous sum when it is compared to some of the other leading farm crops and productions, as well as with the commercial industries.

The wheat crop, that occupies thousands of square miles of our most fertile land, used to outrank poultry earnings by many millions, but to-day, with a valuation of \$500,000,000, it stands third below the earning capacity of the hen. The cotton crop, including the seed, does not reach much above \$650,000,000, while the millions of acres of meadows yield the next largest value, \$660,000,000. Next comes the old hen, who, by dint of much scratching on her own account, added the sum of \$700,000,000 to the wealth of the farms. The products of the dairy, an institution that is operated on a more thoroughly commercial and businesslike basis, yielded \$800,000,000, and the corn



The Hen in Her Dominion

"chickenries," that range in pretensions from barrel coops and piano-box "hen houses," with their dozens and scores, to the elaborate and expensive "henneries," with their hundreds of fowls. While the products of these more or less modest poultry yards are almost altogether for home consumption, yet they supply a "market" and are entitled to a place in the total of poultry earnings, and the sum they would add to these recorded earnings would be a most surprising revelation to the uninitiated.

Then, too, a liberal allowance should be made for the poultry and eggs con-

of the high price of meats, they are more used on the farm to-day than they were then, as a matter of economy, if for no other reason. But these millions of fowls used at home are not included in the earnings as estimated by the census; only those shipped to market are accounted for.

Neither are the eggs which the farm housewife uses in her daily menu and for cooking purposes entered as a credit to the poultry account. And the farmer's table is bounteously supplied with eggs. They do not enter into his calculations of living expenses. He does

See Our Special Offers on Page 25

crop, that is the principal product of most farms, both among hill and valley and on the unlimited acres of the rolling prairie, is credited with the sum of \$1,350,000,000. The oat crop, yielding \$360,000,000, potatoes, \$190,000,000, tobacco, \$67,000,000, and the products of both sugar beets and sugar cane made on the farm, amounting to \$64,000,000, do not equal the poultry earnings.

The number of eggs laid during 1907 may be placed at about 25,000,000,000, or 2,083,330,000 dozen. These, as marketed in packages of thirty dozen each, would make 69,390,000 crates. Allowing 350 crates to the ordinary car, these crates would fill 198,257 freight cars, which if placed end to end would stretch out over 1,500 miles of track, or that would reach from New York almost to Denver, Colorado, or half way across the American continent.

If this string of cars were cut up into trains of thirty cars each it would make over 6,600 trains and would require nearly one hundred miles of engines to haul them.

These twenty-five billions of eggs when removed from their shells would fill 12,207,031 barrels, or make something like 390,625,000 gallons of whites and yolks ready to beat up into an immense omelet. And now if some one tries to figure how many hundred square miles an inch-thick omelet made from these eggs would cover, he would soon find himself completely smothered in the toothsome, golden roll, if not in figures.

If the eggs marketed from the farms in 1907 were laid end to end they would make a line 789,236 miles long, or 263 lines straight through from New York to San Francisco that would cover a strip thirty-three feet wide across the continent, a roadway wide enough for five wagons abreast, with plenty of room to pass. Should these eggs be placed closely side by side in a square they would cover about 656,560 acres, or 1,025 square miles, almost enough to make a solid layer of eggs over the state of Rhode Island.

The Two-Hundred-Egg Flock

A well-known professor at one of the Western agricultural colleges has by careful selection and elimination built up a flock of hens that produce an average of two hundred eggs a year, and that net him, after counting out all purchased feed, the sum of two dollars a year; but the average farm hen is not doing nearly so well as these well-bred sisters, and even the better stocks are not laying more than about one hundred and eighty eggs per annum. If they all did as well it would require only 138,888,888 hens to lay the recorded egg supply, but the census statistics show that there are probably over 250,000,000 hens in the United States capable of egg production, possibly nearer 300,000,000. From the viewpoint of these figures it is up to the farmer to answer the question as to why they are not laying a larger number of eggs per hen. Is it a question of feeding, of breeding, of selection of better layers, of care or attention? Or is it because of the lack of a proper consideration of all these things? It will pay the farmer in good round dollars and cents to learn the answer to this question for himself, individually, and then to apply the remedy or such methods of improvement as will bring his flock up to a higher standard of egg production.

The state of Iowa leads in egg production. That her hens are busy is evidenced by the fact that 3,500,000 eggs from Iowa arrived in New York City in one day during the last of August. Ohio comes second in point of number of eggs, but the value of the product from that state has been in advance of Iowa's product, so that, considered on a financial basis, Ohio would hold first place. Illinois ranks third in production, and Missouri next. The largest numbers are produced in the middle West, while the South shows the smallest yield.

Prices of Eggs and Poultry

The farm prices for eggs has rapidly advanced within the last few years. In 1899 the average farm price for eggs for the United States was 11.15 cents a dozen; in 1903, 12.37 cents a dozen; in 1904, 17.2 cents; in 1905, 18.7 cents, and the price for 1908 will be in advance of that.

The advance in the price of dressed poultry has been almost as marked. Quoting New York City as a standard market, we find that dressed poultry sold there during 1899 at a range of prices that averaged 10.78 cents a pound wholesale; 12.97 cents in 1903; 13.36 cents in 1905, and 14.9, or practically 15 cents, a pound in 1907.

It may be interesting to the producer to add here that the stock of tender, quickly fattened fowls, young or old, is never sufficient to supply the demand. The skin-and-bone brand, fit for little more than making soup, and the old fowls, slow fattened and tough of fiber, are always with the dealer, bringing the lowest prices. The plump, juicy stocks

are snapped up quickly at the top of the market, and at an advance, as shown by a late market quotation sheet, of from five to eleven cents a pound. The answer to the question, "Which pays best?" is too obvious to need mentioning.

It is regrettable that the average farmer does not pay more attention to preparing his poultry for market. Too many, when they get ready to sell, gather up the fowls from wherever they are to be found—roosting in the trees, the wagon shed, on the scattered implements and on the fences—and send them to market in whatever condition they may happen to be. It does not occur to him to pen them up for a time before selling and stuff them with corn to put fat and juicy flesh on them. It takes quite a lot of corn to do that, and as he is economical he figures such a process an extravagance. He does not take into consideration the fact that corn sold wrapped up in feathers will bring many times more than when sold on the cob. And so this sort of economy nets him a clear loss, instead of the profit he might have.

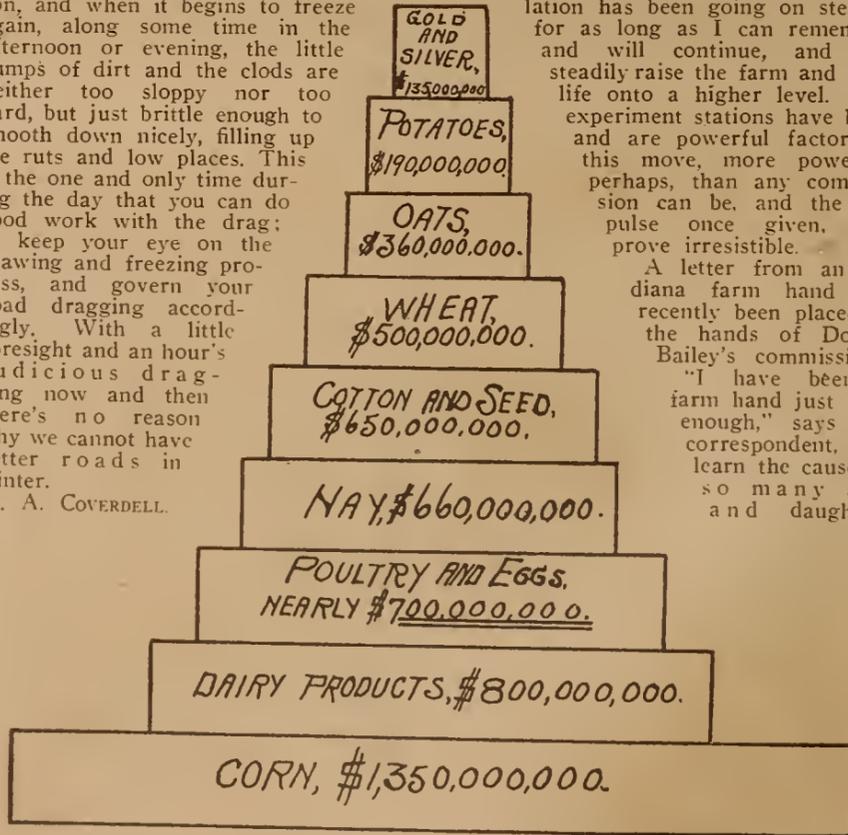
Another handicap to greater receipts is the neglect of attention to breeds. With all that has been done within recent years to improve farm stocks of poultry, there are yet too many millions of common, unprofitable chickens. It does not cost much, and it is a wise investment, to get rid, to the last feather, of the non-paying fowls, and to start a flock of some particular type, either the general-purpose breed of the American class, the heavy meat breeds of the Asiatic class, or the Mediterranean class for eggs. Of these breeds it is probable that the Wyandottes, the Plymouth Rocks and the Leghorns are the most popular, because they are the most profitable in their class. And then, since poultry is each year growing to be more profitable to raise, it will pay to increase the flocks and to give them better feed and care and attention and housing. RICHARD MAXWELL WINANS.

Better Winter Roads

As soon as summer is over, and the ground begins to freeze, the farmer pulls the faithful road drag into the barn yard, where it remains through the entire winter, unused. Now, I believe if farmers will closely observe conditions, they will see that winter road dragging will give us much better roads at the time they are usually the worst.

The surface of the ground thaws many times during the winter season, and when it begins to freeze again, along some time in the afternoon or evening, the little bumps of dirt and the clods are neither too sloppy nor too hard, but just brittle enough to smooth down nicely, filling up the ruts and low places. This is the one and only time during the day that you can do good work with the drag; so keep your eye on the thawing and freezing process, and govern your road dragging accordingly. With a little foresight and an hour's judicious dragging now and then there's no reason why we cannot have better roads in winter.

M. A. COVERDELL.



The Hen as Compared With Other Producers

New Saws and Fresh Filings

The average farm value of the Tennessee mule is one hundred and fourteen dollars.

The farmer who tills his soil with honest labor will never soil his till with tainted money.

Truth in the form of seed crushed to earth, and covered therewith, shall rise again in multiplied form.

Since the dependence of the city is upon the farmer, it is right that the city should give its attention to him.

The farming profession will be able to compete with any other profession when the principles of agriculture are taught theoretically, practically and experimentally in every high school in our country.

WILLIAM J. BURTSCHER.

The Condition of the American Farmer

IT DOES not seem necessary to shed very many tears of sympathy and commiseration over the supposedly desolate and woe-begone condition of the American farmer. Much ink has been spilled, however, and much absurdly foolish stuff has been written on that subject since President Roosevelt sent forth his letter creating the Commission on Rural Life, of which Professor Bailey is the chairman.

If we will look through recent farm literature and through the columns of our agricultural papers of the past few years we will come across many glowing accounts of the farmer's life, and of the golden opportunities strewn thickly over his path. For proof of the abundance of such opportunities we do not even have to go to Bolton Hall's "Three Acres and Liberty." Come to western New York and see the comfortable farm homes supplied with every convenience of modern life; be told of the yearly incomes, figuring into the thousands of dollars, from fruits, potatoes, vegetables, etc.; note the general air of prosperity and happiness as you find it here.

The Typical American Farmer

The typical progressive American farmer understands fairly well how to profit by these golden opportunities and make the most of them. His thoughts are concentrated on his work and on his business, and if he meets difficulties, he seeks information on best methods to conquer them. And conquer he does in the end. He may, as he should, seek the aid of the stations in his quest for knowledge; but he does not ask for sympathy with himself in his distress.

There are others—those who try to farm, but are not farmers. They are yet the prey of those who try to farm the farmers. These farmers work the farm with their hands, but not with their heads. They starve in the midst of plenty. They stumble over the golden opportunities, but do not pick them up. For the present they are beyond the reach of educational and uplifting efforts of any commission; yet they hang onto the coat tails of their more progressive neighbors, and are slowly but surely dragged along by them toward progress. This slow progress in the direction of improved material, intellectual and social conditions among our rural population has been going on steadily for as long as I can remember, and will continue, and will steadily raise the farm and farm life onto a higher level. The experiment stations have been, and are powerful factors in this move, more powerful, perhaps, than any commission can be, and the impulse once given, will prove irresistible.

A letter from an Indiana farm hand has recently been placed in the hands of Doctor Bailey's commission.

"I have been a farm hand just long enough," says this correspondent, "to learn the cause of so many sons and daughters

but the steady onward move under the leadership of the typical studious modern farmer.

The solicitude of those who seem to have so much concern about the welfare of the common farmer, and his uplift, might better be saved for the laborer in the crowded city, walled in and shut off from pure air, and direct sun light, and the fragrance of fields and orchards, and contact with Nature in all her glory and healthfulness.

A Striking Comparison

Let us compare the food of the two classes of people, as one of the more important factors in the make up of human existence, especially in regard to its influence on the physical, mental and moral health and development of the human race. A Vermont reader of the "Rural New-Yorker," commenting on the tearful description of the farmer's life given by Mr. T. J. Norton, a railroad president, in a letter to President Roosevelt, says: "I have lived in cities, have eaten at some good hotels, but have never seen anything prepared in a more wholesome, appetizing manner than what we had on the farm, and there was always plenty of it. We had all the common vegetables, in fact nearly everything that would grow in this climate, including melons. For meat we had the standard fresh and salted beef and pork, and when we were tired of salt meat, there was fresh lamb or chicken, all home dressed, and you may be sure we knew what we were eating. For fruit we had apples of many varieties all the year, and berries, plums, pears, peaches, cherries and grapes in season, and out of season we had the home-canned goods, much superior to any we can buy."

I could tell this same story a little more in detail from my own experience. Frequently I have to spend a few days in one or the other of our cities, as, for instance, during farmers' and fruit growers' meetings. Our crowd gathers in the better hotels of the city, where everything is offered on the bill of fare that is going, including delicacies and knickknacks of every description. But how glad I am to get back home to enjoy a good meal of home-grown and home-made things at my own table! There are the finest fruits and vegetables in endless variety and full supply; the rich Jersey milk and cream; the sweet and cleanly made butter, the freshly laid egg, the home-killed chicken or pig, even the water which we drink or with which we cook without taint and without suspicion. Just at this time we have celery on the table at least once a day, and often twice, such as you could not find on the tables of the best city hotel, nor in the market, tender, sweet, brittle.

What city laborer, clerk, mechanic or professional man could afford, from his average income, to use celery as we do, and of the same grade or quality even if obtainable, so long as he had to buy and pay the price for it? How many city people could afford to use five or six quarts of strawberries of the choicest kinds on their table every day, as we do during the entire strawberry season? Or other fruits and vegetables as freely? Perhaps we go a little further in this direction than average farmers; but every farmer has the opportunities, and can have all these things and enjoy them just as well as I and my family enjoy them. If they do not make use of their privileges and opportunities, nobody is to blame but themselves. But the average city dweller cannot have these things!

The Social Side

The isolation and lack of social privileges of the farm home exists more in imagination than in reality. With the telephone in every modern farmhouse, the daily visits of Uncle Sam's letter carrier, and with roads that are made better from year to year, there are ample opportunities for rural people to get and keep in touch with one another in any neighborhood and through the daily mail and papers, with the world. If my experience with country and city life counts for anything, there is more social intercourse and real enjoyment in the average rural neighborhood than in the average city flat or city block. Nor is it any detriment or great loss to the farm home if the man of the house, or the young man, has to restrict his social enjoyment to a visit to the next neighbor or with his own family in the evening, rather than spend his time and money in the city saloon to seek the "elevating" social intercourse with the average company found in such places.

All this does not mean, however, that we should abandon efforts in the direction of improving our conditions, and by attention to the three great factors—good roads, enlarged co-operative efforts, and better school facilities—will assist in this upbuilding and uplift of the American farmer.

T. GREINER.

What Shall the Young Man Do?

A YOUNG man writes me that he is crowded out of home and must strike out for himself immediately after the holidays, and he has determined to go to a large city and look for a job, and he would like a few hints as to how he should proceed after he gets there.

There are thousands like him. He says the farm is not large enough to supply work for the three boys and two girls, and some of them must get out, and as he is the eldest, he must go first. He is strong, healthy and has a common-school education, and he wants to get some work that will permit him to attend a night school and learn some things he knows little about.

Thousands of boys are being crowded out of the home nest and going out to make their own way in the world, and they need all the encouragement one can give them. One feels sorry for them, but that will not help them any. Encouragement, guidance and a little help until they get started right is what they need; then, if they are of the right stuff, they will win their way. A boy who is determined to climb will climb if he is steady and persistent. He will meet with discouragements, but he will overcome them if he is steady.

The first thing a young man like this should do is to obtain a letter of introduction from the minister of his nearest church, or a banker or leading merchant in his town, addressed to the secretary of any Young Men's Christian Association, setting forth who he is and what he desires to do. When he reaches the city he should immediately go to the association building—any policeman will direct him—give the secretary the letter, and be directed to a good boarding place, and get all the instruction he can with regard to finding work. He will find these men ready to help him in every way possible, and he should stick to them, and after he obtains work he should attend their meetings so far as possible, and thus keep in close touch with the best and cleanest people, and make the acquaintance of hundreds of other young workers like himself. He will be given any information by the secretary and his assistants that he needs, and in their hall he will find lots of entertainment in the way of good lectures, good reading matter and other things that will tend to bring out the best there is in him and help him to withstand the thousands of temptations that will beset him on every hand. If he remains clean, steady and faithful, and always strives to do the best he can in whatever position he is placed, he is certain to advance. His progress may be a little slow at first, but a manly young fellow is certain to attract the attention of his employers, and if they find him straight and clean he will be ordered up step by step as fast as he learns the business.

The Careful Workman is Advanced

One thing he must avoid, and that is taking "nights out with the boys." Let them call him a poke or a mollycoddle if they want to. He can tell them that they will live to see him one of the chiefs in the office, while they remain in their old positions. I have never known a good, steady, clean young man who made his employers' interests his chief study, and did his work intelligently and carefully, who did not advance rapidly to a high position. I never have known a careful, painstaking, intelligent workman who tried to do a little better work every day who did not rise to positions he hardly dreamed of when he first began.

The man who remains stationary or goes out as soon as business slackens is the man who is constantly having a "good time with the boys" at the "gardens" and other like resorts, and as a consequence is in no condition to do good, or even passable, work. His whole thought is on the "time" he is going to have the following night, and naturally he cannot do good work. Then there are a whole lot of others whose sole aim is to get through the day as easily as possible, and merely do their work so that it will just pass. They do not try to excel in any way, and the foreman is constantly urging them to try to do better, but without avail. I have seen a foreman called into the office and shown a piece of nice work that has to be done, and asked the question, "Have you a man who can do it?" In a moment he would reply, "Yes, So-and-so can do it; but I have him on another job that will take a week." And in a lot of over a hundred workmen So-and-so was the only man he could intrust with the job. And we would invariably find So-and-so to be a quiet, steady, clean man who went straight home from his work and never mixed with the "boys" in anything.

A man once asked me if I would carry a package to his brother who worked in a railway office in the city. On reaching the office I asked where I could find him, and was informed that he could be seen

only before he went into his room and after he came out. No one was allowed in his room when he was at work on his books. I learned that his salary was five thousand dollars a year, and he had risen to the place from the lowest clerkship. He had made himself a perfect book-keeper, perfectly reliable and accurate, and he never made a mistake. He was a clean, upright, honest man, and when off duty was a good jovial companion.

Men Find Their Level

We always find the best men in the best places. The station agent on a railroad who is "smart" or gruff or constantly assumes a preoccupied air, as though the entire system was on his shoulders, invariably occupies the cheap positions and is moved from place to place to fill vacancies made by sending good men to higher positions. One thing the young man should always guard against, and that is a "smart" or none-of-your-business bearing toward people of high or low degree. His employers put him in the position to further their interests by unfeeling courtesy to customers and careful attention to their wants. One is often much annoyed by questions that seem foolish to him, but he should remember that to the one who asks them they may appear very important. A simple, direct answer in a pleasant tone will convey the information desired, relieve the querist and make him feel that he has met a real gentleman. I knew a young boy who went into a railroad office as general assistant, and in a remarkably short time worked himself up to a good position and a fine salary. And the last I heard of him he was still rising. He was always good humored, and tried to give every one all the information asked for as clearly as he could. His education was very limited when he began, but he studied at night until he became quite proficient in all the requirements of the business he was in. He was a little slow about starting upward, but when he did get started his advance was rapid, chiefly won by his unfeeling politeness toward the public.

The breaking of home ties is always saddening, but if the boy or girl has been brought up right the future is filled with hope, and the mother, who always is the most concerned, feels sure that she will hear only good reports, and be able to rejoice in the success of her loved ones. I often think of the lines in one of my readers when I attended school:

The same fond mother bent at night o'er
each fair sleeping brow,
She had each folded flower in sight—where
are they sleeping now?

If the boy and girl out in the world working their way up in life will just remember how mother watched over

the crops it formerly did. He said his mother did not want any of them to leave home and go far away, and that by economizing a little closer she thought they all could get along. I suggested that he scrape up enough money to pay for a term at the agricultural college in his state, and that he go there and learn how to build up that farm and make it pay as it should. He acted upon my suggestion, and partly worked his way through the term, and returned with his eyes open. That was three years ago. This year he writes me that the farm will yield fully double the crops it did when he first wrote me, and that all of them found all the work they could do on the place. He said they worked for a maximum yield of all crops now, instead of just "a crop," and that they had corn that would yield full seventy bushels to the acre. He writes: "At the college I got stuck on being a surveyor, and I am going back, now I have the farm up and coming, and am going to take surveying. I have the cash now, and am going to make a crack surveyor of myself. Mother is glad to see me going this time, for she says she knows I will give a good account of myself."

Not many of the boys need be crowded out of the home nest, if they do not wish to go, if the farm is managed on the intensive plan. One does not know the capabilities of a tract of thoroughly tilled and well-managed land until he gives it the best of treatment. Not a fourth of the farms are yielding half what they should, and can be made to if thoroughly and scientifically tilled and managed. Double the yield and keep the boys at home.

FRED GRUNDY.

Manipulating Frames

ONE apiarist may so manipulate the frames that few bees will be killed, while another operator crushes them by the dozens. Now, it is important that not a single bee is killed during the breeding-up season of early spring. During the height of the season a few bees, more or less, will not make any perceptible difference in the amount of honey stored. However, it is then, too, undesirable to kill any bees, for it angers the others and makes work "hotter."

First have a good fire in the smoker. Then, before opening the hive, blow two or three puffs of smoke in at the entrance. Use more if the bees are not at work in the field. If there is a cloth under the cover, the latter is easily removed. If not, then stick a screw driver or one of the regular "hive tools" sold by supply dealers under one end of the cover, and gently pry it loose.

As soon as the tops of the frames are exposed, blow a few puffs of smoke over the bees. Don't be slow about this, as the sudden admittance of daylight making the bees angry, they may rush onto the operator.

When a cloth is used over the frames

and the chances are good, too, for killing the queen.

After the desired work is done, put back the frames in the same places they occupied before. This is of the utmost importance in early spring.

When shoving together the frames is when many operators kill bees. "Look a little out" here. If there are any bees wherever the frames are to come in contact with each other, scatter them with smoke.

If the bees come out on top too much before the cover can be put on, make them go back with smoke. Also put on the cover with a sliding motion, to prevent killing any bees.

When working with black or hybrid bees they will overcome the effects of the first smoking and offer resistance. The smoker must always be near at hand, so it can be grabbed at the moment required:

If the bees are smoked at the entrance, the queen will sometimes run up under the cover. Always take a look when removing the cover. Should the queen be on it, take her and let her run down between the frames.

F. A. STROHSCHNEIN.

Value of Scales on the Farm

SCALES are an absolute necessity on any well-managed farm, in order to secure the greatest returns for the products sold therefrom. This I have found to be true from my own experience of several years in the use of scales, and I am safe in stating that the farmer who has none will make a very profitable investment in the purchase of a small platform scale for his own use to ascertain the correct weight of live stock, hay, grain, potatoes, etc., when he desires to sell or buy such.

The day for guessing on farm deals has passed. We must remember that what we produce and sell from our farm is our whole stock in trade. We must have the same means of protecting ourselves that the grocer, the livery man or the hardware man has if we are to succeed. The grocer does not guess at the number of pounds of sugar he sells us, and he does the weighing himself. The hardware man sells us wire, nails, etc., by weight. If we happen to be out of hay, and drive up to the livery man or feed store and buy a few bales, we are charged for so many pounds.

We must have scales in our dealings with others, in our sales of cattle, hogs, grain, potatoes, etc., otherwise the chances are in favor of our being the loser in the great majority of cases. We need them to verify weights on articles we buy, such as seed, coal, feed, live stock, etc. We need them in our own operations. We desire to know the amount of hay and other food we are feeding to our live stock. It is important to know of the advancement in weight in stock being fattened; to know which is the more profitable of the different kinds of grain, potatoes, etc., we are raising on the farm. There is hardly a day in the year that my scales do not serve some useful purpose, and I feel that I could not run my farm successfully without them.

A most excellent platform scale that will weigh from four to six tons can be purchased for from seventy-five to one hundred and twenty-five dollars. A little figuring will show that it is not only a good investment, but that such a scale will actually pay for itself in one or two years, to say nothing of the convenience and satisfaction of having it on the farm, always ready for use.

But it is not on outside matters only that scales are useful. In the kitchen a pair of small hand scales serves a most useful purpose in determining a certain weight of small articles, such as ingredients to be used in cooking, etc. We sell several pounds of butter each week and could not guarantee full weight to our customers were it not for the use of a pair of these small hand scales. They also fill an important place in ascertaining a certain number of pounds of clover, alfalfa and grass seeds to sow to the acre. There are a great many little things to be weighed on the farm, and a pair of these small scales comes into use almost every day.

I am of the opinion that many farmers lose enough in the run of a few years to pay for a large and small scale by selling their produce by measure or by guessing it off. Business thus transacted is one reason why some farmers do not get along in the world as they would like. If we are to hold our own and get what is due us we must do business in a businesslike way, and we can't do it without the use of scales.

By having scales on the farm, better relations will be maintained between farmers and merchants and produce dealers, between landlords and tenants, and will give the farmer, equally with the men who trade in his commodities, an opportunity to know and demand his own. This should always be remembered: Exact dealings avoid misunderstandings and make good neighbors.

WM. H. UNDERWOOD.



Manipulating Frames

and cared for them while little children, and prayed that they might grow up to be good and useful men and women, they will not go far astray. They will not wish to disappoint her or to bring a moment of sorrow into her life.

But there is another question connected with this matter of starting young people in life—of crowding them off the home farm, when possibly they do not want to leave it. A boy wrote me that his father had only eighty acres of land, and that there was not enough work for the three—father and two boys, almost men—and the farm did not yield enough to properly support them and four younger children, and he guessed he'd have to get out and dig for himself. I wrote him, asking several questions about the farm, and why it was not yielding a good support for a family of that size. He explained that the farm was run down and did not yield

it is peeled loose and rolled back, as shown in the accompanying illustration.

After the bees have been quieted, pry loose and take out the division board, if one is used. I use a screw driver for loosening the frames. If staple-spaced frames are used, they cannot be stuck very tight by the bees, yet for me it is slower work if I pull them loose with my fingers.

If all of the frames are to be taken out, I commence at the side where the division board was, and loosen and take them out one by one. But if one or two frames are to be removed from near the center of the hive, one frame is first taken out at the side, and then the rest are shoved back, so there is room for removing the center frame. Don't, as I have known to be done, pull out a center frame without spacing the others apart. Bees will be maimed and killed.

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How to Feed Corn Fodder to the Best Advantage

THIS is one of the practical questions that come up at this season where farmers have harvested their corn instead of letting it stand and husking it on the stalk. Whether to shred or not to shred, whether to run it through the thrashing machine, whether to feed it without husking, whether to haul it to the barn and husk it at leisure, and if fed without husking, to what kind of live stock it can be fed to the greatest advantage. Here is a whole group of questions growing out of the simple question of a correspondent asking how to feed corn fodder to the best advantage.

The best way of handling corn—stalk and all—is to put it in the silo. This is not profitable for every man, however, and is not practical in the Western country except with a limited portion of the crop, say ten, fifteen or twenty acres, depending on the size of the silo and the number of stock for which it is a suitable feed.

If not put in the silo, shall it be harvested and put in shock? This again depends on whether a man has live stock enough to consume it on the place; or, if not, whether he can sell it to some feeder, corn and all; or whether he can shred and bale it and send it to the city to take the place of prairie hay.

It is, we think, generally unprofitable to husk corn by hand out of the shock. The process is much more tedious and laborious. It involves tying up the fodder in bundles. This means exposing the cured fodder to the weather, and turning to the inside much that has already been ruined by exposure, which will not help it in the least. Therefore when corn is put in the shock, unless the farmer has some boys that he wishes to keep at work in the barn, it should either be shredded or thrashed or fed unshredded to the live stock.

Whether he should shred or not depends on circumstances—the cost of shredding in that neighborhood, the means he has for keeping the shredded fodder from exposure. For while corn fodder left in the field loses not merely moisture, but a good deal of the nutritive elements, especially the nitrogenous, it can be kept over in the mow for another season, or for piecing out short pastures in the summer, with little or no loss of nutrition.

There are several advantages in shredding. More of the shredded fodder will be digested than of the unshredded. What the per cent is we do not exactly know; but men who have practised shredding tell us that about thirty per cent of the shredded fodder is not eaten by the stock and goes into the bedding, where it has considerable value and does not interfere with the hauling out of the manure, as does unshredded corn fodder.

The per cent of fodder that goes to waste when it is fed, say to horses in a manger or to cattle, is not readily determined. One set of experiments which we read some years ago figured the minimum at thirty-nine per cent. We are satisfied the average is considerably more than this. The large farmer can handle this unshredded fodder to the best advantage.

When we were running a large farm our practise was to feed this shredded fodder out before the middle of February if possible, in order to reduce to the minimum the waste from standing in the fields and from water. We gave it as a morning feed to fattening steers in a separate yard, and after they had eaten most of the ears off we turned in the stock cattle. After they were through we turned in the colts, and after they were through we turned in the breeding ewes. We did not, of course, expect the ewes to get their entire living from the small amount of nutriment that remained, but they were excellent hands at gathering up anything that might be left and, so to speak, polishing up the stalks. Where the farmer does not have feeding steers, it can be fed in limited quantities to stock cattle, the limit being the amount of corn that you wish your stock cattle to have. For every feeder knows that while it pays to feed enough grain with other forage to stock cattle to keep them gaining about half a pound a day, if they are to be kept through on grass in the summer, it does not pay to give them more than this.

Hogs, of course, eat mainly the ears, although the amount of blades that brood sows will eat when given an opportunity

is somewhat surprising. They are, however, not the kind of stock to handle this corn in the fodder, and it is a waste of fodder to feed it to hogs except in very limited quantities.

Corn fodder may be fed to horses in racks, but the amount should be limited to the amount of grain the horses require, and this is very little if they are idle during the winter. The working horse, of course, can handle considerable corn fodder.

One thing we wish to impress upon the reader is that his corn fodder and corn stover should be fed out before the soft weather occurs in the spring. Farmers, noticing the indisposition of their cows to eat corn fodder in March and April, attribute it to the fact that they are tired of it. Of course they are, not because they have lost their taste for good feed, but because they have found out that, while it is filling, it is not fattening except to the extent of the corn there is in it.

Every man must therefore determine for himself the most profitable way for him to handle this full harvest of the corn fields. The ultimate solution, as the country develops, is to grow fewer acres, more corn to the acre, and put part of it in silo.—Wallaces' Farmer.

Hog Raising for Pork

EVERY farmer and breeder must acknowledge that the prime reason for the hog business is pork making. This is the ultimate end of the breeding business, as well as the farmer who feeds his pigs and puts them on the market. The breeder is merely at one end, trying to give the farmer a better machine to improve the quality and quantity of the hog for the amount of feed eaten.

The hog business is converting your grain and grasses, waste apples, nuts and gleanings in the harvest field into a compact and merchantable condition.

In making your selection of the brood sow you want one that has a full number of teats. Also one that is of good size, strong legs and good feet. You want a good-dispositioned hog, easy to handle, a well-sprung rib, a good jowl, a strong back, straight or little arched, a good ham, with plenty of size combined with quality, and you will be likely to have a good brood sow that will raise you a good, big litter, farrow without any trouble, take good care of her pigs and get them ready in good time. You will not find a sow with six or eight teats raising large litters. Some of the very best brood sows that we have any knowledge of that raised pigs that at the best fairs won the prizes were certainly not beauties, but they were useful. They were the good business kind and the money makers. You can find them around in all breeds, and any breeder will recall to mind the fact that some of his very best brood sows were hard lookers.

If you handle your sows right you will have no trouble in getting them bred about all the same time. Do not let them run on grass or feed them much sloppy feed until after they have passed over safe.

Be sure that they have plenty of range for exercise, which is one of the requirements that should not be overlooked. It maintains the condition of the sow just right. It is an aid to easy farrowing of healthy, well-grown pigs. They should have plenty of feed to keep them in an improved and growing condition, but should not be fat when they are bred—they had better be in just medium good order. Farmers who have a rye pasture to let them run on when the ground is in proper condition during the winter, if it has a good start, will find it quite an advantage.

We have usually let them run on our corn-stalk field, as there will be a good deal of grass in fence corners that has grown all summer, that they would take advantage of, besides finding some plant growth and grain throughout the field.

I raise two litters a year and breed in November and June. You should not let your sows run with the balance of the hogs and be knocked about and injured oftentimes.

In selecting a boar, get a good, strong hog of good proportions, best of bone, vigorous, well hammed, of masculine appearance, good head and ear and a round rib, and in this way you raise the quality of easy feeders that is worth much to the man who is making pork hogs.—The American Swineherd.

The Palatability of Rations

WE FEAR farmers do not take into sufficient account the necessity of having rations for their live stock that are palatable, or that taste good to the animal itself, in order to secure the greatest feeding value from the grains their live stock consume. Every boy knows how much better he feels after a meal that tastes good to him. This may be somewhat "in his mind." It is more likely to be imaginary on the girl's part than on the boy's. What we mean is that if the meal is served in a tidy room, on a nicely ironed, clean table cloth, on dishes scrupulously clean and arranged in neat fashion, not clustered together, it tastes better than it would if eaten with the opposite conditions prevailing, although the food might be exactly the same. It is safe to say that it will do the girl or boy more good if eaten off a nicely set table than if eaten off a barrel head or a bench, though either of these if clean would be far preferable to a soiled table cloth and an untidily arranged table.

Every boy knows that what is palatable, tastes good, seems to go to the right spot, and gives him no uneasiness in his stomach, much less pain. Now the boy or girl is no different in this from the cow, the horse, or even the pig. We admit the pig is not very esthetic in its tastes and sometimes takes its food under conditions that would turn our stomach. In fact, it has not a very nice sense of discrimination. It is not finicky about the way it is fed. None the less, we believe this is due more to the marvelous appetite of the pig than to any particular lack of taste; for in some respects the pig is the most cleanly of all the animals on the farm.

Every sensible cow prefers nicely cured, clean, fragrant hay cut when in full bloom, to hay cut after its proper time, or moldy or otherwise spoiled from improper curing. A good deal of the supposed benefit derived from so-called stock foods or patent medicines for stock grows out of their palatability and their capacity of giving palatability to otherwise unpalatable feeds.

The ordinary feeds on the farm if cured right are usually palatable to the healthy animal and no stimulant or appetizer is required. Palatability, therefore, depends largely on combinations, but mainly on cutting the hay at the right time, curing it in the right way, keeping oats free from mold and from too much dampness in the crib, and from too much dampness in the granary, and putting the corn in a clean crib and protecting it from the weather by proper covering.—Wallaces' Farmer.

Foundation for a Herd of Pure-Bred Animals

IN BUILDING up a herd of pure-bred animals on the farm as much attention should be given to the foundation of that herd as would be given to the foundation of the house or the barn on the farm.

The selection of the breeding stock is of prime importance. If you could secure the help of a successful breeder in making the first purchase it would be advantageous. Men of experience are quick to observe certain important points the beginner would overlook. Without sound judgment, good care and management you cannot expect to succeed in increasing the fertility of your land, building up a home or establishing a herd of pure bred. The present time offers more inducements on the farm than any previous period to the thoughtful, energetic person. With the United States Department of Agriculture, the state experiment stations, the agricultural colleges with their special courses on the many branches of farm life, and the agricultural press, there can be no reasonable excuse for a young person's ignorance. All have an incentive for higher education, improved farming, better stock, which means happy homes and increased income for progressive persons of either sex.—Richard W. Stone in The National Stockman and Farmer.

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Review of the Farm Press

What Others Are Saying About Important Farm Matters

High Wheels Lessen Draft of Vehicles

WHICH run the easier—other things being equal—high or low wheels? Until some time after the advent of the bicycle, or about the time of the so-called "safety" wheel, it was generally admitted that high wheels ran easier. The old-fashioned trotting sulky had unusually high wheels; this was also the case with the cart for heavy loads. But when the safety bicycle came into use, tests proved that it could be pushed more miles and up steeper grades than the high wheels. It was thought by some that this was due to the gear of the safety wheel in comparison with the direct drive of the high wheel, but this could be easily disproved. So when the automobile came into use its wheels were soon made but twenty-eight or thirty inches high. Soon after this, bicycle wheels were adopted for the trotting sulky, and from that time the old notion that high wheels ran easier than low ones seems to have lost ground.

But now comes the Missouri Agricultural Station with some practical tests on that very point, and it appears that for the same load a wagon with wheels of standard height drew lighter than those with lower wheels. The difference in favor of the standard wheels was greater on roads in bad condition than on good road surface. Low wheels cut deeper ruts than those of standard height. The vibration of the tongue is greater in wagons with low wheels.

Yet for most purposes wagons with low wheels are more convenient than those of standard height. It was also found that diminishing the height of a wheel from forty to thirty inches in front and fifty to forty-four inches in the rear did not increase the draft in as great proportion as it increased the convenience of loading and unloading the ordinary farm freight. Diminishing the height of wheels below thirty inches in front and forty inches in the rear increased the draft in greater proportion than it gained in convenience. On good roads, increasing the length of rear axle, so that the front and rear wheels ran in different tracks to avoid cutting ruts, did not increase draft. The best form of farm wagon is one with axles of equal length, broad tires, and wheels thirty to thirty-six inches high in front and forty to forty-four inches behind.

Experiments also show that the draft on gravel roads, for a ton on high wheels, forty-four-inch front wheels and fifty-six-inch hind wheels, was 84.25 pounds, while on low wheels, twenty-four-inch front wheels and twenty-eight-inch hind wheels, the draft was 110.2 pounds.

On a dirt road, frozen, the draft was 100.6 pounds on the high wheels, and 139.1 pounds on the low wheels.

On blue-grass sod the draft was 131.9 pounds on the high wheels and 178.8 pounds on the low wheels.

On plowed ground the draft was 252.5 pounds on high wheels and 373.5 pounds on the low wheels.

The cause of the increase in draft of the low wheels on soft ground is, of course, due to the fact that they sink deeper. In going over an obstruction it is easily seen that the low wheel offers greater resistance.

But nothing has been stated about the relative cost of low and high wheels. Of course, the side strain on a forty-inch wheel is two or three times greater than on a thirty-inch wheel, and the large wheel must be built far heavier than the small one—possibly twice as heavy to equal its strength.—Farm Machinery.

Yearly Cost of a Cow

MUCH interest has been aroused in the past year or two on the cost of keeping a dairy cow for a full year. This interest has been intensified in the East by the high prices of grain that have prevailed of late. The average cost of grain feeds in New England has increased more than fifty per cent in the past five years. It is becoming a serious question with many whether dairying can be made profitable at present prices, unless the feeds used can be mainly produced on the farm.

There are many factors entering into the cost of keeping a cow, and unless careful accounts are kept with the herd some of these are apt to be overlooked. For the past two years the writer has been keeping a debit and credit account with the herd that comes under his management, with the view of knowing what

it costs to produce high-grade milk from pure-bred stock. With the possible exception of the labor the herd is managed under strictly business principles. The feed is mainly bought at wholesale, and the hay and silage are charged to the herd at such a price as will just cover the cost of production. The cost of the fodders and bedding produced is got at by keeping a close account with each of the leading crops grown. The average cost a cow for the past two years is shown in the following items: Grain feeds, \$26.66; coarse fodders, \$24.51; bedding, \$6.54; soiling crops, \$2.42; veterinary services and incidentals, \$2.81; pasture, twenty weeks at thirty cents, \$6.00; total, \$68.94.

With the exception of the veterinary attendance, the cost charges are practically the same as they would need to be on almost any well-managed dairy farm. Our grain ration is perhaps somewhat larger than would be used by some breeders of grade stock, but as much of our income is from the sales of stock it pays us to keep the animals looking well and in good health. We always plan to have soiling crops available from the first of July until about the first of October, and this adds somewhat to the cost over what it would be with first-class pastures. Our item for pasture feeds covers from May 10th to October 1st, and the charge a week is low because the pastures are rough and wooden. The expense for bedding is somewhat heavier than it would need to be on many farms, as we use bedding freely and buy a good many baled shavings. If we were to cut out the item for veterinary service and cut the item for bedding in half the total cost for the year would still be sixty-four dollars, without including any charge for labor.

The item of labor varies so much according to the price paid and the amount of care given the herd that it is impossible for one person to give a labor charge that would be of much use to another. Where fancy stock is kept and a fancy product is made the cost will seem excessive to the common run of dairymen. If reasonably good care is taken of the herd three men will care for fifty head during the winter, where thirty to thirty-five are milking, and an average of two men will be needed for the same herd in the summer. If we reckon the cost of these men at forty dollars a month without board, and estimate a herd of fifty of all ages on the basis of forty mature cows, the labor cost will be thirty dollars a cow for the year. This means that a cow must produce twenty-five hundred quarts of milk a year, worth four cents a quart, before she will begin to give much, if any, profit where all the items of feed, care and labor are included in the cost of keep.—Chas. S. Phelps in The Rural New-Yorker.

The Trap-Nest Farce

THE trap nest has become a fad in poultrydom. The columns of the journals are full of advertisements of "bred to lay" and trap-nest record stock. Yet the fact of the matter is, when sifted out, it amounts to nothing at all and such work is a waste of effort so far as increasing the average egg yield is concerned. Especially is this true when no attention is paid to the male line and the "trap-nest hens" are bred to "any old rooster."

Now it may be of interest to know which hens laid the most eggs during a certain period but this record is little indication of the hens that will lay the most eggs during a succeeding period. To imagine the egg yield can be permanently increased by breeding from hens whose only recommendation is a number of eggs during a certain period is the height of foolishness, at least to my mind.

By so doing we are simply taking advantage of irregularities in egg yield, due to conditions which we have not investigated and of which we may be utterly ignorant; the increase at the time the record was made, possibly, being due to one or more of a dozen outside physical conditions or environment, rather than to organic or physiological structure.

The improvement of a race by selec-

tive breeding is a vastly more complicated matter than it is assumed to be by those who, ignorant of the science of breeding, depend on trap-nest records alone in mating their stock. I am sure that we need more than to breed from the best layers of a certain period in order to secure improvements in egg yield.

I would rather have birds bred from stock selected by careful study of outward characteristics, knowing all we can of the laws of correlation, variation and transmission and their application, and selected for constitutional vigor without the use of the trap nest, than all the trap-nest records of ten years, where these records alone have been the guide in mating and breeding. I speak from the utility standpoint.

Vitality, or constitutional vigor, is the corner stone of success with poultry when eggs are the product desired. This is apparent when we consider the enormous drain on a hen's system when large numbers of eggs are produced. Constitutional vigor means the perfect and united working of every organ of the body in order that large amounts of good food may be converted into the desired product. In other words, it means the ability to withstand heavy feeding. In every egg produced we have combined two of the most exhaustive processes in Nature; the secretive and reproductive processes. It is one of the highest laws of Nature that an animal will make sacrifice of herself, if need be, to produce a perfect offspring. This law is necessary to the perpetuation of species under adverse conditions. This indicates the enormous importance of furnishing to the hen, as nearly as we can, everything needed to produce the egg if we want the greatest yield. When one element is short the hen by nature will reduce the number of eggs in proportion to the amount of the short element she is able to obtain. I have seen this illustrated on many occasions when the supply of shell material ran out.

If any part of the hen's system is out of condition, the other parts out of sympathy respond to the affected part and the egg yield is shortened.—T. J. Campbell in The National Stockman and Farmer.

Attend the Institutes

THE farmers' institute season is at hand. Now, Mr. Farmer, these meetings are for you. They are held for the purpose of bringing you and your neighbors together to discuss the fundamental principles and facts concerning your great business. State speakers will be on hand to instruct and lead the discussions, but you must be there to get any benefit from the meetings. It is your duty to yourself and your neighbors to attend and take part in the farmers' institute when it is held in your county or township. Do not go in a critical mood, but go with a desire to learn more about farming, and if you have some problem that is worrying you, tell about it, and maybe some one can help you out. Perhaps your experiences will be of direct value to some other man who is having a hard time.

The farmers' institutes were established for the same purpose as our agricultural colleges and experiment stations; for the purpose of furthering the cause of agricultural education; of helping the man on the farm better understand his business, and thereby make a greater success. The state speakers are all thoroughly practical men and women who have had experience in what they talk about, and are willing to give help and information whenever they can. But the success of any farmers' institute meeting will depend upon the farmers themselves whether they will attend and take part in the programs. Enthusiasm is generally marked by numbers, and when an enthusiastic body of men get together, there is sure to be some good come of it.—The Farmer's Guide.

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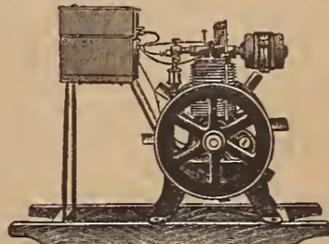
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Gardening

By T. Greiner

Care of Maiden-Hair Fern

F. W., a lady reader in Michigan, inquires about the proper management of the popular maiden-hair fern. The leaves on her specimen turn yellow. The maiden-hair fern is one of the easiest ferns to care for. Like other ferns, it needs moist atmosphere and protection from direct sun rays, but if kept moist at the root, the soil being a fibrous loam mixed with sharp sand, there should be no trouble.

Corn for Seed and Feed

An Indiana reader asks whether there is anything that can be put in with corn in the crib to keep rats from destroying it. A large amount of good corn, both for feed and for seed, is annually destroyed by mice and rats, and sometimes by squirrels. I do not know any substance, drug or chemical, that could safely be mixed in with corn which would be so repulsive or fatal to rats as to keep them out of a corn crib, and the only way to do is to keep the rats out by mechanical barriers. It is not so very much trouble nor very expensive to cover the entire corn crib—bottom, sides and all—with small-meshed (inch) wire netting or screen so as to exclude at least the larger rodents, from rats up. The cost of the wire screen is saved a good many times over in the saving of the corn.

Seed corn, too, usually sells well, and brings high prices, which fact will be brought to our realization next spring again if we fail to save our own, and have to buy our supply. Common seed field corn last spring cost us from two dollars to two dollars and fifty cents a bushel, and it was not extra good at that. For sweet corn I paid twenty to thirty cents a quart, which is equal to from over six dollars to over nine dollars a bushel. We had a good season for corn, and I have been careful to let plenty of sweet corn mature, and to save it for seed purposes. But if we give the rats a chance at it there will not be much left to plant next spring. It is plenty dry enough now. We shell it and put it away in paper or cloth bags, out of the reach of rats and mice. It will save us the necessity of paying out money for seed corn this time.

Field-corn seed ought to be selected in the field, not in the crib, although most farmers use good ears of cribbed corn for seed, and it does pretty well.

If I can succeed in storing my seed and other grains and feeds of all kinds out of reach of the rats, I have won the battle, for it is the easiest thing in the world to catch every rat that is kept hungry. Hunger will drive the shrewdest old rat into a skilfully baited trap.

Farmers Not the Most Gullible

Any one who thinks that farmers as a class are more ready to buy a gold brick than other people is woefully mistaken. Among those who have for some time past invested small amounts of good money in concerns avowedly organized for the purpose of starting rubber plantations in Mexico, or pine and banana plantations in the Isle of Pines, and in various other enterprises of this nature, are many who lay claim to be well educated—schoolteachers, preachers and other professional and other persons working, however, on comparatively small salaries and hardly able to lose their earnings and savings.

The farming class has been far slower to bite at this tempting bait. Shrewd soil tillers are well aware of the fact that almost anywhere in the States, near good local markets, such crops as strawberries and other small fruits, onions, celery, and perhaps others, or even some of our tree fruits, hold out better and safer chances of profit than oranges in California or Florida, pine apples or bananas in Cuba, Porto Rico or the Isle of Pines, and rubber in Mexico, etc. We are not so easily fooled.

Garden Rue

A reader asks what rue is good for. He has a whole bed of it in the garden. I know what I would do with it—root it out and not "rue" it, either. This strongly and unpleasantly aromatic herb was formerly considered of medicinal value, as good for contagion, etc. In my estimation it is just "good for nothing." But I am no particular lover of any of our aromatic so-called pot herbs, not even sage, which is so generally put in sausages, dressings, etc., as a flavoring.

Fine Celery

I have never grown, and have not even seen, finer celery than that which we have enjoyed this season from August until November. The season was not more than fairly favorable, and rain was lacking for many weeks during that time. But the Chicago Giant, which is either a remarkably vigorous strain of White Plume or a cross between it and some broad-stalked sort like Giant Pascal, has given us stalks of wonderful size and brittleness. None of our celery this year had even a trace of stringiness, and the flavor was and is most excellent, mild and sweet. We had it both from rows blanched with boards and (later) from rows banked with earth. The latter was best in quality. It did not require any excessive amount of work, either, to grow a full supply and plenty for the neighbors. After this it will be mainly Chicago Giant for me!

The Half-Acre Town Garden

A reader in Washington State tells of having a town lot which he is trying to convert into a fruit, flower and vegetable garden, and on which he has already planted apple, pear, plum, cherry, peach, maple, elm and chestnut trees which are doing nicely, but about the care of which he knows but little. The great mistake that is often made by people in the suburbs who have a "town lot" of a quarter or half an acre is to undertake too much, which means plant too much, and too many things, and too closely-together. I see this also in a half-acre lot of a near neighbor.

Standard fruit trees need room. You cannot expect to grow big crops of good vegetables under the shade of fruit trees, either; and on a quarter-acre, or even half-acre lot, we cannot have fruit trees of every description scattered over the whole, and vegetables, flowers, etc., growing between the trees. I would divide the half acre in two parts—use one part for trees and small fruits and the other part for vegetables and flowers. Remember, however, that a quarter acre has only room enough for seven standard apple trees, or twenty-eight standard pear trees, etc. The elm, maple and chestnut trees will require much room after a while, and shade much land, spoiling it for gardening purposes.

I would plant dwarf apples (on doucin stock), so that more trees may be planted, giving a chance to have more varieties. They can be set twenty feet apart, or about twenty-eight to the quarter acre. This area will then give you room for four apple, four pear, four cherry, four plum and four peach trees, one mulberry or chestnut or apricot, several grape vines, a few currant and gooseberry bushes, and other small fruits, and leave the other quarter acre unobstructed for vegetable gardening and flowers. For a few years the space between the trees may also be planted in hoed crops, strawberries, currants, etc. The elm and maple trees may be set along the roadside. If this is next to the vegetable garden, however, they may shade and spoil a portion of it for that purpose. Better not try to do too much!

Rotation of Vegetables

It is true that we often grow good and healthy crops of celery, of onions, of lima beans, of beets, carrots, and perhaps other crops, for several years in succession on the same ground. I have often seen in market gardens where celery is the leading crop, as well as on certain muck lands, one crop of celery follow another the same year, and this double cropping of the same vegetable repeated year after year for a decade, and often found the last crop about as good as any before. Yet I always try hard to avoid this planting one and the same vegetable on the same land repeatedly in succession. The only exception I make is with bunch onions and with lima beans. The former I just as lief plant year after year on the same land, and the latter I usually have for two or three years on the same spot, so as to avoid the necessity of resetting the posts for the trellis every year.

I invariably change the location of my melon, cucumber and squash vines, of potatoes, early or late, of tomatoes, of peas, of cabbages, cauliflowers and radishes, sweet corn—in fact of almost the entire list of garden vegetables. This matter of strict rotation may require considerable thought and planning, but I believe it is worth all the trouble. We usually get better and cleaner vegetables.

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Fruit Growing---By Samuel B. Green

The Soil for Apple Orchard

Apple trees will grow on a great variety of soils, but they feel most at home and give their best results on deep, rich clays and loams. Why they prefer these soils it is impossible to say, but apple trees seem to be suited to clays just as cacti are to desert sands. The early or summer apples do well on light or sandy soils because they ripen their crop before the hot season, when moisture is scarcest. Late fall or winter varieties, which have to develop their fruit in the hot summer, when moisture is hardest to get, must have a soil that is retentive of moisture. Muck soils are rich and contain abundant moisture, but they produce large, rank-growing trees with tender terminals that produce poor fruit.

Best Results on Rich Soils

Apple soils should be rich and they should not be called upon to produce anything but apples. It takes a great deal of fertility in the land to produce the wood of the trees on an acre of orchard. The fertility that produces the fruit is over and above that required to grow the trees. There are few crops so exhaustive on land as a crop of nursery stock, and no tillers of the soil know so well how to fertilize the soil as do nurserymen. If trees continued to grow in the orchard with the vigor they are made to do in the nursery there would be a thousandfold greater returns from orchards than there are to-day. From my experience and observation in horticulture I think it safe to say that seventy-five per cent of all the trees that leave nurseries die of starvation before they come to usefulness. Soil poverty destroys more trees than all the pests and plagues put together. A soil cropped to death with corn or cotton or tramped hard by the feet of stock is a certain burying ground for the tender and well-favored tree from the fertile soil of a nursery. The reason timber trees grow so well in their native forests is that the fertile, spongy mold of the forest floor affords an ideal home for the little seedlings until they get big enough to fend for themselves. Soil for orchards should be as nearly as possible like Nature's model forest soil. Indeed, the best soils for fruit trees are those just vacated by the forest primeval and occupied by the orchard before they can be pre-empted by any other agricultural tenant. Mountain coves are ideal for orchards.

New Versus Old Land

Where virgin soil from the forest cannot be obtained for orchard planting, only rich land should be used. As an orchard will occupy the ground for many years, very thorough preparation should be given the soil before planting the trees. Never set trees on poor or dry land, for if they do start they are so stunted that it is next to impossible to ever get them to make a satisfactory orchard. Land

improve land after trees are planted; so it is best to spare no pains on previous preparation. Preparatory to setting the trees the soil should be deeply plowed. Clean surface cultivation should be given to conserve moisture. A liberal dressing of manure is always beneficial. The manure should never be put in the holes in which the trees are planted, but it should be incorporated in the soil by general cultivation.—North Carolina Department of Agriculture.

Transplanting Young Trees

Care of Trees Upon Arrival

As soon as shipments arrive, the boxes or bales should be opened at once and the trees be heeled in immediately unless they are considerably dried out, in which case they should be buried in damp ground for several days and then heeled in. To heel in trees in fall for remaining over winter, dig a trench fifteen or eighteen inches deep running east and west, with south side sloping, and place the roots in the trench with the tops slanting to the south. Dig away the earth over the roots and half way up the trunks, and tramp down well. Place another row of trees in the new trench and proceed as before. The roots and part of the trunks must be well covered, so they cannot dry out. The object of pointing the tops to the south is to have the branches shade the trunks, and thus prevent any injurious action by the winter sun on the trunks, as might occur if the tops are pointed in any other direction.

For spring heeling in it does not matter how the tops are placed so long as the roots are kept moist.

It is often the case that when the proper way of heeling in trees is not understood, the roots are only partly covered, and they dry out to the extent that the trees make only a weak start, if any, and die during the first season.

Planting the Trees

In digging nursery trees the root system is injured and about seven eighths or more of it is left in the ground. Since the root system is reduced so much top must be reduced proportionally to maintain a fair balance between top and root. The roots should be pruned so as to leave only three or four inches of each one. All bruised parts should be pruned off and all cuts should be clean and smooth. The tree is then in shape to be quickly and easily planted, for a slight up-and-down movement of the tree while the earth is being thrown in will settle the earth around the roots, where it should be firmly packed. If the ground is well prepared, the holes for the trees need not be very large, but if it is hard or in sod it is well to make them three, or even four, feet across.

The tops should be pruned, leaving spurs with two to four buds each, and

Starting Rose Cuttings

Mrs. K. T., Eagleport, Ohio—There is quite a difference in the facility with which different kinds of roses grow from cuttings. Some of the tea roses and others of the strong-growing kinds, like Baltimore Belle, Prairie Queen and Crimson Rambler, will strike cuttings quite freely. Many of the hybrid perpetuals, however, are quite difficult to root, and even by the professional nurserymen are seldom grown in this way, but are budded or grafted on strong-growing stocks. Most roses when grafted or budded produce much stronger growth and better flowers than when grown on their own roots.

The common tender roses that are grown in dwelling houses successfully can generally be rooted if treated in the same way as is common with the growing of geranium slips; that is, use a dish with about one and one half inches of sand in it. Keep it wet and in full exposure to sunlight after the cuttings have been in sand a little while, provided, of course, that they do not wilt. Wilting should never be allowed to take place with cuttings, for after it has once occurred it is seldom that the cuttings can be brought back into their original good condition. For home use rose cuttings are generally made of their buds. The wood just below a full-blown rose is generally of just the right maturity to root easily.

In the case of nurserymen who raise large quantities of roses, it is customary to make the cuttings as soon as firm wood can be found. This may be in the winter from indoor-grown wood, or in the month of June from out-door grown wood. Wood that has been grown inside generally roots more easily than that which has been grown outside. The cuttings are generally made about one and one half inches long. As a rule there is only one bud to each cutting, and they are cut off just above the bud, and the leaf retained. These are inserted in sand at full depth in the propagating bed, and are given some bottom heat and carefully watered. Treated in this way, many kinds of roses will root in two weeks even in the early summer without any additional heat, and much quicker under favorable conditions in the greenhouse. There are a few varieties of roses that produce a large callous instead of roots, and these will often remain green in the cutting bed for a month and fail to make satisfactory plants.

For practical purposes in the home garden the best way of growing roses is by layering, or in the case of those varieties that sprout freely, by taking off well-rooted sprouts. Almost any of our common roses can be grown in this way; even some that are difficult to grow from cuttings will produce roots quite freely when thus treated. For this purpose the layers should preferably be put down early in the spring, but they may be put

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First-Prize Alexander Apples, Wisconsin State Fair, 1908

kept in good tilth and used for cultivated crops can be expected to give reasonably good results in starting and growing orchard trees. Lands used for grain crops should be shunned for orchard work, as they are almost certain to be of the driest and poorest character. Old pasture lands are very poor for tree culture. They may be fairly rich from the droppings of the stock, but the humus in them is ruined by trampling and their mechanical texture is at its very worst. A good previous crop is a heavy growth of some kind of leguminous plant. This crop should be plowed down to furnish humus for the trees. It is more or less difficult and expensive to

the "leader" should be cut off about two and one half feet from the ground.—Maryland Station Bulletin No. 130.

Propagating Clematis—Plants for Cemetery

Mrs. W. B. P., Warren, Arkansas—Clematis paniculata is quite easily propagated from seed, but this seed will often lie over one year in the ground before starting to grow. The plants may also be divided.

Among the best plants for cemetery planting in your section are the boxwoods and the Van Houtteii spirea. For covering graves the myrtle is desirable.

down at any time. It is generally best to scrape away the bark for a distance of two inches on the wood that is bearing, keeping the layers two inches deep and leaving at least eight or ten inches of the branch sticking out of the earth. Treated in this way they should be rooted by autumn, when they may be separated and treated as young plants.

Any one who hustles enough can go to Florida if he really wants to. We shall pay ALL expenses to Florida and back next March of those five of our readers who send us the most subscriptions to Farm and Fireside between now and February 15th. Do you want to go?

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Live Stock and Dairy

Root Crops—An Economical Factor in Animal Development

IN ALL countries where farm animals have reached their best and most useful development we find that the feeding of roots has been a very prominent factor. American farmers as a rule have not made a study of the feeding value of root crops, for the reason that they could go out and purchase the same amount of animal food in the form of grain, mill feed or commercial by-products for less money than the cost of the extra labor and fertility required to grow and harvest a crop of roots. However, conditions have changed during the past few years, and all branches of live-stock feeding in the country have been more fully developed, until grain foods and commercial by-products have reached a price that practically prohibits their general use as a source of protein, and many dairymen and farmers are facing the proposition of selling their live stock or adopting some system of crop growing that will put their farm on a more self-supporting basis and reduce the amount of grain foods required to balance the rations of the animals.

As long as grain foods could be purchased for less than the cost of growing and harvesting supplementary foods, it was possible for farmers to build up the fertility of their farms; but under present economic conditions, when all grain foods of recognized merit sell for from twenty-five to thirty-five dollars a ton and upward, the average farmer finds that he must grow crops on his farm that will take the place of these expensive foods or else abandon live-stock feeding.

late in the fall, in order that the weeds may be killed as fast as the seeds germinate. Late in the fall the ground should be plowed deep and manured with well-rotted manure, and then disked and harrowed until the manure becomes well incorporated with the surface soil. Early in the spring it should be plowed again, but rather shallow, and worked frequently until time to sow the seed. This insures a good seed bed and favorable moisture conditions for the seeds to germinate rapidly and make an even stand.

Soil Moisture is Necessary

Soil moisture has a wonderful effect upon the early development of a root plant as well as upon the continued development. During some extremely wet seasons it is possible to grow a fair crop of roots on land that has received no special preparation, but if the season is a dry one there will be a great advantage gained by having the soil fitted in the fall, so that it may become settled and so that the capillary attraction of moisture from below may become established.

If we examine a hastily fitted soil we oftentimes find that the top soil is moist, but after we go down one or two inches we find a layer of dry soil. The moist soil on the surface will germinate the seed, but when the roots pierce the soil below they find no moisture, and likewise no food, for plants can take no nourishment from a dry soil. This condition of the soil arrests the growth of the plants, and after the rains come the weeds make a rapid growth and the plants are again set back. When the soil has been fitted and given time to settle, and the moisture has become evenly distributed, there is no check in the growth of the plants. Farmers who contemplate growing these root crops will profit by studying the conditions favorable for soil moisture.

Where Roots Are Valuable

The practical point that should be kept in mind when feeding roots is their ability to successfully replace a large portion of the grain ration, and not their ability to supplant ensilage and the other fodders. The dry matter in a pound of roots is of much more value in a ration than a pound of dry matter in hay and coarse fodder.

For feeding sheep root crops are excellent, and it is a well-known fact that American feeders have never been able to fit their sheep for market as the Englishmen do. In England root crops form an important factor in the economy of sheep feeding.

For feeding breeding swine and fall pigs that are being carried through the winter root crops are very desirable. In fact, unless a feeder has an abundance of roots to add succulence to the rations, it is very difficult to keep the hogs in a healthy and vigorous condition during the long winters in a northern latitude. Some of the most successful hog growers estimate their profits by the amount of roots that they can utilize during the winter. In the winter ration they occupy the same place that grass and forage occupies in the summer ration of the hogs.

In the feeding of root crops to all animals there is a certain value that the chemist cannot find, but which nevertheless is present, and many of the best feeders claim that the succulent juices assist the animals' digestive organs in obtaining more nutriment from their other foods; more especially is this noticeable when the roots are being fed in connection with the more highly concentrated grain foods. The roots seem to act as a divider and separate the particles of food so that the juices of the digestive system can prepare them for more perfect assimilation.

Field Culture of Root Crops

Outside of the hand work required at thinning and hoeing time the actual amount of work required to grow and harvest a crop of roots is less than many other branches of crop growing require.

The growing of root crops is intensive farming and requires more brains than growing corn or other grain. A man can grow twenty acres of corn easier than he can grow five acres of roots; but if the roots are grown on properly prepared soil, the results will be greater on the small field than on the twenty acres of corn. The yield of roots that may be raised on an acre depends largely upon the means employed in fitting the soil and cultivation and the amount and quality of fertilizer and manure applied to the soil.

The land where a root crop is to be grown should be prepared the year before the crop is to be grown by plowing during the summer, and working frequently until

Mangel-wurzels and sugar beets may be sowed by the last week in May, and for a drill it is a good plan to close all but three hose on a common eleven-tooth grain drill. When the middle tooth and the ones next to the outside ones are open, and the driver follows the wheel-track back across the field, the rows will be twenty-eight inches apart, which is a very desirable distance for common field culture. The common practise is to use about twelve pounds of seed to the acre.

The whole question of growing root crops depends largely upon finding the most economical methods of thinning and hoeing. Some growers advocate sowing in rows less than twenty-eight inches apart, while others go to the other extreme and make their rows thirty-five inches apart. With us we believe that it pays to grow more pounds to the row than to grow too many rows, for on most farms land is cheaper than too much labor, and it will pay to plan to do all the work possible with the horses and cultivators.

Yield and Storage of the Crop

For general field culture twenty to thirty tons to the acre is a good yield, but with mangels or other root crops, the same as with ensilage, the amount grown to the acre depends largely upon the methods employed in culture. Oftentimes a comparatively small yield will be more profitable than a larger crop, owing to the decreased cost for manure and fertilizer.

Where there is plenty of cellar room the problem of storing the crop is reduced to a minimum, and on a large number of farms there are cellars that would hold many hundred bushels. A large quantity can be stored in the stable with safety for late fall and early winter feeding. Some growers store in pits, but one disadvantage of this method is the fact that it is difficult to remove them from the pits when the weather is very cold. I believe that it would pay to provide cellar room, as much time would be saved and the roots would be in good shape to feed.

If I were asked to name the best root crop for general culture I would have no hesitation in naming the Globe mangel. It will grow on any soil that will produce the other root crops. It is very hardy and an excellent keeper. It is equal in feeding value. It has fewer enemies, and will make a more vigorous growth from start to finish.

Root crops can never bear the same relation to the other crops grown in the rotation that they do in England; but they are very useful in preparing the soil for the succeeding crops, and can be made to take the place of large amounts of expensive grain foods in the rations of all our farm animals. W. MILTON KELLY.

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Live Stock and Dairy

The Truth About Angoras

THE publicity that Angora goats have been accorded by farm, stock and even daily papers, has aroused a very keen interest in the little creatures among a too credulous and confiding public, which has come to believe that the Angora is endowed with a constitution of iron and a stomach of brass, and such, I confess, was something of my own idea of an Angora when I stepped from the stage at the mail box of the Carstairs Ranch in western Washington.

"I have called," I informed Mr. Carstairs, "to see your goats, and I wish you would tell me all there is to know about them." Mr. Carstairs said:

"If you are to give goats another article, tell the truth! We ranchers see so many misleading statements about them that it makes us either laugh or get mad."

I agreed to write the truth as he gave it to me.

My first query to Mr. Carstairs was, "When or why is it desirable and profitable to keep goats?" and I was given a three-part answer to the question, so I shall put the greater part of my notes under the three headings where they are best adapted. First, goats are effective destroyers of brushwood; this fact is not only true of the Angora, but it includes the whole goat tribe as well. After the goats have cleared up the weeds and brush, the native grasses have an opportunity to come in; for when the goats have been fed on clover and other feeds, the grass seeds will be very evenly distributed through the droppings, and where grasses are already in evidence, the goat will not molest them if other browse is available. They will, however, subsist wholly upon grass, and some breeders insist that the fleece from such

while the fact must be kept in mind that the greater part of our domestic mohair is of inferior quality, and must of necessity bring a greatly reduced price, it is still salable, and many years will be required before we can hope to produce even the inferior grade in sufficient quantities for domestic consumption.

The fleece is pure white and attains an average length of ten inches annually. If the goat is of the best breed, the fleece will hang in wavy curls from all parts of its body. The weight of the fleece depends greatly upon the grade of the goat; the first cross of an Angora with a common doe produces very little fleece, but as the crosses become higher, the fleece increases, and the fifth or sixth "cross" becomes a high grade, although they are still far from becoming pure bred. A pure-bred Angora should have no kemp whatever, and breeders are now striving to produce kempless goats. This, of course, is a matter of careful selection.

The production of fleece averages about three pounds per head, and it is well to remember that feeding and care have great influence upon the weight and firmness of the fleece.

The prices obtainable for mohair are of course governed by the supply and demand, as well as the quality, and the presence of burs, dust, dirt and kemp, the shortness and coarseness of the fiber, all tend to lower the prices. Fake hopes are often raised in the minds of the inexperienced breeders by reading of prices paid for choice domestic fleece, the production of which is a very small percentage compared with the total production.

In warm climates the shearing is done twice a year, but is done from necessity

fattened and thoroughly cooked, even the flesh of an old goat is tender and palatable.

About the same prices are obtainable for Angora as for sheep mutton. In a market where the people are not prejudiced, the demand for Angora mutton is daily increasing, while the market supply is diminishing as the breeders produce a higher-grade mohair-producing animal.

The Angora goat is by no means the hardy rover that the public has pictured him, for in many respects he is a delicate little animal, this fact being more pronounced as the grade becomes higher. No place, however, is too hot or too cold for the Angora, and dryness is more essential than warmth; but the Angora must have clean sleeping sheds, free from dirt or dampness and overcrowding, otherwise the foot rot will work havoc in the flock. They require pure water—running water, if possible—and a variety of food shrubs and grasses. If there is a great abundance of sunshine, or the sunshine is too direct, then some sort of shade is necessary. The goats thrive best where the air is not laden with moisture. Sleet and mud are always injurious, and sometimes fatal, to these "hardy" little creatures. Hilly and rocky land makes the best pasture for the goats, for the rocks help to keep their feet trim. Marshy or wet lands should not be thought of for an instant.

Avoid keeping too many to the acre; the number can easily be determined by the available food supply. The goats may be pastured with horses and cows, but never with pigs, and if you wish to raise the little kids, be sure to keep them beyond the reach of the horses.

It now remains for the farmer or rancher who contemplates investing in goats to determine as to the probable success and profit of the venture. With the farmer, as a brush destroyer or in clear-

Beef Calves in Winter

BEEF calves should be given as good care during the winter as dairy calves receive. I notice that a good many farmers give their dairy calves particular care, but neglect their beef calves. They think that to get a good cow they must give the calf good feed and good care, and their opinion is founded on good reasoning. But the same is true of the beef calf.

It must be remembered that an animal once stunted loses a great deal. What it is that interferes with future development I do not know, but certain it is that if a beef calf is underfed the first and second winters of its life it will get setbacks that may never be overcome. It is just as necessary to keep the beef calf growing as it is the dairy calf.

The beef calf is often neglected, both in his feed and in his shelter. Being a young animal of the beef breeds, it is thought that the calf can stand a great deal of exposure without suffering anything. It is true that such calves do not require the amount of shelter that some have advocated, but they do require dry quarters, well sheltered from the cold winds. They also require as good food as at any other time of their existence.

Because they are not immediately productive, some lose sight of the feeding of the beef calves, and I have seen such calves forced to make a large share of their living out of the straw stack. When an animal has filled up on straw he has packed his stomach with something that cannot possibly give him the nourishment required to make good growth.

Those that have analyzed the various straws to ascertain their food values assert that a half-grown calf would have to eat and digest two hundred pounds of straw a day to get out of it the nourishment required to make a good growth.



Angoras Destroy Brushwood, Produce Mohair and Make Delicious Mutton

goats is superior in every respect. Whenever the browsing becomes scarce, the goats must be fed, but goats in the South and Southwest may sometimes browse all winter. In addition to browse, a doe when kidding should always have some kind of feed.

It is also a common fallacy that goats climb trees. This is not the case; but they will straddle a small sapling and hold it down while stripping the leaves and bark, and thus leave it bare to a height of several feet. In addition to clearing the land of weeds and brush, the goats are of the greatest help in enriching the soil, for the manure is in every way as valuable as that of sheep, and should be saved and utilized. Green brier and laurel are poisonous to goats and should always be removed from the pasture before the goats are turned in.

The second phase of the Angora industry is the production of mohair, and

rather than for profit, as the fleece from the semi-annual shearing is much shorter, and therefore brings a lower price, while the cost of shearing is more than can be gained through the small percentage of increase in weight of the fleece.

A third, and very important, factor in their behalf is that Angora meat is highly nutritious and palatable. The "goat flavor" is affected by the feed, the flesh of the browse goats being more gamy, thus giving rise to the term, used in some sections of the West, of "Angora venison."

"Goat mutton" is in every respect equal to lamb, and when properly cooked, few people can distinguish any difference. I had dined upon some, and when asked what kind of meat I had eaten, I unhesitatingly said mutton, for it was equally tender and delicious.

Angora mutton should be cooked longer than the flesh of sheep, and when well

ing new land they would perhaps be of most profit, and on a small scale it would be easier to combat their enemies and diseases. Lice, coyotes, wolves, wildcats and dogs have a weakness for Angora mutton, while stomach worms and intestinal worms, grubs in the head, scab, foot rot, etc., are prone to destroy the flock, so one can readily see that to be a success Angora goats require as much care as anything else on the farm, and when the flock is large, it demands the attention of a shepherd.

MORGAN J. EMERY.

Every Farm and Fireside family ought to have a copy of our big Reward List in their home. It contains pictures of nearly three hundred articles that you can obtain for just getting a few of your friends and neighbors to subscribe. Send us your name and we will send you a copy free.

A little straw will serve as a help to other foods, but foods must be given that have in them a larger amount of digestible constituents.

There is no reason why the beef calves should not be given the same kind of food as the cattle that are being pushed forward to the time when the final effort shall begin. Good clover hay, good corn stalks and good silage are as profitable when put into a calf as into a maturing beeve.

If the calf is fed also some concentrated feeds, the same as the other cattle, and kept growing, he will make a larger frame than he otherwise would, and will the more economically put upon it the meat necessary for profitable marketing. The man that neglects his beef calves saves a little money at first, but he will lose double the amount later on.

WM. H. UNDERWOOD.

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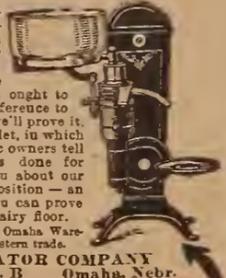
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Live Stock and Dairy

Beginning With Sheep

I HAVE had many years of experience in raising all kinds of farm stock, and have found that there is no other kind that will return a greater profit on the investment than a flock of well-bred, well-kept sheep. It does not necessarily follow that they should be pure bred, and in fact it is better for the beginner to start with grades, improving his animals by the use of pure-bred rams and careful selection of the ewe lambs for future breeders.

The conditions existing for several years have made the growing of mutton sheep the most profitable for the average farmer, although at the present prices of wool, that portion of the profits will practically pay for their feed and keep. The sheep for the ordinary farmer to raise are those that fill the bill in the production of mutton and produce fairly good fleeces.

As to the breed, that is a matter of choice. By using good grade ewes and always breeding to pure-bred rams, never using a grade ram under any circumstances, one can, by exercising care in the selection of the ewe lambs, grade up a flock of sheep that will, for all practical purposes, equal the pure-bred stock.

The best results from pasturing are secured with alsike clover and timothy, and sheep will keep in splendid condition on such pasture.

In winter there are a variety of fodders that can be given them, anywhere from corn fodder to clover hay, though of course the latter is by far most suited to their requirements. Oats, corn-and-cob meal with bran, wheat screenings or cracked corn, all furnish them a good grain ration, though I have excellent results from feeding corn-and-cob meal with bran, and plenty of cut turnips and clover hay. Corn is hardly a good ration for breeding ewes. The muscle-forming foods, such as oats, bran or screenings,

pearance in the ring often elicits amusing scorn at the expense of the seller, or, more likely still, there will be a deadlock in the bidding until some one ventures to offer a price which he thinks he may safely give for the animals.

The stock-rearing farmer has at stake not only his financial position, but also his reputation as a farmer. If he produces good stock, it will be recognized that he possesses ability for the work, and that he can command a paying price. It naturally follows that if a man wishes to produce an article which excels in quality he must use the best material, and the man who intends to produce a good cow must have, first of all, a good calf. Having secured that, he must next direct his attention to the matter of feeding.

During late years there has been much improvement in the quality, and also increase in the number, of artificial calf foods. A desire to set free for human consumption as much as possible of the milk which had hitherto been used for calf feeding appears to have given no little impetus to the trade. The fact remains, however, that for surety of success and handiness for general use milk still holds a high position.

First of all, milk is the food which Nature has provided. When man transgresses her laws, Dame Nature commences to retaliate, and the farmer who wishes to use milk substitutes will do well to make haste slowly. The digestive apparatus of even a robust calf is a delicate piece of mechanism. Hundreds of hard-headed farmers have learned this by experience, and they know that milk is the food par excellence for keeping this apparatus in proper working order.

An unnatural appetite is often created by the careless use of milk substitutes, and if the calf's stomach becomes deranged through eating bedding or other indigestible matter, the development of the animal may be seriously retarded, and

not yet been proved by the rank and file of farmers.

An argument which has been urged in favor of artificial foods is that the calves become exceedingly fond of them, and when offered new milk, because the supply of the substitute had run short, have refused to drink it. It is to be feared, however, that calves, like children, do not always know what is best in the way of foods, and it requires very little strategy to cause a juvenile to form a false opinion of what is provided to eat or drink.

Some few farmers think that spring is the best season of the year to commence rearing the calves. The reason they give is that milk is then the most plentiful, and the calves are reared with the minimum of trouble. These men are considerably behind the times, and have evidently not given much time to the study of winter milk production. Still, their experience bears out the writer's contention that milk is indispensable for the rearing of calves of prime quality, which, when sold as heifers or cows, will leave the rearer a respectable margin of profit. The first six months are the most critical in the calf's history. Any check in development during that period cannot be recovered later. The best way to keep the calf steadily growing is to use plenty of milk, improving the quality, if needful, in the manner already indicated.

W. R. GILBERT.

Sheep Notes

FIFTEEN years ago we were in the sheep business on an extensive scale for this section of the country. Our pasture land being high and rolling, it was well adapted to sheep raising, for a while at least. We kept one hundred to one hundred and twenty-five head, which ran usually in two separate bunches.

For the first few years they did well, but it seemed as though they became more and more unhealthy, although they had good range, water, etc. We finally became so disgusted that we disposed of the whole lot.

Our quarters then for winter lambing were only ordinary, and I can remember when at times we had as many as half a dozen young lambs around the stove at one time thawing out. Often they would show only the slightest sign of life, but we warmed them on the outside with stove heat and on the inside with warm milk from a nipple on a bottle. They were often too numb to suck the nipple, so it was forced between their jaws and the milk pumped down them. Many a fine lamb we have saved this way.

Many men who raise a few sheep are not able to build substantial buildings, so a straw shed or other cheap structure has to serve the purpose.

Like many others, we had a few ewes that would not own their lambs. These were tied and made to let the lamb suck until it was strong enough to fight its way; the ewes, though, generally submitted after a few days.

Often, too, we had ewes which would lose their lambs, while possibly another would have two or three of the same age. Ewes do not go by sight as much as by their sense of smell in recognizing their lambs, so we soon fell onto the trick of cutting a small piece of skin from the dead lamb, and with needle and thread fastened it onto the live lamb, near the root of the tail. When the thread was fastened through the kinks of the lamb's wool it usually held a sufficient length of time to "fool the ewe."

As our section has many ticks in the woods, our sheep often became quite badly infested. We fed sulphur with the salt, which usually gave the desired result.

Through this section dogs have always been quite a nuisance to the sheep industry; in other words, there have been sheep-killing dogs in the neighborhood. Every pasture we had, and some of them were one half mile from the barn, was connected to the barn lot by a lane. When dogs got to running in the pasture the sheep came at break-neck speed to the barn. A panel of slats was sufficient to keep them in pasture when set up in the lane, but if dogs appeared, they came "right over" the panel. I cannot remember of having over half a dozen sheep killed or wounded, while our neighbors had several.

Our flock was usually headed by a few old ewes that would come home if bothered by dogs, and they would go over an ordinary fence to do it. One sheep usually follows another, so the whole flock would come.

OMER R. ABRAHAM.

Morgan County, Indiana.



Shropshire Sheep, First Prize Wisconsin State Fair, 1908

give more satisfactory results than is possible to secure from an exclusive corn diet. Where clover hay is used exclusively it is possible to feed considerable corn without serious results; but when convenient to do so, oats should always be fed freely to breeding ewes. The result will almost invariably be large, vigorous lambs.

The financial side of the sheep business alone should induce more farmers to keep at least a small flock. But the fact that sheep will come nearer keeping a farm clean of noxious weeds than any other class of farm animals is of itself a sufficient reason for keeping a few on every farm. With careful breeding, judicious feeding and care, I will unhesitatingly say, from my own practical experience, that the raising of sheep is both pleasant and profitable.

W. HANSON.

Calf Rearing

EVERY good farmer likes to see good-class stock. He knows that poor stock are of little use on the farm, are not wanted in the market, and that if he offers them for sale they cannot be disposed of at a paying price. An intelligent buyer prefers to pay a good price for a good animal rather than pay a poor price for a poor animal. The consciences of many men are so tender on the matter that they never bid a price for anything which is not of fair average value. It requires no little boldness to go from farm to farm purchasing "scrag end" stock at a merely nominal figure, as some few traders do. Of course, there is not room in the profession for many of this class of buyers. When inferior animals are put up for sale by auction their ap-

several dollars knocked off its value when it comes to maturity. Some farmers use muzzles to put over the calf's mouth to prevent it eating anything during the first month or six weeks of its life. The idea, to a certain extent, is a very good one, but the writer's observation has led him to the conclusion that the device is mostly used by those who make free use of milk substitutes, or else underfeed their calves by giving them less milk than they require. If the calves are properly fed with milk there is little danger that they will commence to eat hay before the stomach is able to digest it.

Give the calf as much of its mother's milk as it will drink with relish during the first fortnight of its life. At the end of that period a little skim milk may be introduced, and the new milk should gradually be decreased until the calf is being fed on skim milk alone. Some farmers think that feeding less generous than this will answer practical purposes, but the writer thinks that the course suggested is not too expensive. Much depends upon the quantity of cream taken from the milk.

If the skim milk is not considered sufficiently rich, it may be improved by the addition of genuine oil meal. No calf food can be prepared more readily than this, and its suitability for calves is being proved on scores of farms which the writer knows. The genuineness of the article may be tested in a very simple manner, as follows: Simply pour hot water over it, stirring vigorously; if the oil meal swells, you may depend upon it you have a good article, and one which is ready for immediate use. Prepared calf meals make excellent supplementary foods, but their ability to supersede milk has

Poultry Raising

Among Our Feathered Friends

On dark days open the blinds wide to let in all the light you can. Light and success go together.

Soft-shelled eggs are the cause of the egg-eating habit. Give plenty of lime and do not let the hens get too fat.

Ventilation helps to give the hens vitality. Vitality gives appetite and better assimilative powers, and that means more eggs and cheaper production.

Hang a thermometer in your hen houses and keep watch of it. One of the worst things we have to meet is freezing weather in the poultry house.

Not one out of a thousand ever thinks of saving the feathers from his flock of poultry. Yet there is money in them. Wash them clean, dry them nicely and see how quickly they will sell.

Hens cannot get bugs and worms in the winter. These must be made up for in meat scraps and cut bone. Somehow hens must have this kind of food if they do well and lay many eggs.

Never send a fowl to market that is not neatly dressed. The sale depends largely on the care taken in doing this part of the work. Even the legs should look neat and clean. It will pay to do the smallest things about this work well.

Make it your earnest determination to grow as much of the feed you use in your poultry business the coming year as you possibly can. That will mean so much more clean money in the business. There is a very narrow margin of profit where one must buy all or a good share of the feed used.

E. L. V.

Cold Drafts

WHILE it is absolutely necessary that the poultry house be well ventilated even in cold weather, it is also essential that we guard against drafts of cold air. If the chickens are forced to roost in a house with large cracks, through which the cold wind is continually blowing, and the snow drifts through and piles upon them, they will not be very profitable, to be sure. Such drafts work havoc with a flock. The chickens will not lay well, and oftentimes there are great losses from diseases caused by these drafts.

All cracks of the poultry house should be made tight with battens, so that no drafts of cold air can come through them, for cracks are poor ventilators. The ventilation should always be brought about by means of windows or other openings, and these should always be on the down-wind side, so fresh air can come into the house, but no drafts.

G. H. G.

Lice and Their Ravages

WE MAY have the best of stock, our houses and equipments may be above reproach, but if we do not keep free from lice we cannot win. Lice are the worst pests the poultryman has to deal with. No disease causes more suffering, and perhaps more of our losses anyway are due to lice than we imagine.

A friend in the South asks what causes sore heads in chicks. She says also that her father has trouble with his chicks dying almost in a night. It may be strongly suspected that lice are at the bottom of the trouble. Will not our friend make a thorough examination of her chicks and see if this be not the case? If she finds little red mites on her birds or the little gray and exceedingly lively spider lice, she may be quite sure that she has discovered the source of all her trouble. If she ever gets any of these on her own body while at work about the hen house, she can judge in some small degree what an awful punishment it would be to have these miserable things crawling all over her head and other parts of her body.

Now as to cure. Have a grand old clearing-out time. Move every nest box, roost, dropping board and everything else movable right out. Clean the house from top to bottom as if you expected to live in it yourself. Use lots of hot water—scalding hot, too. Shut up the house tight and burn sulphur freely in it. Take several hours for this. Pour a quart or two of kerosene oil into a pan, and with a good brush scrub every particle of woodwork inside the house. Get it in behind all the loose boards. Soak the places where the roosts have been. White-wash the inside thoroughly. Scrub up

the roosts before you bring them back. Burn all the old straw in the nest boxes. Give these boxes a dose of the kerosene and get them scrupulously clean.

Then get some good insect powder and take each bird in hand separately. Turn each upside down and daub it good with the powder around the neck, taking great pains to have the powder sift down among the feathers. Rub some under and over the wings. Also around the roots of the tail. Be thorough with it. Then wait a few days—say a week—and go over them again.

As a preventive, give the chicks boxes with plenty of good dry dust to work in. Have this fresh now and then. Somebody has said, "Of half the chicks that die, the cause can be traced to lice." When the feathers get rough, when the birds are thin in flesh or when they seem to be dizzy headed, you may be quite sure lice are thick, and only a few of them may settle with a young turkey; just one of the miserable head lice may do it.

E. L. VINCENT.

Danger in Unslaked Lime

A LADY in western Pennsylvania writes me for information as to the cause and remedy for sickness among her poultry. The disease is not an uncommon one in many sections of the county, yet few seem to understand it. She writes: "In my flock of about sixty Plymouth Rocks and White Leghorns, some twelve or fourteen have lately begun to twist and jerk their heads and necks as if trying to swallow something. They continue this for a day or so, some becoming weak sooner than others, and sit on the ground, stretching their heads and necks out full length on the floor, and when lifted up their necks hang down and seem limp and weak. They eat very little after a day or so, yet some have attempted to eat after being sick two or three days. The crops of some seem quite hard and full, while others are empty. I examined some of the worst cases, and found white patches in their crops. In some the passage between the crop and gizzard seemed to be almost entirely closed. Nearly all were taken sick about the same time. They have had good care, large runs and pens, have been fed a variety of grain, corn, oats and wheat, and occasionally a mash of bran and corn meal. They have laid



Good Eggs and Bad Boys

fairly well, and all seemed in good condition until this trouble came on. I give the house a thorough and complete renovating twice a year, and at the last cleaning used plenty of unslaked lime."

The symptoms in this case are such as might be expected by some irritating substances, like paint, decayed animal matter, Paris green, unslaked lime, etc., which generally produce ptomaine poisoning, and what is commonly known as "limber neck." In this instance I should presume that the lime used in cleaning was the cause. Lime used as a white wash is beneficial, but when scattered freely over roosts and floors, unslaked, there is danger from small pieces being eaten by the hens, and the moisture of the throat and crop suddenly slakes the lime, forming an intensely irritating mixture. Inflammation starts, causing pain, and all desire

for food stops. In cases not too far advanced I would recommend the use of one teaspoonful of epsom salts and one half pint of water, washing out the crop with this; then give a light feed of bran mash. But like most other cases of sickness with poultry, prevention is easier than a cure. Make sure there is no decayed or poisonous matter within reach of the fowls.

VINCENT M. COUCH.

Poultry as a Business

SOME men condemn poultry as a business venture because they say one must wait five or six years before there will be any real profit for the work and money invested. That is, one must put back into his business each year all the surplus earnings of the fowls in additional houses, incubators, brooders, etc., so that there is little or nothing left to live on.

While this may be a fact, is it fair to use it as an argument against the poultry business? What business can be mentioned regarding which the same thing is not true? No enterprise ever sprang to its height of success in a moment. Of the majority may it be said that they have been the outgrowth of years of planning, of constant outlay for better equipment and of pushing into newer and more profitable channels.

It is true that few men ever make poultry a marked success in one or two years. Few expect to do so. But we do not any of us expect to become specialists in this field. With nearly all farmers poultry is a side line; but it is almost always a profitable addition to the other farm enterprises when conducted carefully and intelligently.

E. L. V.

Watering Poultry in Winter

IF CHICKENS are supplied with the right kind of water, they will drink fully as much water in winter as they do in summer. Of course, they will not drink so much of cold water; neither is it good for them. It is also very unhealthy for them to pick snow or ice to quench their thirst.

I have seen people chip out the ice from the water trough, while the chickens were around them, picking up the small pieces of ice as fast as they were chipped off. They were too thirsty to wait, and then they were used to drinking water

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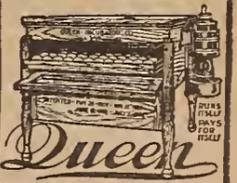
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Farm Notes

Improvement of Run-Down Soils

AT THE beginning of this discussion it may be well for us to inquire, "What is a run-down soil?" I would describe it as one that had, through neglect, mismanagement and a poor system of cropping and tillage, become in such a poor physical condition that the soil could no longer change its plant food into a condition which would be available to the growing crops.

The first matter for us to consider in the work of improving the physical condition of the soil is to see that the drainage system will relieve the soil of all surplus water to a depth of at least three feet. This lengthens the growing season of the crops, enables the ground to be worked earlier in the spring, enables it to be worked sooner after a rain, prevents it from freezing and thawing during the winter and spring, and actually assists it in absorbing valuable fertilizing elements from the atmosphere. We cannot improve the physical conditions of the soil until after the drainage conditions are right.

Soil that is saturated with water cannot be penetrated by the air and is not in condition to absorb fertility from it. After the drainage conditions are right, the improvement of the texture of the soil is the next matter for us to consider. It is a great deal better right at the outset to devote our attention to improving the texture of the soil than it is to try to extract large crops from it by the use of expensive concentrated plant foods. There are many instances where an application of a high-grade complete fertilizer will bring excellent crops for a considerable period of time when the season is favorable, but after this operation is gone through the end of the rope is reached.

Improving the Texture of a Soil

There are numerous economical considerations that must decide this question in particular cases, but under ordinary circumstances it is best to grow such crops as rye, buckwheat and other grain and forage crops that may be grown with little fertilizer to plow under to add to the humus content of the soil. A small amount of fertilizer may be used to encourage the growth of these crops until the soil is brought up to a condition that will enable us to secure a favorable growth of clover. I would especially recommend that a liberal amount of a high-grade complete fertilizer be used with the grain crop that is sowed at the time the clover is seeded. After the soil is brought up to a degree of fertility sufficient to grow good crops of clover it is easy to maintain the advantage thus gained.

The use of commercial fertilizers in improving run-down soils is a rock upon which many agriculturists have stumbled, principally for the reason that they failed to get the soil into a condition adapted to their reception and economy. It is easy to throw fertilizers away, or to squander them upon ill-conditioned soil, and the great need of our agriculture of to-day is not so much for more manure and fertilizers as the intelligent use of what we have.

Getting the Best Results From Fertilizers

When we contemplate applying manure or fertilizer to a run-down soil it is obviously a matter of first consequence that the soil on which the manure is applied shall be such that it shall tell directly upon the crops. We do not pay enough attention to bringing our soil to the proper condition for the economical reception of these manures and fertilizers. They are precious things, that cost us either money or else labor, cattle food and care in abundant measure.

Selection of a Suitable Rotation of Crops

After the soil has been brought up to a condition where it is capable of producing good crops of clover, we are in a position to further increase its fertility by the growing of this plant every third year, and the use of mineral fertilizers that will assist the clover plants in their work of nitrogen fixation.

The best rotation to adopt in view of the necessities of the case would be wheat or some small grain seeded with clover, one crop of clover hay harvested and the second crop plowed under in the fall and the ground planted to some hoed crop the following season. Corn or potatoes would make an ideal hoed crop to employ in the rotation.

When we get right down to solid facts the whole scheme of soil improvement

must be based upon the following methods: Keep the soil well supplied with organic matter or humus—that is, so far as it pertains to soils other than muck soils. Use lime to correct the acidity of the soil. Plan to have plenty of nitrogen available early during the growing season of the plants, and an abundance of potash and phosphoric acid during the time when they are reaching maturity.

Soil Bacteria, Not Soil Chemistry, the Great Question

A profound change has come about, and it has come so gradually that very few agriculturists have recognized it—the fact that the soil, instead of being a dead, inert thing, holding dead plant food, is teeming with life.

The soil is not a chemical laboratory composed of chemicals or of substances in various stages of availability; rather, it is a mass of germ life. While we have not yet obtained a sufficient knowledge of germ life, or soil bacteria, to make positive deductions, yet the results of modern investigations are so important in their bearing upon the nitrogen of the soil and plants that they must be considered in all rational plans of soil improvement.

Nitrogen is not only the most important element of plant food, but it is the most expensive. A plant can appropriate nitrogen in no other way except through its roots, and will perish in a soil where nitrogen does not exist in some combined form and in a condition obtainable by its roots. Practical experience by some of the best farmers in the country shows us that though nitrogen is so important an element and so difficult to obtain by common plants, yet there are a number of cultivated plants that obtain it somehow, and that they have the power to leave more nitrogen in the soil than was there before they were grown.

Such crops as wheat, rye, oats, barley and corn, the potato and other root crops and tubers are nitrogen consumers, but they draw their supply from the soil and leave it in a poor and worn condition. They will not thrive when the supply of nitrogen is deficient, and must be supplied artificially in order to grow satisfactory crops.

The plants that have the power to remove nitrogen from the air and deposit it in the soil require that certain bacteria be present in the soil before they can do their work of fixation. These bacteria gain admission to the plant through the root hairs and rapidly gain in numbers. The irritation thus caused in the root tissues usually results in a formation of an enlargement of the root nodule. These vary greatly in size and number. Bacteria that will work on some kinds of plants will not work on others, even though they belong to the legume family.

The conditions most favorable for the development of these bacteria are plenty of air, moisture, favorable temperature, and an absence of soil acidity. Lime is often used to sweeten the soil and enable the grower to secure a good stand of clover. In other words, our little helpers the soil organisms demand as conditions of doing their best for us that the physical and chemical conditions of the soil be favorable. I firmly believe that the successful farmer of the future will be the man who understands best how to handle his soil so that these little helpers may work under the most favorable conditions. W. MILTON KELLY.

Picked Up Around the Farm

Cover that hill of potatoes good and deep before the weather gets too cold and they chill, if you want to save them for future use.

If the colts are supplied with plenty of good feed they will make a good growth this winter; if not, they may not be worth as much next spring as they are now. See where the profit comes in?

Go down there in that old field and cut some fine brush and pile into those gullies that are starting, and don't let them get a start of you, or they will almost ruin the field in just a short time.

Take that plow with a broken handle to the shop and have it repaired now; don't wait until spring, when you need it, and then be forced to lose half a day taking it to the shop, when you ought to be in the field. R. B. RUSHING.

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Practical Farm Notes

Alfalfa---Its Culture and Value

ALFAFA is well adapted to a variety of soils, but usually does best on sandy loams, on creek-bottom and river-bottom lands. Light soils are best, but it often does well in heavy soils, and in many localities does well on heavy black gumbo ground. Lime in the soil is very conducive to its growth. It will not grow on swampy land, and in fact, for good results, the land must be well drained. It will usually thrive on soils composed largely of sand, provided the water table is within easy reach of the roots, and it will also do remarkably well on so-called "thin" land, but not so well, of course, as in soils better adapted to plant growth.

Alfalfa, like all other leguminous plants, bears upon its roots nodules produced by bacteria, by which the plants are able to draw nitrogen from the unlimited store in the air.

Through the decay of these nodules the soil is enriched with this nitrogen from the air, and the alfalfa plant in this way becomes of much value in fertilizing the land with an element which is of great value in other plant growth.

These nitrogen-gathering bacteria are not always associated with the alfalfa, therefore it is sometimes necessary that it be inoculated with the same to produce satisfactory results. It will grow in good soil without them, but it will grow a great deal better if they are present.

Where these bacteria were not present in the soil, the inoculation can be accomplished by scattering infected soil from a field known to contain these organisms, which will give good results.

Culture

For the successful seeding of alfalfa the preparation of the seed bed is of the greatest importance. Land that has been in a good state of cultivation for several years I find to be the best. It is very important to have it as free from weeds as possible. When it is to be sown in the spring, the land should be plowed very deeply in the fall, and then in the spring, after the weeds have started, the ground should be thoroughly disked and then harrowed until it is in the very best of tilth. Right here I will say that the land cannot be too thoroughly prepared. I find that much depends upon the condition of the land when seeded.

The seed should be plump and free from any weed seed, and should be tested before sowing. Where seed grown in the same neighborhood can be secured, I think it best to do so. And it should come from a locality having as low or lower winter temperature than the place where it is to be sown.

It should be sown as soon as all danger from frost is over in the spring, and can be either sown broadcast or drilled, as best suits the individual farmer and the tools available.

When sown broadcast, however, a roller should follow the harrow.

About fifteen to twenty-five pounds of seed to the acre is the right quantity to sow, depending somewhat, of course, on the desired results. Where it is sown only for hay, I would sow from twenty to twenty-five pounds, but for seed I would not sow over fifteen to twenty pounds to the acre.

When seeding alfalfa in the fall, the same general directions will apply, and it should be sown early enough so it will have a good start before frost comes. A frost is almost fatal to the young plants of a few days' growth.

A light dressing of barn-yard manure applied some time before the seeding will be of much help in securing a good stand, as it supplies the elements required by the young plants in the earlier months of their growth, while after it becomes well established it is a fertilizer in itself.

Alfalfa should be mowed about three times the first year of its growth, whether it is desired to save the first cuttings for hay or not. It should not, however, be cut too close to the ground, but should be cut frequently enough so that the clippings when left on the ground will not smother the young plants. I usually consider it best to leave the first few cuttings on the ground for a mulch.

Should a hard crust form on the field, on account of heavy rains while the young plants are starting, a light harrowing will be found very beneficial. In fact, after the first year a light harrowing with a sharp-toothed harrow will be of much benefit after each cutting.

In my fields, after three or four years, I have run a disk with the disks set nearly straight, and think my alfalfa greatly improved by it. This treatment will help to kill the weeds and greatly stimulate production.

Harvesting

The cutting of alfalfa should be done when about one fourth of the blossoms have appeared. It should be raked into windrows as soon as wilted, and should be stacked as soon as possible after sufficiently cured.

A hay tedder will be found to help in curing it rapidly.

Alfalfa can be stacked or put into the hay barn while the stems are yet quite tough, with little danger of damage. It should always be stacked before it is thoroughly dry, and every effort should be made to get it in stack or barn without being rained on.

When wet weather retards the curing, layers of straw can be used to advantage between the layers of alfalfa.

Alfalfa can usually be cut three times each year, and sometimes four, and even when the seasons are long, it can sometimes be cut five times, and will make all the way from one half to one and one half tons at a cutting.

If it is desired to save the seed, the second growth is usually the best, and when mowed for this purpose it should be handled as little as possible before thrashing, as ripe pods scatter the seed.

Feeding Value

As a pasture for hogs, horses, cattle and sheep, alfalfa is not excelled.

Hogs thrive on it and make very rapid growth. However, in turning cattle and sheep on it, care must be taken at first to not let them stay too long, on account of the bloating.

My favorite way of feeding alfalfa to cows and hogs in winter is to cut it up fine and mix with corn meal as a balanced ration, and when fed in this way the results, either as a producer of milk or pork, are quite astonishing to those not previously acquainted with its value.

Value to the Soil

All farmers who are not now growing alfalfa should give it a trial, and if they

have land adapted to its growth they will always be strong advocates of it for its fertilizing value.

Alfalfa roots have great penetrating power, and often reach down to a depth of ten or twelve feet; of course they do not always go this deep, while cases have been noticed in which they went much deeper.

I have raised alfalfa for several years on my farm, and know from my own experience that it is a soil renovator. I would say to the reader, give it a fair trial, and see what the results are on your farm.

R. B. RUSHING.

New Varieties of Corn

SOME recent experience and observations very forcibly impress upon my mind the risk of depending upon seedsmen for seed corn rather than providing plenty of seed from well-known tested varieties.

Last spring I tried two new varieties of yellow dent corn. In the first place, the germination was not good, as about one fourth of the seed planted did not come up. Then one variety was said to mature in ninety days; the other was a medium early variety. The stalks of the latter variety grew a little taller than the so-called ninety-day corn. Both were planted on the same date, the latter part of May. Both ripened about the same time, but hardly reached maturity before frost. It would take an expert to distinguish between the two varieties from the looks of the ears. Neither of these was as satisfactory as my own raising of known varieties.

My neighbor invested in a new variety of corn very highly recommended by the seedsmen. His corn was planted rather early. It grew very well but when frost came his corn was very much lacking in maturity. The blades and husks were green, and enclosed large, immature ears. If he had trusted to this variety for his entire planting he would have harvested an immature crop.

Better plant your own seed corn.

A. J. LEGG.

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Are There Lean Years Ahead?

IT MAY BE QUESTIONED whether a good meal's victuals, though it be prepared and served after the highest art, can ever impart inward satisfaction equal to being able to say, "What did I tell you? I knew it would come out that way."

This is a general principle, but when the subject of the prophecy happens to be that wildly skittish and unsettled thing the weather, and the elements kindly conspire to bring about a fulfilment, the inward satisfaction must be almost too intense for words. For look. If Uncle Sam, with his high-priced forecasters, with his lavish array of rigamajigs to record air-pressure, temperature and atmospheric moisture, with his telegraphed daily reports from spots all over the broad map where the isobars and isotherms bend and twist like loose wires—if Uncle Sam himself dare not take chances on more than three days ahead, while a common, plain man, with no more apparatus than a goose's wish bone or the bark on the north side of a tree toad, can say authoritatively whether this winter will require fourteen tons of coal, or that thirteen tons will be a-plenty, no human being should have a better right to be big feeling.

* * *

MIND YOU, PROPHECY AFTER THE FACT will have to be excluded. That's too easy. If, for example, in the middle of July, when the ground is dry as powder because it hasn't rained a drop since Decoration Day, when it came down like pitchforks, point foremost, the man who on that sloppy holiday went forth to seek a strayed calf, and returned wetter than if he had fallen into the river above the dam, deserves no meed of praise when on July 14th he says, "I knew we were in for a dry season. When it's going to be that way the last rain is a soaker." He didn't utter a peep about a drought then. That was the furthest from his thoughts when he was plodding homeward with the reluctant calf, the water squashing out of his shoe tops.

No. To be a properly authenticated weather prophet one should set down in black and white on January 1st (or on whatever date he'll have his weather year begin) his forecast, sign it in the presence of at least two competent witnesses, file it with the county clerk, whose duty it shall be to check off the items with the events, be they favorable or unfavorable in their outcome.

* * *

IT WOULD BE HANDY, of course, if he could look ahead with vision clear enough for temperatures—whether the spring were to be early or backward; whether the summer were to be a scorcher or merely humanly endurable; about how long the frost would hold off and how hard the winter was likely to be. But even if he could make no better fist of that than the old almanacs, which printed alongside the days of late July, "About this time expect hot weather," the prophet's claim to honor in his own country could be cashed in at face value if he could give us a just estimate of the precipitation of snow and rain for the ensuing year.

For, after all, the amount of water that the heavens bestow upon the earth is the main thing. After all, we living things, be we animals or plants, are children of the sea. Whether we actually are immersed in it or whether we wait for the watery vapor from it to be thrust up into the cold upper air along the mountain ridges, chilled into rain or snow to fall upon the thirsty soil, we are children of the sea, and our life is water borne. Farming is a pumping problem. The plants suck up the soil moisture through root tips and stalks, potent pumps that lift from fifteen to twenty-five pounds for every ounce of their dry structure. Plants are like men, at their best when working full powered. Since the farmer is at his best when his plants are at their best, and plants are at their best when there is sufficient pumping for them to do, it would be information of the highest importance if the amount of snowfall and of rainfall for a given locality for the ensuing year could be forecasted with even rough accuracy.

The real desideratum, of course, is a reliable rain maker, one who could load up and shoot off his great guns aimed at the sky (surely a target big enough not to miss), and bring down the rain whenever necessary. But up to the time of going to press our luck with rain makers has been discouraging. They couldn't deliver the goods. The modern sort which professes to joggle the rain loose by giving the atmosphere a rude shock (the atmosphere whose most trivial thunder storm is to our biggest cannon what Niagara is to bursting a paper bag) is not a whit more successful than the ancient conjure man with his meticulous sprinkling of water with due ceremony to pantomime to the spirits what was expected of them, and his solemnly spoken master words which forced the spirits willy-nilly to do whatever he asked. How it may be with rain making in A.D. 9009, or even A.D. 2009, we dare not presume to say, having in view the laboratory experiments of Loeb, by which streams of watery vapor were directed here and there by electricity. We shall have to wait beyond our lifetime, though, for that sort of thing to be applied to field crops. Even controlling precipitation by artificial bodies of water, or extending the garden farther and farther into the desert, which many believe in, is scoffed at by experts. There was increased rainfall after Salton Sea came into being, but "after" does not always mean "because of." One good shower over the territory which had the increased rainfall would have used up all the water Salton Sea held.

* * *

OBSERVATION OF THE COMPARATIVE AMOUNT of precipitation over a long term of years is made into a sort of picture by drawing straight-across lines for the years, and straight-up-and-down lines for the degrees of rainfall, one of these a heavy line representing the normal amount of rain and snowfall. As this precipitation ranges from high to low and over a term of years, there appears a curve, or rather a wave-like line. The crest of the wave is an excessive rainfall in such and such a year; the trough of the wave is an extremely droughty season in such and such a year. Some sort of rhythm, as it were, appears like the recurring wave beat on the sea beach. The problem is to find the period between the wave crests. Some say it is eleven years, some say seven, some say four. It must be admitted that a seven-year cycle is the most alluring, since there are seven days in the week, seven holes in a man's head, seven tones in the musical scale, seven primary colors in the rainbow, seven planets (if you leave out a few), seven senses (if you add a couple), and it is notorious that seventh sons of seventh sons have the gift of looking into the future and warning you to beware of a dark man with a bundle. The period of eleven years would naturally break up into two subperiods of seven and four, and altogether it resolves itself into "come seven," and "come eleven," and "fo' eleven fo'ty-fo'." Certainly out of these three choices of periodicity there ought to be one that would fill the bill, inasmuch as they are stated as "about" four years, "about" seven years, "about" eleven years. There is much virtue in "about." It gives you room to turn in.

* * *

THE PERIOD OF OBSERVATION has not been long enough all over the United States to determine very much, but in New England and the Mississippi Valley it has been going on since 1834. The curves wriggle across the page in what looks to be about the same tempo, but a closer examination reveals the amazing fact that they don't match. What is excessive drought in New England is very excessive rainfall in the Mississippi Valley, and vice versa. This makes it somewhat difficult to prophesy that the year 1909, for example, will be a wet year or a dry year. It may be sappy in one locality and parched in another. Further, as E. B. Gariott has pointed out, "Months that are exceptionally warm or cold, wet or dry, over the United States east of the Rocky Mountains exhibit opposite tendencies west of the Rocky Mountains."

And even accurate and long-continued observations in America alone will not be sufficient, since there is some sort of relation between the extremes of weather in the states east of the Rocky Mountain, and Europe, with a similar relation between Pacific Coast weather and western Asia.

* * *

NEVERTHELESS, THIS YEAR PAST has been one of exceptional late summer drought, particularly in the winter-wheat section. The lack of soil moisture left the plant less able to fight through the winter season. It may very well be that we are about to enter a period of lean years in which the stingy skies will drop less rain and snow than common upon the thirsty earth. Whether the period of drought be four or seven or eleven, it will be well that farmers prepare for its oncoming. What is known as the Campbell system of soil culture, or more popularly as "dry farming," will conserve the winter precipitation in the soil by keeping the surface mellow and well broken up, so that the drying winds may not suck up moisture from the needy plant roots and blow it abroad upon the viewless air.

Even if next year should be normally moist and rainy, it will be the part of wisdom to adopt this method; and if it should be droughty, the method will enable the farmer to make a crop little inferior to the average.

Back Talk to Lewis

Letters from Readers

ALFRED HENRY LEWIS, care FARM AND FIRESIDE.

DEAR SIR:—It is with much interest that I have read your articles in FARM AND FIRESIDE under the heading "Politics." But in your comments on our President's attitude toward the farmer in appointing a commission to look into the condition of the farmer and report as to what measures might be enacted toward helping and encouraging him in his great work, I am inclined to think that "you are barking up the wrong tree."

Some have claimed that the appointment of such a commission was made only for political gain and for a political purpose, but such an accusation could emanate only from a political trickster having lost all manhood and self-respect and willing to sell a noble and true man's past record, and in fact truth and veracity itself, for a mess of political gain and supremacy. And when you say in your article that the President in appointing this commission gave rise to the thought that he (the President) considered the farmer and tiller of the soil as an inferior being intellectually and at par with a "non compis mentis," I think that you have seriously wronged a great and a good man and one of the best friends the farmer ever had.

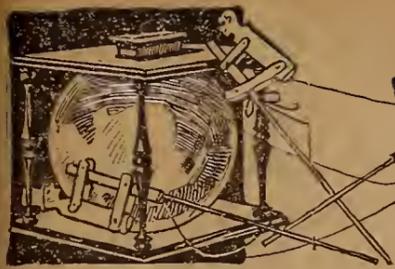
No, sir! I cannot think, and I think I voice the sentiments of thousands of intelligent farmers, when I say that Mr. Roosevelt never for a moment entertained the thought that you attribute to him. But what did he mean, what was his object in view, in appointing this commission? Simply to guarantee to the farmer the same privilege and give him the same encouragement through legislative acts that other classes of men have enjoyed from time almost immemorial.

And again, if it is true, as Mr. Roosevelt has often expressed himself, and other great men as well, that this country and other countries must look to the farmer not alone for the bread they eat, but for a large majority of the men and women who must rule and influence this nation and other nations, no development, however great, is or could be any too good for the farmer.

This, in my humble opinion, was the thought or thoughts of our great President when this commission was appointed, and instead of criticizing the motive of the Chief Executive or "slurring" the aim and work of this commission, let us welcome any aid and let us cheerfully grasp any helping hand extended to us to aid us to rise to a more exalted life.

Oklahoma.

D. N. LEERSKOV.



Politics

Francis Joseph Heney



By Alfred Henry Lewis

FRANCIS JOSEPH HENEY was seated at the trial table of a San Francisco court. The rays of the four-o'clock sun were struggling through the panes and lighting dimly the interior.

Morris Haas, grog-shopper, ex-convict, underthug of the graft ring, pushed slowly through the crowd. Coming up to Mr. Heney from the rear, he pressed a pistol against Mr. Heney's head and fired. He aimed for the temple. The shot went low, and traversing from right to left, lodged under the ear. Mr. Heney is in a hospital, and the chances of his recovery as this is written balance evenly between life and death.

When shot, Mr. Heney was engaged in presenting the people's case against "Abe" Ruef, political boss and king of San Francisco's public thieves. Some impression of the expansive black iniquity of Ruef may be drawn from this that his bail had been fixed at \$1,500,000. Some picture of his power may be gathered from the fact that he readily gave it.

* * *

MR. KNOX, WHILE ATTORNEY-GENERAL, discovered Mr. Heney, and named him special attorney for the government to prosecute the Oregon timber thieves. Mr. Roosevelt confirmed the selection. Mr. Heney went to Oregon and obtained indictments against nineteen men. He landed eighteen, and the bag included one United States Senator, two members of the House of Representatives, the President and two members of the Oregon Senate, the mayor of the Oregon town of Albany, a land-office receiver, two land commissioners, a surveyor general, a superintendent of forests, and an agent of the land office.

These were given jail sentences and fines.

San Francisco, graft bitten to the heart, asked Mr. Heney to take the trail of city grafters. He secured indictments against "Abe" Ruef, Mayor Eugene Schmitz, "Pat" Calhoun, business intimate of Pierpont Morgan and president of the United Railroad of California, Louis Glass, president of the Pacific States Telephone Company, Tiley L. Ford, ex-Attorney-General of California, and divers smaller rascals, members of the Ruef-Schmitz ring, holding places on the board of supervisors. The prosecutions were in progress when Mr. Heney was shot down.

* * *

IT WAS UPON SAINT PATRICK'S DAY, 1859—as though his mother would pay his Irish father a compliment—that Mr. Heney was born. This was in the village of Lima, state of New York. Four years later the Heney's moved to California, and the earliest recollections of Mr. Heney are of the city of San Francisco.

Mr. Heney began his education in the public schools. He became instantly celebrated for his love of fighting and his love of books. He was better at the books than at the fighting; for, of a slight figure, his head and his heart have been ever stronger than his hands. Emerging from the public schools, he set his youthful eye upon Berkeley University. The elder Heney "wouldn't have it." Which was strange in an Irishman; for the Irish, of all peoples, most honor the bookman. Being defeated in his Berkeley aspirations, young Heney took a term or two at night school. Later, he journeyed northward into rural California and taught country school. At last, the Berkeley dream still leading him, he returned with enough hard-won money in his pocket to compass its fulfilment.

To Berkeley went young Heney. And there he would have stayed the four-year course had it not been for that inborn lust of battle. The college paper spake slightly of young Mr. Heney. Young Mr. Heney pummeled the editor, as an Irish matter of course. Later, going more into detail, he thrashed the actual author of the attack. He used a rawhide for the latter exercise, backing the ceremony with a six-shooter. He who was rawhided also possessed a six-shooter. Discovering which, young Mr. Heney threw away the cowskin, and offered to "shoot it out." The public interfered, and the college authorities closed the incident by expelling young Mr. Heney.

* * *

STREWING ASHES ON THE HEAD OF HIS HOPES, his future clothed in sackcloth, Mr. Heney again left San Francisco and journeyed into the far country of Idaho. His stop was in the mining camp of Silver City. Here he straightway engaged as teacher in the public school.

After he was engaged, the "big boys" came down to the local tavern to "look him over." They jeered at his splendid new clothes, mocked him for a "dude." This in no wise disquieted Mr. Heney, who believed that Solomon's wisdom had been best displayed in his

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

magnificence, and remembered that Joseph's earliest boost up the ladder of fame was through his coat of many colors.

Mr. Heney, now arrived at the mature age of twenty, was pleased with his Silver City employment. The "big boys," students at the Silver City Seminary, liked to fight. It was their boast that they had never failed to "lick the teacher." In Mr. Heney the "big boys" met their Waterloo. He beat them over the head with sticks of stove wood, and piled them up in bleeding heaps. For this they loved him, and the Silver City school of Mr. Heney is to this day recalled as the best it ever had.

Not yet arrived at his majority, Mr. Heney traveled into the town of Chalice. The local lawyer, then upon the brink of a term in the legislature, left his office and business in charge of Mr. Heney. The latter knew no law. None the less, in the boundlessness of his self-confidence he proclaimed himself ready for clients. Three of the camp's most distinguished spirits retained him to defend them against a charge of homicide. They had "bumped off" a fellow card-sharp, but contended that it was a "killing," not a murder. The trial took place in the gambling room of the leading saloon, which temple of chance had been the scene of the tragedy. The judge used the faro table as a bench, the lay-out being removed. The prosecuting attorney was there in great feather. Mr. Heney was also there, somewhat overborne and daunted of his new surroundings. He didn't feel half so forensic as he had before the trial began, and when his turn to speak arrived his tongue cleaved unto the roof of his mouth.

Mr. Heney's clients craved a brief respite from the judge. Leading him to the bar in the front room, they proceeded to unlock his frozen eloquence. He returned to the scene of action like a giant refreshed, and plunged into a wordy battle with his opponent. The talk on both sides was remarkable for its loose and reckless character, and good judges declared later that it was only through the mercy of Gehenna that some one wasn't shot.

In the war of words the prosecuting attorney had the better of Mr. Heney. That self-made barrister was reduced to the expedient of menacing the people's advocate with a chair. In this strategy he found himself greatly indorsed by his clients, who felt that they were getting their retainer's worth. Even an on-gazing public was inclined to applaud an argument so familiar and so near.

The judge interposed, said he couldn't stand it, and fined both attorneys for contempt. The prosecuting attorney at this fell into a pet and resigned. Mr. Heney, encouraged, pressed his cause; and, having now no opposition, he secured a verdict of acquittal amid the clamors of the multitude.

Thus did Mr. Heney win his first case.

* * *

MR. HENEY RETURNED TO SAN FRANCISCO to study law. In two years he was admitted to the bar. Being now a full-fledged lawyer, authorized to make trouble for himself and others in that capacity, he did the characteristic thing, and went down to Tucson on an indefinite visit to his brother Ben's.

The latter relative, aside from his business in Tucson, owned a ranch and a trader's store at Fort Apache. The manager of the ranch and the manager of the store were robbing him. Brother Ben seized upon the visit of Mr. Heney to institute a needed change.

By Brother Ben's direction, Mr. Heney descended upon the ranch and "run out" the pillaging manager. Then he crossed over to Fort Apache and "run out" the piratical manager of the trading store. It took a gun play to make these improvements, but Mr. Heney was not driven to shoot. He had but to reach for his artillery, and both the ranch malefactor and the store malefactor surrendered without compelling him to unlimber.

Mr. Heney was now thirty years of age and felt it. Falling into pensive communion with himself, he took an account of his personal stock. He was a good cow puncher, and could ride and rope and hog-tie and flank

calves and work a running iron with the best hand on the range. He knew mining and storekeeping. His health wasn't good, and his finances were on a par with his health. Following this survey he decided to practise law in Tucson, and as adding to the gaiety of nations, began by proclaiming himself a candidate for the legislature. He had an Irishman's instinct for politics, an Irishman's confusion as to issues. It took him some time to determine whether he was a Republican or a Democrat. In the debate of spirit which preceded such finding, the Irish half of him overcame the German half. He emerged a Democrat, and made announcement to that Jeffersonian effect. Also, he did the unexpected, and burst forth as a "reformer." This latter outbreak set Tucson aghast. His reform spirit took the shape of objecting to gamblers and rum sellers ruling Tucson.

Mr. Heney did not go to the legislature.

* * *

THIS LUNGE INTO POLITICS on the side of white reform in no wise told against Mr. Heney in the popular esteem. The West is tolerant. For which liberal reason, while Mr. Heney was regarded as crazy, no one found fault with him for his efforts toward clean government.

Mr. Heney kept up his war for good. He was not without occasional success. But, compared to the whole, it was no more than a slight success—like some thumb-nail patch of white in a prairie-wide expanse of black. Neither did he show himself a best of politicians. There was too much fight, too little conciliation. He was good at controversy and bad at consultations, excellent in argument while weak in expedients.

For a season—it was of the shortest—the sun seemed to rise on Mr. Heney's reform hopes. Mr. Cleveland became President, and named Mr. Heney's candidate governor of the territory. Mr. Heney himself was made attorney-general.

As Arizona's attorney-general Mr. Heney began an exhaustive study of graft and grafters, and instituted suits for the recovery of public money theretofore improperly or criminally paid out. Such was his Roman energy that he scrupled not to sue Brother Ben, who had been paid an illegal one thousand dollars as an expert accountant. Also, he lodged a bill of complaint against his own law partner for accepting an unauthorized fifty dollars a month in connection with the territorial schools.

One bright morning Mr. Heney found the territorial powers, that then were, doing their felonious best to pay into his own hands several thousand dollars which in no wise belonged to him. He went behind the miracle in search of motives and conditions. He discovered that all those "honest" comrades of his, who, crying "Reform," had accepted their offices, were buried in graft to their elbows, their eyes, their ears. Those thousands they had tendered him were a merest effort to tar him with the same foul stick wherewith they had so liberally besmeared themselves. In a commingling of disgust and despair, he resigned from out the midst of that circle of "reformers" and returned to private life. They were glad to have him go.

Mr. Heney reengaged in his private practise of the law. There was a Mr. Handy—big, violent, a political boss, a gun fighter. His wife was moved to sue for a divorce. Mr. Handy promulgated that no one, unless bent on suicide, would accept Mrs. Handy as a client. The wife came to Mr. Heney. His friends remonstrated; even his enemies—not liking to see him die that way—bid him whisperingly beware. He turned a deaf ear to such advice. He would try the Handy case, let the lead fall where it would.

Finding Mr. Heney thus obdurate, Mr. Handy coldly said that he would shoot him in two on sight. The battle came off per schedule to the satisfaction of Tucson, and Mr. Heney shot Mr. Handy in the stomach. Wounds in the stomach are reckoned scientifically fatal, and Mr. Handy presently expired in great and becoming agony. What judges and juries and prosecuting officers and other trinketry of justice came later to look into the business were all of one mind, that Mr. Heney was innocent. Indeed, about the only peril Mr. Heney ran was that of being voted a silver tea set.

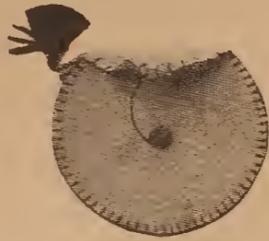
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"YOU WILL DIE," said the surgeon as Mr. Heney was lifted to the operating table, after the recent affair in San Francisco.

"I shall live to prosecute both Ruef and Haas," was the grim retort.

The last gives the keynote of the Heney character.

Inexpensive and Easily Made Christmas Gifts



Chamois stocking purse that can be made for fifteen cents

to shop and carries much money nothing is more useful than this little chamois purse. Cut a four-inch circle of fine chamois, and flatten one side by cutting straight across one half inch from the edge. Cut the back the same size, but instead of flattening, project on one side, forming a right-angled addition one and one half inches



An unusually dainty and novel needle book, made of pale blue silk, the outside covered with squares of filet net. The idea of having scissors attached to the book is a very practical one, as they are always at hand when the busy worker needs them. All of the materials necessary for the making of this needle book, including a small holly box in which to put the little gift, should not cost more than fifty cents.

wise through the center, and draw it through a tiny bit of the folded edge of the needle book. The leaves are made of three pieces of flannel in graded sizes.

Three dozen small brass rings are required to make the woven band to which the scissors are attached. Lap each ring about one fourth of an inch, keeping the first one on the top. Bring the baby ribbon down through the first and up through the lap between the first and the second, down again over the first and up through the second. Lap another ring under the second, and repeat until all are used.

The charming little apron is made of two flowered bandanna handkerchiefs. The opening should



Unique sewing bag of green striped ribbon showing a holly design. The bottom of the bag is finished with three little red tassels. The strings are of narrow red silk ribbon tied in a bow at the top. This bag can also be used for holding gloves, handkerchiefs and other little dress accessories. The cost of the materials required in its making should not exceed fifty cents.

To those of us who have not much money to spend on Christmas gifts, the Christmas problem is especially perplexing. Christmas would not be Christmas if we could not send some little remembrance to those we love. Now here is a whole page of illustrations of dainty little Christmas gifts, not one of which will cost more than sixty cents, and it is encouraging to know that even the woman who is not very clever with her needle can make them.

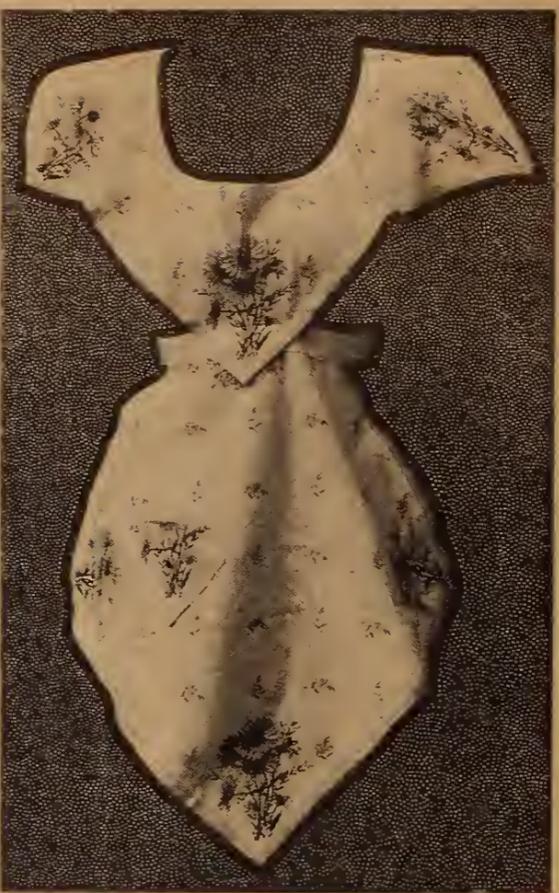
For the woman who goes to town the two pieces together (and the projection separately) with a pretty shade of embroidery silk, and work a buttonholed eyelet in the center. Fasten a twisted cord of the same silk to the corner of the projection and pass through the eyelet, finishing with a tassel.

For the needle book take a piece of ribbon twelve and one half inches long and three inches wide in the desired shade, turn up five eighths of an inch at each end, and then double, bringing the folded ends to the center of the ribbon. Make an eighth-of-an-inch seam up both sides, to form two pockets. Turn and press. Then cut two squares of light cardboard two and three fourths inches in size, and slip one in each pocket. Purchase two three-by-three-inch filet net squares, join together, and place on the top of the pocket, tacking in each corner. To form the strings, lay a piece of baby ribbon fourteen inches length-

and draw it through a tiny bit of the folded edge of the needle book. The leaves are made of three pieces of flannel in graded sizes. Three dozen small brass rings are required to make the woven band to which the scissors are attached. Lap each ring about one fourth of an inch, keeping the first one on the top. Bring the baby ribbon down through the first and up through the lap between the first and the second, down again over the first and up through the second. Lap another ring under the second, and repeat until all are used.

The charming little apron is made of two flowered bandanna handkerchiefs. The opening should be cut nine and one half inches across the straight of the handkerchief, and eight and one half inches across the diagonal of the goods. Cut a nine-inch corner off of the other handkerchief, hem and turn the corners under, forming a five-inch pocket: stitch in place as shown. For the belt use a narrow piece of ribbon or a strip of material to match in color the flowers in the handkerchiefs.

The button bag illustrated was made of a machine-scalloped doily eighteen inches in diameter, which cost twenty-three cents. Cut a six-inch cardboard, cover it and overcast it in the center of the right side of the doily, then sew eighteen bone or brass rings at equal distances apart, each one just two inches from the outer edge. Draw the word "buttons" on what seems to be



An attractive little apron made of two bandanna handkerchiefs showing a dainty flower design, with the border in blue. This bandkerchief apron can be made for the small sum of twenty cents.

your needle through the strung beads, pick up another and pass through ribbons, pick up a third and catch your thread in the selvage of the single ribbon. Pass your needle through the strung beads, crossing from one to the other, and fasten firmly in the ribbon. Start the second figure two and one fourth inches from the center of the first by threading the single ribbon and one of the double ones through two beads, then one of each of the double ones, threading them double through two beads, then the remaining one of the pair and the single ribbon through two more beads. Fasten the thread in the double ribbons between the strung beads, pass through ribbons, take up two beads, again pass through ribbons, take up two more and pass through ribbons. Go back and forth several times, to keep them in place. When finished the under side is the right side. Repeat the figures until complete.



Convenient button bag. The bag here pictured was made from a machine-scalloped centerpiece. If it is impossible to secure one, use some dainty colored cretonne and finish the edge with a narrow frill of lace. The word "buttons" is outlined in pale blue embroidery silk across the front of the bag. This bag can also be used as a receptacle for soiled handkerchiefs. It should not cost more than forty cents.

the wrong side, and outline it in colored silk. Run a ribbon in the same shade as the silk through all of the rings, and make two pretty bows on opposite sides of the bag. Fold under the edge outside of the rings, and crease, so that, when drawn up, it will give a ruffled effect.

The bead hatpin is certainly a novelty and makes a very acceptable Christmas gift. As a foundation use a light-weight round or elongated pin—one of metal or glass. Cover this smoothly with a fine bit of stockinet, and sew it firmly. Now string your beads with a very long, strong, buttonhole twist, fasten the end firmly in the center, and push the beads up close. Then with another needle threaded with finer silk commence sewing the twist around, a stitch between each bead, until it is well started; then if one is careful to keep the twist drawn tight and each row of beads close to the preceding one, the stitches may be further apart, one between every four beads. Continue winding around and around until you reach the bottom of the pin, then fasten off carefully by threading the twist and taking several stitches between the beads in the stockinet.

To make this dainty neckband it will take five and one half yards of baby ribbon, one ounce of medium-sized beads with large holes, one bunch of small beads, and two large beads for the tassels. Cut the ribbon in six even lengths: take two pieces together and on them string two beads, then two more pieces and on them string two more beads, and draw them up to the center of the ribbon. Lay your ribbons side by side on the table with the ends even. Put the beads in a convenient position for sewing, and on either side of the beads lay a single piece of ribbon. Hold the far ends stationary with a heavy weight and then begin the weaving, fastening a single thread in the inner selvage of one of the ribbons, pick up an extra bead, pass

your needle through the strung beads, pick up another and pass through ribbons, pick up a third and catch your thread in the selvage of the single ribbon. Pass your needle through the strung beads, crossing from one to the other, and fasten firmly in the ribbon. Start the second figure two and one fourth inches from the center of the first by threading the single ribbon and one of the double ones through two beads, then one of each of the double ones, threading them double through two beads, then the remaining one of the pair and the single ribbon through two more beads. Fasten the thread in the double ribbons between the strung beads, pass through ribbons, take up two beads, again pass through ribbons, take up two more and pass through ribbons. Go back and forth several times, to keep them in place. When finished the under side is the right side. Repeat the figures until complete. Finish by passing all of the ribbons through the big bead, and add a tassel of the small beads.

The little sewing bag here pictured may be developed in any kind of ribbon. Three yards of ribbon three inches wide are required, with two yards of narrow ribbon for the strings, and one skein of silk for tassels. Cut two strips of ribbon sixteen inches long, and four strips nineteen inches long. Make a three-and-one-half-inch hem at one end of the sixteen-inch pieces, and a four-inch hem at one end of the nineteen-inch pieces, with a line of running stitches half an inch above to form a casing for the draw ribbon. Overcast the six pieces together to form the body of the bag, placing two long pieces and one short piece alternately. Run in the draw ribbons, commencing between the two nineteen-inch pieces at either side; plait the lower part. Turn and stitch across the bottom, to form a broad point, and finish with tassels.



Beaded neckband, made of six strands of narrow white silk baby ribbon beaded at intervals of about two inches. Very small beads are used for the tassels. This neckband can be made for fifty cents.



Bead hatpin. If you have a particular friend who is fond of novel hatpins, she is sure to appreciate one like this. The beads used are steel and iridescent green. The pin would cost about thirty cents.

Things Worth Knowing

Australia's Forest of Stone

A FOREST of stone! That sounds unbelievable, doesn't it? But if you were to go to Albany, Australia, you would be convinced. The trees are petrified and are of gray stone. It is said that ages and ages ago, when the forest was in full vegetation, through some upheaval of the earth it was buried in sand. As time wore on, water acting on the sand, penetrated the branches and solidified. By degrees the wood disappeared under the layer of stone, and in time took its form. In later years the winds again carried away the sand, and the forest again came to light, but this time it was of stone.

Trees and Lightning

IN ORDER to discover what varieties of trees most draw the lightning flash, careful observations were made in Belgium through the twenty-three years from 1884 to 1906. The results showed that fifty-five per cent of all the trees struck were poplars; nearly fourteen per cent were oaks, seven per cent were elms and seven per cent were conifers. Isolated trees were more frequently struck than trees in groves or woods. Therefore be particularly careful not to stand under an isolated poplar tree during a thunder shower.

By measuring the cross sections of many different specimens of trees sent him, and counting the annular rings, the editor of a trade paper, "The Carriage Monthly," comes to the conclusion that it takes a tree four or five years to increase an inch in diameter. His figures for different varieties growing east of the Alleghenies indicate that to increase in diameter one inch it took a hickory 5.83 years, an oak 4.68 years, an ash 4.91 years and a poplar four years.

While these figures may be approximately correct for trees in the sapling stage, it must be remembered that as trees grow older they increase in diameter much more slowly. Thus, one of the largest of California's giant sequoias is about thirty-five feet in diameter. On the principle stated this tree would be estimated to be a mere two thousand years of age, but a count of its annular rings indicates its age to be five thousand years.

King Edward's Birthday Gift

IMAGINE a diamond weighing over a pound and a half! That was the weight of the largest diamond ever found, the great Cullinan Diamond, picked up three years ago in the Premier Mine in South Africa. On account of its great size and value (about a million dollars), no market was found for the stone until the Transvaal government decided to purchase it as a present to King Edward VII. of England on his sixty-fifth birthday.

The stone has already been cleaved into three pieces to rid it of two very bad flaws, and the largest piece is now being cut, polished and faceted. The polishing wheel is a disk of cast iron and steel that will turn twenty-four hundred times a minute, fourteen hours a day during from ten to eleven months, before the diamond shows the fifty-eight polished, sparkling facets of the so-called brilliant. In other words, the wheel must whirl 600,500,000 times before the work is finished. When cut and polished the diamond will weigh between five hundred and six hundred carats and will be worth nominally about \$2,500,000; but as a unique gem it will really be priceless.

Worship in the Orient

TO BE obliged to pray five times a day would certainly not please the average business man. But this is exactly what is required of the Mohammedans. The first prayer is said at daybreak, the second at noon, the third in the afternoon, the fourth at sunset and the fifth at nightfall. No matter where the worshiper may be—in a crowded busy street or on a lonely, forsaken desert—he must make his supplication to the Great Ruler.

Working on the Canal

A RECENT census shows that the present population of the Panama Canal Zone is about 50,000, of whom nearly half, 24,963, are employed by the Isthmian Canal Commission or the Panama Railroad Company. Of the total population, 14,635 are whites, 34,785 are negroes and 583 are Chinese. Of the whites, 6,863 are from the United States, 5,213 being male and 1,650 female, including 172 unmarried women.

Originators of Useful Things

THE Patent Office at Washington is collecting the first ideas in the different branches of invention. Such a collection is sure to prove very interesting. It takes a smart man to put into practical use another's idea, but it takes a smarter man to originate that idea.

Among the collection is a model marked 1878 of the first talking machine—rather a crude looking affair compared with the phonograph of to-day. Another, dated two years earlier, is the original Bell telephone. The "receiver" is very odd in shape. It was not intended to be held against the ear, but instead to be thrust into it.

Then there is the first sewing machine, which bears no resemblance whatever to the modern ones. It was patented by J. J. Greenough in 1842.

Charles Thurber is credited as originating the typewriter in 1843.

Many of the arts and industries that are of greatest importance to-day were unknown in 1880. The bicycle and the cash register were unthought of, likewise the mechanical typesetter.

Most of the originators and inventors were poor men. Alexander Graham Bell was a poor teacher, but his telephone brought him millions. It is said that he once offered half of his rights in it to John A. Logan, who sent him away, saying, "Nobody would want to talk through such a thing, anyway."

F. A. Flanigan, who devised a method of cleaning oil wells by dropping an electric stove down the pipe, worked in a little jewelry shop in Washington.

The richest inventor was Cyrus McCormick, who originated the machine harvester. He died worth twenty million dollars.

The nineteenth century is often spoken of as "the century of invention," but what with wireless telegraphy, the automobile and the flying machine, the twentieth century promises to be a record breaker!

Postage-Stamp Vending Machines

IN THIS age of automatic contrivances and labor-saving devices it is not surprising to find that the postal authorities have adopted a means for a quicker and wholly inexpensive dissemination of postage stamps.

The method is what is commonly understood as the slot-machine form of vending, and that it has only occurred to any one recently that here was an ideal way to sell postage stamps as well as chewing gum is the wonder of all.

One of the successful machines submitted to the postal authorities was the invention of H. H. Daniels, of Boston. It was demonstrated at the test that this machine would do all that its inventor claimed for it. One of the models vends one and two cent stamps and postal cards. There are slots for coins of different denominations, and either one or two cent stamps can be secured as desired from one delivery slot. An indicator at the bottom of the machine is turned to a mark indicating the denomination of the stamp desired. The coins are inserted to equal the number of stamps wanted. The turning of a small handle at the coin slot, after the coins are inserted, brings out the desired stamps in one strip. For instance, should the purchaser desire ten one-cent stamps, he can, after setting the indicator for one-cent stamps, insert a dime, two nickels, or ten pennies, whichever he has, and secure them in a strip. One stamp is secured in the same manner. For two-cent stamps the indicator is reversed, and the coins dropped in the same manner. The postal cards are secured one at a time, by inserting a penny and turning the little handle at the coin slot.—Technical World.

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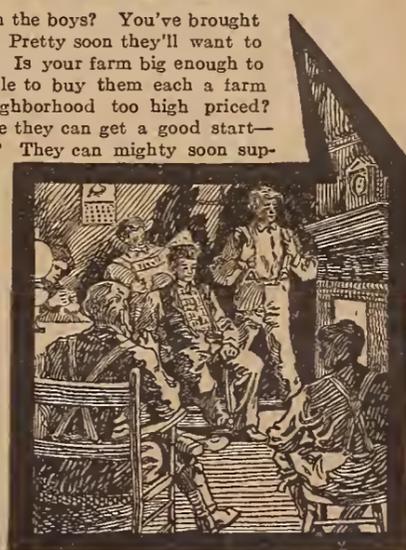
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The Soul of Honour

By Lady Troubridge

Author of "The Cheat," "The Millionaire," "The Woman Thou Gavest," Etc.



Synopsis of Previous Chapters

The story opens on Cup Day at Ascot. Among the fashionable throng are Lady Windermere and her daughter Hyacinth. The younger woman is advised by her mother to accept Marcus Quinten, who, on the death of his cousin, Lord Vannister, will be a rich man. Lady Windermere speaks disparagingly of Jack Taunton, Quinten's Australian friend, and Hyacinth demurs. Quinten asks Jack for a loan, telling him that he means to propose to Hyacinth that day. Jack Taunton reproaches Quinten for posing as a wealthy man and representing him (Jack) as being poor. Taunton asks Hyacinth if she could care for him, but she tells him her parents wish her to marry Quinten. A woman at the gate of the paddock recognizes Quinten, and greeting him as her husband, upbraids him with attempting to desert her.

CHAPTER II.—CONTINUED

THE way in which Honour reiterated "I am your wife" drove Quinten to frenzy.

"I shouldn't be so sure of that if I were you," he said brutally. "The fact was you were so full of your scruples, and your objections, and there was only one way to get around you, so I took it. We went through a form of marriage, but unfortunately not before a registrar, but before a friend of my own—not a very reputable friend, I must admit. It was just a plan, my dear, to keep you quiet. Marriage would have been perfectly fatal to my prospects at that moment, and really and truly it's your own fault for worrying me as you did. And now look at the want of consideration you've shown, coming down here and jeopardizing all my prospects just when things are looking a bit brighter for me. It's too bad of you, upon my soul it is."

"Your soul!" she cried, wildly. "Oh, to think you dare to speak of your soul. Yes, Marcus—" as he looked around for a way of escape. "You may go, and skulk away like the coward you are, but a thing like you've done to me never dies. One day you will know this as I do. Now go!"

He needed no second bidding, but turned and literally fled, and by doing so he avoided seeing what followed, for once her passionate speech had passed her lips, the girl he had called "Honour" swayed and would have fallen to the ground if she had not been caught by a passing tramp, who held her in his arms until her friend, seeing what had happened, rushed up and relieved him. This friend was at her wit's end, for Honour was really fainting on her hands. Her quest was at an end, but how to get her back to the station was the problem over which Sarah Gibson shook her head, and the publicity was becoming alarming, several people stopping to look at the group they formed.

Suddenly a voice accosted her—a voice which inspired confidence, although it was that of a stranger.

"I'm afraid you're in rather a predicament," he said. "Let me help you."

"I ought to get her back to the station," said Miss Gibson doubtfully. "But how to do it is more than I know."

"You will not be able to do it, and she's not fit to travel, if you did. Here, get her into this cab with me, and we will drive to the Ascot Hotel."

With some difficulty this was accomplished, and Taunton, in pursuit of his knight errantry, found himself hiring a private room and ensconcing therein his two companions. The girl Sarah was too upset not to speak frankly, and very soon she told him their names.

"You shall know all about us, as you've been so good," she said. "For really and truly it seems as if you've been sent by Providence to help us, for this affair is getting beyond me, and I don't know how to manage it."

She had placed her friend on a couch in a corner of the window, and she now drew Taunton a little aside.

"Honour Read is my greatest friend," she said. "We worked together in the same office in the city. Then she married, and he immediately deserted her. He's a villain, if ever there was one! She has waited here in the heat this whole day to see him just for a moment, and at last she succeeded. Now I remember," she added, "you were with him when he passed her by in the morning. Perhaps you know him? His name is Marcus Quinten."

"Your friend must take steps to recover her rights," said Taunton, unsteadily. In spite of his pity, a flood of joy was filling his soul. Through no effort of his

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own it seemed that Quinten must be publicly proclaimed not only a black-guard, but a married man; yet he strove to keep his voice cool and uninterested, and to a certain extent he succeeded.

Sarah did not answer for an instant, and in the pause Honour Read lifted up her head, turned, and finally sat up, fixing large, solemn, beautiful eyes on Taunton.

"I heard what you said," she uttered; "but it's no use. Sarah has told you all she knows, so I may as well tell you the rest. He says he never really married me; he took me to some place which I thought was a registrar's office, but the man before whom we went through a form of marriage was only some disreputable friend of Marcus'."

Taunton approached her.

"So he says now," he said, "but perhaps he won't be so ready to repeat his story in a court of law. Anyhow, you hold his reputation in your hand; you can do for him if this comes to light."

She passed her hand wearily across her forehead.

"It's all very well to say that," she said, "but in any case I feel I cannot ruin him even if it is in my power."

"Why not?" asked Taunton, harshly, but even as he asked the question he knew the answer, for in the dark eyes of the girl before him he saw that sublime unselfishness which women have shown from time immemorial to the blackguards they have cared for.

"I have loved him," she said simply.

To his surprise Lady Windermere welcomed him with a beaming smile. Could it be that Quinten had kept his word, and had made the relative positions of the two men clear to her? Her first words shattered this idea.

"We have a great piece of news to announce to you, Mr. Taunton," she said, "and Hyacinth is so shy that she has deputed me to tell it to you in her place."

"I'm sure I shall be very much interested," stammered Taunton, his eyes turned uneasily to where the girl was standing, and searched her face; but it was averted and he could not decipher its expression.

"Your friend, Mr. Quinten, and my little girl have decided to make a match of it, and so we must ask you for your congratulations. He is everything we could wish, so I think they are a pair of very lucky young people."

Taunton clenched his strong brown hands; the solid earth seemed reeling under him; the sky was darkening over his head, but he kept sufficient hold upon himself to say nothing. His silence seemed to embarrass Lady Windermere.

"Well, Mr. Taunton," she said with heavy playfulness, "have you any objection to make?"

CHAPTER III.

A FLOOD of feeling kept Taunton speechless, but in reality his brain was working with lightning quickness, turning over again in his mind the crucial question—



"I have loved him," she said simply

"It may be your duty to do so," he said. "You know best whether it is or not."

She covered her face with her hands and then she arose, and moved unsteadily to where Sarah Gibson and Taunton were standing.

"You've been so kind to us," she said. "I do not know how to thank you, but I feel I cannot say any more now; yet, after all, you know him, and you may be a great help to me with your advice if you care to interest yourself. Sarah will tell you where we live, and perhaps you will come and see us. Now, goodbye."

She held out her hand with the action of a queen dismissing a courtier; evidently this unveiling of her life to a stranger had been bitter to her, and she could bear no more of it at present.

Twenty minutes later Taunton reentered the enclosure, his heart bursting with the knowledge that morally, at all events, he alone was fitted to approach Hyacinth, and he trod on air as he came up to her and her mother, with a self-confidence which he had not dared to show before.

should he condone or acquiesce in this monstrous thing which Quinten had done?

At first it seemed to him that this was the moment to launch his bombshell, then common sense—which had been the ruling guide of this man's life—made its calm precepts heard. It would be an impossible, a melodramatic fiasco which in the heat of the moment, he contemplated. For all he knew, the girls might be two adventuresses, and the whole story a trumped-up one. So with a superhuman effort he controlled himself, cursing the delay which his kindness of heart had prompted, and which had been so fatal. Still, an engagement was not a marriage; his little Hyacinth had been bullied into this. It only needed for him to see the pallor on her sweet face to realize that that curmudgeon of a mother was responsible, and having once so decided, Taunton gave evidence of being a strong man, for he pulled himself together, and nothing but a swift glance at Hyacinth betrayed his horror at the announcement.

"Lady Hyacinth knows," he said, "that whatever makes her happy must please her friends."

Lady Windermere nodded her head. Really, the man was becoming quite presentable; it was a courteous speech, as charmingly uttered as could be, and she mentally decided to invite him to the dinner party in honor of the engagement, from which she had before been as determined to exclude him; nay, she even wondered, in a burst of philanthropy, whether she had not some poor niece or cousin, well-born and impecunious, whose hand she might bestow upon him, and she turned away quite happy in the thought that at all events the man had no longer any excuse for nourishing any presumptuous hopes with regard to Hyacinth.

To the girl the day dragged on with a hideous weariness, and it was with a sense of inexpressible relief that she heard the summons given for departure, and ran to the cloak room for her wrap.

Coming down, she found Taunton waiting at the bottom of the stairs to escort her to the carriage that was to take them around to the station, and she started back with some surprise.

"You!" she cried.

He smiled bitterly.

"Yes; there's been a muddle somehow, and Marcus has gone on ahead. Oh, Hyacinth, how could you!"

Something in his words brought back to her the moment, only an hour ago, when she had lain on his heart, and in his tone there was still the restrained passion she had felt in his kisses.

"I couldn't help it, Jack," she said, and her white lips quivered. "I really couldn't. I can't explain it to you now, but I wish—I wish I could see you somehow just to have a talk."

"Better not," replied Taunton. "What is there to be said?" Then suddenly he changed his mind. "Yes, I will see you, for there is something I, too, must say. Look here, how can I manage it? Quinten will be with you all day long, I suppose. Curse him!"

"Hush! hush!" she said. "I know how to do it. You know my cousin, Marcia Kenyon. She's an awful dear, and she—she—well, she knows how I've liked you. She will understand that I want to have one more talk. Come there to lunch on Wednesday, and she will let us be alone. Don't refuse, Jack; I don't want you to think worse of me than I can help."

"It isn't a question of thinking badly of you," he said. "Dear little girl, I couldn't do that; but you've almost broken my heart."

He turned suddenly away, and Hyacinth realized, with a stab at her heart, that it was to hide his feelings, and she had to find her way unescorted to the carriage, half way to which Quinten met her, going with them to the station, and seeing them off. It was lucky, indeed, for Hyacinth that the occasion of their departure was so public, that there could be no question of endearments.

"He shall never, never, never kiss me!" thought the foolish girl, setting her teeth as she followed her mother into the carriage, coming over in her own mind the arguments she would use and the pleas for delay; but Lady Windermere gave her no chance, for affecting a fatigue even greater than she felt, she leaned back in her corner of the carriage, and luckily Hyacinth did not realize that her mother was already framing the sentences in which the announcement of the engagement should be sent to the "Morning Post."

Quinten meanwhile retraced his steps to the house where he was staying, for not even the presence of his beloved would have induced this luxurious young man to brave the heat and discomfort of the overcrowded railway carriages. He was staying at a house called "The Grotto," an ugly, comfortable villa with wide stretches of shade and lawn, and huge shade trees. It was a party where each one went his own way, composed mostly of wives without their husbands, and husbands also visiting en garcon.

Quinten found the place deserted, for most of the party had gone out motoring after the races. He went up to his room, changed into flannels, and coming downstairs, threw himself into a long chair under a tree on the lawn, with a cigarette and a paper.

It was the most delicious hour of the afternoon, and when the butler, with a

thoughtfulness for which Quinten inwardly blessed him, had brought out the tea and whiskies and sodas and placed them at his elbow he had nothing left to wish for. The distant sound of a mowing machine came to him as he closed his eyes, and enjoyed the subtle delicious wafts of scent brought to him by the tiny wandering breezes as they passed over the flower beds.

"Sorry to disturb your well-earned repose," said a voice at his elbow, "but I'm not sorry to catch you alone."

Opening his eyes with disgust at the interruption, he saw Taunton standing between him and the sun. He could not see the expression on the latter's face, for the shadow lay across it, but he noticed that he looked as if he had come to stay, for he, too, was in flannels and was smoking.

Taunton drew up a chair and sat down. "I had quite an adventure this afternoon," he began. "Perhaps it would interest you to hear it."

"I'm sure it wouldn't," answered Quinten lazily. "Adventures always remind me of boys' books, long yarns about the North Pole, written by people who've never been outside their own back yard."

"This had nothing to do with the North Pole," said Taunton. "I can tell you it was more like the equator out there in that blazing heat, yet it was rather a sad story."

"Oh, my dear chap, how awfully boring," said Quinten, yawning. "It was an appeal from some clergyman for boots for the village children, or happy evenings for broken-down bookies, I suppose."

"It was neither one nor the other," said Taunton slowly.

The continual trifling of this wretched young hound began to irritate him.

"It was a young woman," he went on, "who came down here to meet some blackguard whom she had been fool enough to marry, but who apparently regarded the whole affair very lightly, for he'd dropped her like a hot potato."

"Not a bad judge, either," said Quinten. "I bet lots of married men would be glad to do the same if they had the chance."

"She came down here to follow him," said Taunton, "because she heard that this scoundrel was making up to a society girl, and was going to marry her. This, of course, she couldn't stand, so she wrote to him, and he didn't answer the letter. Finally she traced him here, and at last she met him, when he told her that he had never married her legally at all, making the announcement as coolly as if it were not a matter of life and death to her. After he left her she fainted, and I helped her and the friend who was looking after her."

"Don Quixote!" laughed Quinten, handing him a cigarette, but he had turned a little paler and his mirth was forced.

"Don Juan," replied Taunton, looking at him steadily.

"Your name is obvious," said Quinten, "but why mine?"

He spoke airily, but his hand trembled as he lit a match.

"Can't you guess?" asked Taunton.

The face at which he was looking crimsoned suddenly.

"You've something up your sleeve," said Quinten. "You had better tell me what it is."

"It's just this," was the cool reply. "I have seen the girl, Honour Read, to whom you are either married, or whom you have betrayed by a trap, which is nothing more nor less than the height of infamy. She has told me her story, and now I think, under the circumstances, you had better tell me yours."

Quinten threw away his cigarette. He sat up, and looked his interlocutor straight in the face with that hard, bland look which was his characteristic expression.

"May one inquire what business it is of yours?" he asked.

"If you ask that question," answered Taunton, the calmness of his manner broken up by a rising gust of anger, "you must be even a greater fool than I could imagine; but, no, you are not a fool. You know well enough why I'm asking you this, and you can hardly suppose that I'm going to allow this miserable farce of your engagement to Hyacinth to go on."

He spoke with a rising tide of fury which almost choked him, but he was met with an airy laugh.

"My dear fellow, you have no 'locus standi' in the matter at all," observed Quinten lightly; "and I take leave to prophesy that you never will have. I'm no more married to Honour Read than you are, and whether I duped her or not is no earthly concern of yours."

For a moment Taunton felt nonplussed. The sang froid of the man before him was so admirable, and his scoffing words seemed almost to reduce the tragedy to an ordinary sordid intrigue. It was only the memory of the dark, pitiful eyes of the girl he had seen off by the train not half an hour ago which kept

before his inner consciousness the fact that he was dealing with a rascal.

"I don't think you'll find it so easy to slip out of as you seem to imagine," he said.

"Well, it's her word against mine," was the reply. "The word of a couple of adventuresses against a man who, after all, has a few pals and a certain amount of reputation."

Taunton got up from his chair.

"Very good," he said. "At all events, we understand each other. Of course the girl's story has got to be proved, as you say, and she'll want money to help her to prove it."

"Quite so."

"Well, that money she shall have," thundered Taunton. "I'd give her half my fortune, if necessary; but it will not be necessary, for I cannot think so badly of Lady Windermere as to imagine that when I go to her with this story she will allow her daughter even to be so much as in the same room with you."

"Then you intend to go to her?" inquired Quinten with white lips.

The two men were at grips now mentally, and Quinten, lightly as he carried it off, felt that the affair might well ruin him; but according to his code, it was no time to show the white feather. He had risen also, and the two men stood facing each other.

"Very well, go to her," he said. "But I warn you that I shall go first, and I shall appeal to her not to see you."

Taunton received this remark with a grim smile, for he knew that in two days' time he would have his promised interview with Hyacinth, and it would go hard with him if he did not warn her, although his whole soul revolted at the idea of doing so; as a matter of fact, there were insuperable obstacles to making this young innocent girl understand the cruel wrong which another woman had suffered at Quinten's hands.

"There is no more to be said."

The words were short and blunt, and he was turning away as he spoke, when Quinten stopped him, for a look of fear had crept into his eyes. Too late he recollected that the money promised had not yet been given to him.

"I suppose you won't go back on your word about the money you promised me—the loan of five hundred pounds?"

His words were met with a short burst of sarcastic laughter, the only reply Taunton deigned to make, as he walked away across the lengthening shadows, and passed the drowsy-looking shuttered windows of the villa on his way back to the hotel.

Quinten sank back into the chair with a groan of despair at his own idiocy. Why had he been such an unutterable fool as to kill the goose with the golden eggs, and to quarrel finally with the man who held the purse strings? It was inconceivable. How easily he might have taken another line and have made up a story with a touch of pathos in it. No one knew better than he did the heart of gold that lay at the bottom of Jack Taunton's rough manner. Anyhow, he could have pleaded his own cause, and have represented himself as suffering an agony of remorse. Now here he was face to face with the probability of being exposed to the Windermers, and of losing the girl who had touched his wandering fancy; worse still, there would be endless expenses connected with his engagement, even if Taunton didn't succeed in breaking it off, and then there would be the ghastly question of the settlements.

"I must wait and see what the fellow's game is," he reflected, "and then I must go up and see old Vannister. Perhaps if he knows I am going to make a decent marriage he may fork out an adequate allowance. Anyhow, it's my last chance."

CHAPTER IV.

TO JACK TAUNTON'S intense disappointment, there was no sign of the Windermere party at Ascot on the Friday following the Cup Day. Vainly he had searched the enclosure with his eyes for the sweet girlish figure which he did not deny to himself meant the whole world to him. In fact, his love was growing with such leaps and bounds that he was literally absorbed in the thought of her. Surely no man, he said to himself, could have such refined torture as his to endure in the thought that Quinten, who had also left Ascot—Quinten, that unutterable cad, with his delightful, charming manners, and his insinuating address—was with her in the proud position of an accepted lover. He tried to console himself by remembering the timid words of affection she had breathed out to him, but it was no use. Girls had said as much and more before, and they had married the suitors selected for them by their fathers and mothers; and he, man of the world as he was in the widest and best sense of the word, was able to read the character of his little lady love with a fatal accuracy. Whether she would ever become the stuff of which heroines are made he did not know, but he saw that at present her character was all in

embryo. It was a sweet medley of the indefinite promises of spring time; in fact, he was in love with a child.

During the long hot hours of that Friday he laid his plans, and consoled himself with the thought of those bygone kisses which were all he had to buoy himself up with; they at least had been real; whatever happened, nothing could take away from him their memory. But he was thankful when the dreary farce of pleasure making was at an end, and as the train bore him Londonward, his spirits rose insensibly.

At his rooms he found a letter from Marcia Kenyon, a bright, friendly little note in the large scrawling hand affected by the smart woman of the day, asking him to lunch on the Wednesday following. So Hyacinth had not forgotten; she had been as good as her word, and in a moment the whole world began to look brighter.

He lunched at his club, and then with a beating heart he took his way to the solemn town house of the Windermers in Grosvenor Square. As he walked along an absurd couplet he had once heard jingled in his mind:

Oh, how delightful to breathe the air
That is breathed by the persons in Grosvenor Square.

He smiled to himself at the foolish little rhyme that expressed his feelings so correctly, for this dingy edifice of brick and stone which sheltered her had suddenly become to him the most interesting place in the whole world. Yet it was a deucedly unpleasant errand on which he had come, and one which he did not deny to himself bore on the face of it an odious aspect. It was something of a fool's errand, too, for he had not even waited to be certain of his facts before launching his accusations; but he could not wait, something seemed to urge him on—some hidden demon of unrest tortured him until he could part those two finally.

He rang the bell with an unsteady hand, and it seemed ages before it was answered, although in reality the folding doors were opened almost instantly, and he found himself confronted with a pompous-looking butler.

"Is Lady Windermere at home?" The man hesitated, looking at him uncertainly, and Taunton filled up the pause by naming himself.

Instantly a look of comprehension came over the servant's face. He had evidently received his orders.

"Not at home, sir."

Taunton stood still, flabbergasted with a full realization of the sentence he had so often heard, that an Englishman's house is his castle. Then he turned away to wait till Wednesday.

[TO BE CONTINUED]

Her Version of It

SHE was a wee scrap of a thing just three years old, but with the soul of a heroine shining out of her great brown eyes. It was her first visit to the "Zoo" and the babel of queer noises and rows of strange big beasts might well have daunted her baby heart. But she scorned to seem afraid. Only when they approached the towering form of the elephant did she draw back.

"I'm not goin' too close, farver," she whispered; "I might scare him!" —M. G. H.

A Twilight Troubadour

Stars above and shadows under;
In the branches of the tree
All the leaves are hushed with wonder,
All the air is mystery;
Twilight falls on vale and hill—
Hark! A voice calls, *Whip-poor-will!*

Faintly down the darkness fragrant,
With its dew-steeped perfume strong,
From this feathered minstrel vagrant
Float the syllables of song;
Lyric quaver, flute-like trill—
Hark! An echo, *Whip-poor-will!*

Happy poet, in the lonely
Woods he sings his heart's delight;
What to him if echoes only
Are his answer in the night?
These his dearest hopes fulfil—
Hark! And once more, *Whip-poor-will!*
—Frank Dempster Sherman.

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Isaac Bears the Wood for His Sacrifice



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Jacob and Rachael at the Well

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Sunday Reading

"As Ye Sow"

A DEED sown carelessly oft becomes a habit; a habit repeated forms a character, and character is that which makes a destiny. So let us be careful of the little deeds that we perform day after day. Let us make them noble and inspiring, remembering that we cannot reap the harvest of a beautiful character if we have sown seeds of selfishness, of malice, of hatred, of anything ignoble or unworthy the name of Christian. It may seem a very small thing to you when Mrs. J., for instance, comes running in to tell you the latest bit of scandal that she has heard, or when Mr. B. boasts of a particularly shrewd business transaction. But these two, Mrs. J. and Mr. B., are both sowing the seeds of a character that will develop rapidly and rankly as a weed grows.

If our daily thoughts are pure and true, our actions will reflect these thoughts, and the foundation of our character will be laid, to be built upon step by step, as we grow in spirit and grasp the meaning of some of the world's problems. Suppose we imagine that each good and kindly deed of ours is just one block in the pedestal that we are raising for our characters to rest upon some day. If we are thoughtful and careful of the little deeds, and continually sweet spirited, how lofty shall our characters stand.

A man who was always known to be the soul of honor was once placed in a position where it would have considerably embarrassed him to keep a promise. And so he broke it, but not without compunction.

However, the time came again when he had made a promise that was difficult to carry out, and so he broke this one, but with less compunction and an almost nonchalant feeling of justification. And so it went on. Seed by seed he sowed deeds of carelessness, of selfishness, of falsehood, until one day, when the opportunity offered, he became a thief. Mind you, in the beginning he was true and upright, a man who would have stood aghast had one foretold his future, but he was thoughtless of the little things that go to make a character, and little by little he slipped down the ladder of self-respect into the mire of crime.

"Whatsoever a man soweth, that shall he also reap. Let us not be weary in well doing, for in due season we shall reap."—Galatians vi, 7-9. B. V. A.

Be a Friend!

IN THIS day of specializing there are some things for which we have no time. We have no time nor room for jealousy. Be a friend to every one; you don't know who needs you most. We have no time to be patronizing. A girl who in heart really wanted to be a friend, turned people away from her by feeling superior. But after a while she learned to put herself in the other girl's place; she said to herself, "If you were working about the house all day, and your feet ached and your back ached, you wouldn't want any one to be impatient and imperious." And she grew so gentle and so thoughtful and so loving that many a girl in need of advice and a real friend went to her and was never turned away unsatisfied. If you have one tender or friendly or appreciative thought, speak it out quickly; don't wait until you get embarrassed by thinking it over, but let it go warm from your own heart to cheer and gladden some one while the glow is still on it. Do not be sparing, but lavish with the treasure of your heart.

Loving Words

A FEW sweet, loving words, that is all; but coming from the heart and going to the heart, they would brighten many a life and comfort many a soul as the speaker of them little knows. Let us not be so saving of them, especially as we get far on in the journey of life, and often find the way a little hard and wearisome. If they are but few, let them be often spoken between us, we who love each other in any relation of life. It is easy to get out of the way of speaking them; but it is not easy sometimes to get out of the way of hearing them, when once they have made their sweet music in our ears. And let us, for our own sake, be sure to speak them before the hearts which they might gladden have gone beyond the veil that hides them from an earthly love and care. This human love of ours is surely one of God's best gifts to us; and He must mean that we shall use it for the help and comfort of others with whom He links our lives.—Our Young Folks.

Adversity—A Character Builder

TROUBLES are often the tools by which God fashions us for better things. Far up in the mountain side lies a block of granite, and says to itself, "How happy am I in my security—above the winds, above the trees, almost above the flight of the birds! Here I rest, age after age, and nothing disturbs me."

Yet what is it? It is only a mere block of granite, jutting out of the cliff, and its happiness is the happiness of death. By and by comes the miner, and with strong and repeated strokes he drills a hole in its top, and the rock says, "What does this mean?" Then the black powder is poured in, and with a blast that makes the mountain echo, the block is blown asunder, and goes crashing down to the valley. "Ah!" it exclaims, as it falls, "why this rending?" Then come saws to cut and fashion it; and humbled now and willing to be nothing, it is borne away from the mountain and conveyed to the city. Now it is chiseled and polished, until at length, finished in beauty, by block and tackle it is raised, with mighty hoistings, high in the air, to be the top stone on some monument of the country's glory.

So God Almighty casts a man down when He wants to chisel him, and the chiseling is always to make him something finer and better than he was before.—Henry Ward Beecher in "Life Thoughts."

Chasing Rainbows

HOW many people go through life deluded with the conviction that if they could only get a little more money, get into a little more comfortable position, own a little better home, or if they could only get over the particular trouble that is annoying them at the time, they would be happy!

I know a man who had a very hard boyhood, suffered great poverty, who is now fifty years old, and he has always honestly believed that, if he could only get the particular thing he was after, or get over the particular difficulty that was annoying him at the moment, he would be perfectly happy; but he is the same anxious, restless, expectant spirit to-day as when a youth. He has been quite successful, and has done some remarkable things, but he is invariably in hot water. There is always something that nettles him or destroys his happiness, and although he is a well-meaning man, he has made his family, his employees and everybody about him very unhappy, because he is always fretting and worrying, always borrowing trouble.—Success.

Disposition

HAVE you ever said, "I wish I had a more cheerful disposition!" How much do you wish it? Enough to dispose yourself so as to be in the way of getting it? Your words are idle and sinful unless you will have it instead of wishing to have it. You are not responsible for the disposition you were born with, but you are responsible for the one you die with.

"Everything you carelessly or seriously propose to do affects what you are disposed to do. You are disposed to look on the dark side, borrow trouble, and say discouraging things. Suppose you earnestly propose for one week to look for pleasant things, and speak of them, and never speak of what you dread or do not like. You will be more cheerfully and happily disposed at the end of the week, and you know it. "If ye know these things, happy are ye if ye do them."—Maltbie Davenport Babcock.

Why We Fall

NO MAN was ever unfairly tempted since the world began. There is only one reason for failure, though we like to believe otherwise. A minister recently prayed in public: "Sometimes we stumble and fall because the temptations are so strong." Nonsense! No one ever fell because the temptation was so strong; we fall because we will not lay hold on the strength that is right at hand and that we wilfully decline to use. We fall because we want to; because we work with the temptation instead of against it. Whenever we really want to win, enough to surrender ourselves absolutely into Christ's keeping, the strongest temptation that the devil ever conceived becomes limp and flabby and impotent. "There hath no temptation taken you but such as man can bear;" and the manly thing to do is to admit it.—Sunday-School Times.

Miss Gould's Pattern Page



No. 1211—Scalloped Overblouse With Guimpe

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, two and one fourth yards of twenty-two-inch material, or one and three eighths yards of thirty-six-inch material, with three and one fourth yards of all-over lace for guimpe.



If you are not in need yourself of one of the novel aprons illustrated on this page, let me suggest that any one of them will make an acceptable Christmas gift for mother, sister or one of your girl friends.

No. 1234—Gored Apron With Pockets

Pattern cut in one size. Use any pretty sheer material, trim with lace and ribbon-run beading.

No. 1235—Lady Baltimore Apron

Pattern cut in one size. The feature of this apron is the large pocket in front. The ruffle is attached to the lower edge of the pocket.

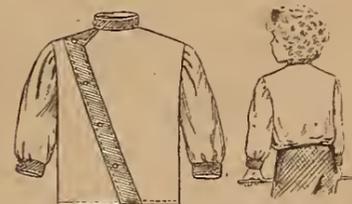
No. 1236—Catch-All Apron

Pattern cut in one size. This very novel apron has a large pocket in the shape of a horseshoe.



No. 1182—Waistcoat Shirt Waist

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and five eighths yards of twenty-seven-inch material, or two and three fourths yards of thirty-six-inch material, with three fourths of a yard of contrasting material for trimming.

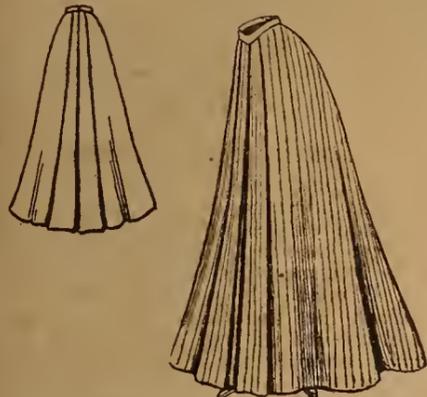


No. 1197—Double-Breasted Blouse

Pattern cut for 4, 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, two and one fourth yards of twenty-seven-inch material, or one and seven eighths yards of thirty-six-inch material, with five eighths of a yard of contrasting material for trimming.

No. 1212—Gored Skirt Tucked at Bottom

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 41 inches. Quantity of material required for medium size, or 26 inch waist, eleven yards of twenty-two-inch material, or eight yards of thirty-six-inch material.



No. 1200—Circular Skirt—Box Plaits Back and Front

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 42 inches. Quantity of material required for medium size, or 26 inch waist, five and one fourth yards of thirty-six-inch material, or four yards of fifty-four-inch material.



No. 1216—Set of Three Patterns for Little Girls

These sets of patterns are cut in 2, 4 and 6 year sizes and can be bought for ten cents.



No. 1230—Play Apron With Pocket

Pattern cut for 2 and 4 year sizes. Quantity of material required for 2 year size, three fourths of a yard of twenty-two-inch material.

NEW CATALOGUE OF MADISON SQUARE PATTERNS

Our new Winter Catalogue cannot help but be invaluable to the woman who makes her own clothes. We will send it to your address for four cents in stamps. Order patterns and catalogue from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

THE PRICE OF EACH PATTERN IS 10 CENTS

When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

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We will give any two of these patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern, for only 30 cents.

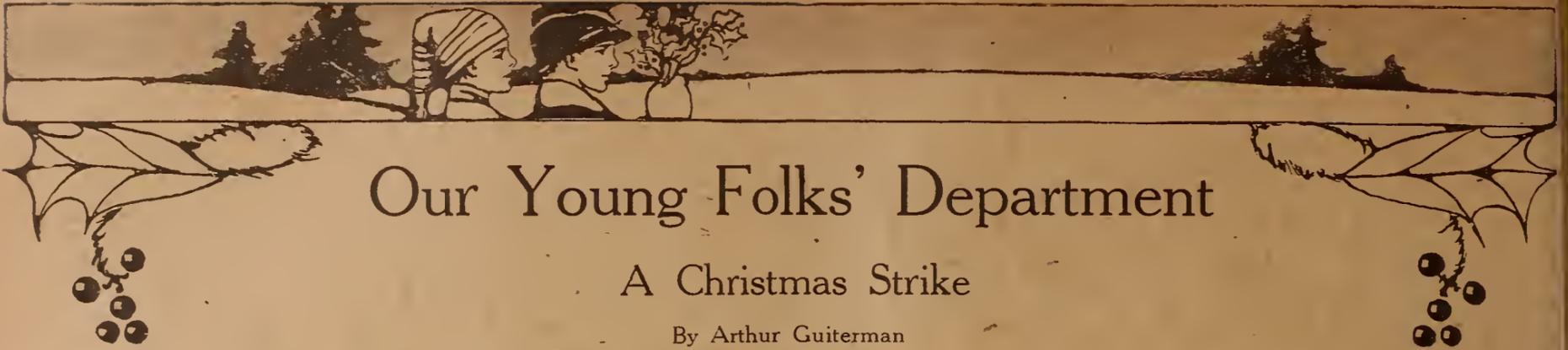
Copyright, 1908, by The Crowell Publishing Company



No. 1237—Apron With Pointed Yoke
Pattern cut in one size.



No. 1238—Apron With Large Side Pockets
Pattern cut in one size.



Our Young Folks' Department

A Christmas Strike

By Arthur Guiterman

Gifts Children Can Make

WHAT a dainty little gift the hair receiver illustrated below would be for mother, and how she would appreciate something that you made all by yourself. This little "necessity" is just as simple to make as can be. It is made of three triangular pieces of cardboard covered with cretonne or fancy-figured silk. The receiver is hung by three strands of ribbon, and the points are finished with dainty ribbon rosettes.

The match scratcher and post-card calendar can be made by a boy as well as a girl, and are very inexpensive gifts.

To make the match scratcher, buy some gray cardboard, and cut it in the desired shape. At the bottom of the card mark off a place for the scratcher. Cover it with glue, and then sprinkle it thickly with emery powder. Press the emery into the glue by setting a heavy iron on it for about thirty minutes. Cut out pretty colored pictures from fashion catalogues and paste above the emery. The words "Ready for a Scratch" can be lettered on those decorated with cats.

If any of you boys and girls have on hand four pretty picture post cards, you can make from them a most attractive and unique little calendar for the sitting room. Three months are pasted on one card, the cards being joined together with narrow silk baby ribbon and finished with a loop and bow at the top, from which the calendar is hung. If you can obtain a little pocket calendar, the months in it would be just a good size for the postal cards.

It doesn't seem possible that anything can be made from a common ordinary wooden spoon, does it? But just look at the pretty rack pictured below that one little girl made for her mother. Buy the largest spoon you can find. Enamel it in white or blue, or it is very attractive if gilded. A yard and a half of ribbon is all that is required to make the loop by which the spoon is suspended, and the bow. It is well to make grooves in the handle to keep the ribbon from slipping. Fit up the handle with little screw hooks several inches apart on which to hang the keys, scissors, button hook, etc., etc. The bowl of the spoon can also be fitted with a little egg-shaped pincushion made from blue silk. Fasten the cushion in the bowl with a little glue. Stick a few pins in the cushion, and there it is ready when mother wants a pin.

Any mother would like to be the owner of a little sewing basket like the one here illustrated. It is made from a quart fruit basket, with the outside enameled or gilded and the inside lined with pretty delicate silk. Make little pockets on the inside for thimble and thread, and attach a little needle book to one corner.

Monthly Prize Contest

THIS contest is open to all boys and girls who are under seventeen years of age. This month Cousin Sally wants you to send her the best poem you can write (it must not be longer than three stanzas) on anything pertaining to Christmas. She will give prizes as follows:

For the best poem written by a girl under twelve years of age, a charming set of dishes.

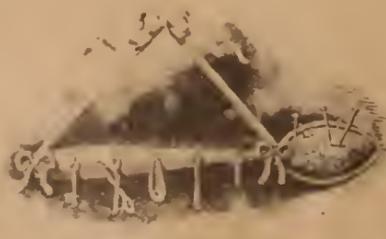
For the best poem written by a boy under twelve, a splendid game.

For the best poem written by a girl over twelve years of age, a fancy purse.

For the best poem written by a boy over twelve, a penknife.



Hair Receiver Made of Fancy Cretonne



Key Rack Made From Wooden Cooking Spoon



Calendar Made From Picture Post Cards



Sewing Basket Made From a Quart Berry Box



Match Scratcher Made of Gray Cardboard

IF you happen to be looking for a play for Christmas, either at home or in Sunday school, this one is easy to learn and is sure to prove a success.

Time: Christmas Eve. Scene: A room with a Christmas tree. Characters: The Sandman, the Merry Imp, Santa Claus, the Christmas Fairy.

Enter the Sandman, wearily, carrying a sack.

SANDMAN:
Around the world the Sandman flies
To scatter dust in wakeful eyes.
From land to land he lightly goes
To bid the wakeful eyelids close.
He sows his sand like poppy seed
To bring the sleep that all folk need,
And yet, alas! poor weary elf,



"So there, you rogues! I'll train you now! I'll teach you to defy me!"

He never gets a nap himself!
No rest he knows at Christmas time,
But on and on, from clime to clime,
He speeds toward the setting sun;
For treble tasks must now be done:
The prying eyes that fain would peep,
Rebellious lids that strive with sleep,
Must all be closed as tight as drums,
That none may know when Santa comes.

And as I haste upon my way
I scatter sand before his sleigh,

That none shall see his reindeer fleet
Nor hear their hoofs on house tops beat.
'Tis hard to work and never play.

I really need a holiday.

I'm quite worn out, and that's no jest;
I'll just sit down and take a rest.

(He sits on his sack, R. Enter Merry Imp, L.)

SANDMAN: Hullo!

MERRY IMP:

Hullo yourself.

SANDMAN: What shrimp is this?

IMP: Me? I'm the Merry Imp.

SAND: What's that?

IMP: Oho! Why, don't you know? It's I that bring the mistletoe, The tricks, the jests, the mask and mime

And all the sports of Christmas time.
I coast along the Milky Way;
I hitch behind on Santa's sleigh;
And when he bids his coursers stop,
I tie them to the chimney top.
I follow down the sooty flue,
I help him cram the stockings, too.
And leave behind in every one
A pocketful of Christmas fun.

SAND: And don't you ever rest?

IMP: Why no.

SAND: You must be tired.

IMP: Why yes, that's so—

I guess I am.

SAND: Of course you are!

I am, and as you're smaller far

You must be, too. I say, let's quit!

IMP: What! Strike? Now, come to think of it,

I'm awful tired. Yes! (Sits facing Sandman.)

SAND: Hurray! And now what shall we do?

IMP: Why, play.

SAND: But what?

IMP: (taking out jack-stones and ball):

From one of Santa's packs

I took these things. Let's play at jacks.

SAND: All right; me first!

IMP: Well, I don't care.

SAND: Give me the ball.

IMP: Go on. Play fair.

(They play busily. Enter Santa, L., at first not seeing them.)

SANTA: That Sandman's simply good for naught!

Why, I was very nearly caught.

Where last I went with stealthy tread,

Two children, wide awake in bed

I found, all eyes. And by my beard!

The Merry Imp has disappeared!

He can't be lost— (He sees them, and comes up.)

Well now I say!

If there's not both the scamps at play!

Look here, you rascals! What d'ye mean

By loafing thus on Christmas E'en,

And me with all this Christmas truck

Upon my hands to-night?

BOTH: We've struck!

SANTA: You've what?

IMP: We've struck.

SAND: It isn't right

To keep us working day and night.

SANTA: And so you've struck!

Well, on my word

That's just the worst I ever heard!

You worthless, lazy little scamps,

You think to lie around like tramps

In all this rush? Now if you don't

Get up and work at once—

BOTH: We won't!

SANTA: You won't?

BOTH: (sticking out tongues): We won't!

SANTA: Oh, where's a stick! I'll show you, sure as I'm Saint Nick! (He comes up, and taking each by an ear, lifts him from the ground.)

So there, you rogues! I'll train you now!

I'll teach you to defy me!

BOTH: Ow!

SANTA: This night to Greenland off you go

To prison on an iceberg—

BOTH: Oh!

SANTA: With not a bite to eat for two

Whole years but bread and seaweed!

BOTH: Ooo!

SANTA: Such impudence! to say "I won't"

To Santa Claus!

(Enter Christmas Fairy, L., running.)

FAIRY: Oh, Santa, don't!

I'm sure they never thought at all!

Remember, they're so very small!

I know they'll help you with the toys!

They're very sorry.

(Aside to the prisoners) Say so, boys!

BOTH: We're sorry that we gave you cause

For this. Forgive us, Santa Claus!

(They drop on their knees on either side of him.)

SANTA: All right. But, mind you, never shirk

Your proper share of needful work,

But act henceforth like little men,

And never say "We won't" again.

BOTH: We won't! We will!

SAND: That is—

IMP: We mean

We—will—not! (Very deliberately.)

SANTA: Well, then, all's serene.

FAIRY: And now, as merry as can be,

We'll dance around the Christmas tree!

ALL: (joining hands and dancing about the tree): And so as merry as can be

We dance around the Christmas tree!

[CURTAIN]

Cousin Sally's Letter

DEAR COUSINS:—

The preparing of this page for you boys and girls is one of Cousin Sally's greatest pleasures. I always feel glad when it comes time for another contest, and I wonder if you do, too? I am anxious that these contests shall appeal to every one of you, and the only way that I can make sure that they are pleasing you is from your letters. So I wish that each one of my cousins would write to me, stating just what they like best about this page; what they would like to see here, and the kind of contests that interest them most.

And now I want to speak particularly about the Post-Card Exchange. No names will be printed in the exchange column except those where the age is given. I hardly think I have made it clear that this Post-Card Exchange is only for boys and girls who are under seventeen years of age. I am therefore very sorry to tell those of you who have not sent me your ages that it will be impossible to print your names in the exchange column. I have such a long list of names waiting to be printed that I am afraid it will be some time before I am able to publish all of them.

I shall watch eagerly for a letter from every one of you, so please don't disappoint me. I would like to know how the Christmas-present suggestions pleased you.

COUSIN SALLY

In All Your Life No Trip Like This

And you can take it—you who are reading this—without a cent of cost! FARM AND FIRESIDE is going to completely pay the expenses of five of its friends from their homes to Florida and return next March. You won't have to pay a single penny of your own money.

Just think of the joy of being in that delightful country. It is June every day there, and the party will spend

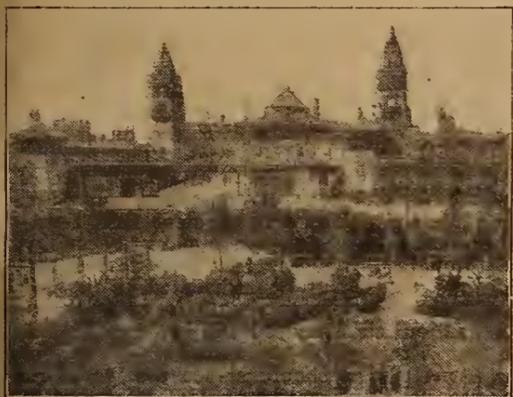
Two Long Weeks in Florida



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"Excursion Up St. John's River, Florida"

Not only do we pay all your expenses to Florida and return, but we pay all your expenses for the two long weeks that our jolly party will be there. Part of the time our headquarters will be at the world-famous Cordova and Ponce de Leon hotels, and there will be excursions to all the beautiful country around Jacksonville and St. Augustine, and up the beautiful St. John's River—called by many the prettiest stream in America.

Leave the Ice and Snow Behind



Copyright, Underwood & Underwood, New York.
"Outside View of the Hotel Ponce de Leon"

Where Our Party Will Stay

Join our jolly party for this "trip of a lifetime." There are hundreds of persons who go to Florida every winter at an enormous expense, who see no more than you will see on this Florida trip at no expense whatsoever. You will enjoy yourself in that delightful June weather as you never have before, and it will be a trip to look back upon with pleasure and to talk about as long as you live—and it won't cost you a cent.

Come With Us to

The Land of Eternal Sunshine

Enjoy the ocean bathing, the oranges, pineapples, and all the other glorious things that Florida affords while it is still cold elsewhere. Our manager will personally conduct the entire party, and will be with you to see that you have the time of your life. With the warm June weather, the oranges, the ocean bathing, the beautiful country and the superb hotels, it may truly be said "In All Your Life No Trip Like This."

Pianos Given, Too

Not only do we offer the five wonderful trips to Florida, but if for any reason you cannot take the trip with our party, we will give you instead, without a cent of cost, a fine \$350 Harrington piano, made by the Harrington Piano Co., Fifth Avenue, New York. These superb instruments are among the finest pianos in America. Absolutely every contestant will get a prize in this contest—we guarantee that. You can't possibly lose, and you can win a trip easily if you start now and hustle. All we ask is that you get your neighbors and friends to take FARM AND FIRESIDE.

This is the Way to Take the Trip

Just write a postal to the Florida Man, FARM AND FIRESIDE, Springfield, Ohio, and say, "Please tell me how I can get a trip to Florida." That's all you have to do, and I'll tell you by return mail and send you some pretty pictures of Florida besides. But if you want to make sure of a prize first thing, and not waste any time, get ten of your friends to subscribe at 25 cents each. Keep 5 cents from each subscription for yourself and send me the rest. Then you'll be a prize winner sure. Write me to-day. I'll answer immediately.

The Florida Man

Farm and Fireside

Springfield, Ohio



Copyright, Underwood & Underwood, New York.
Avenue of Palms in Florida

How to Give a Thimble Party

By Hilda Richmond

NOBODY knew why the pretty young girl threw down the paper from the county seat and burst into tears, and it took a great deal of coaxing to induce her to give her reason. At last she pointed to an account of a thimble party some young lady in town had given for a visiting friend, and said town girls had all the fun. Her mother tried to console her and tell her she might have a party if she liked, but the girl only wept harder and said there was no use trying to do anything if you lived in the country, and that it was a dead-alive, stupid existence, and that as soon as she was old enough she would hurry to town, and nothing would ever induce her to live in the country again.

It chanced that one of the guests at the farm that afternoon had happened to be at the thimble party the young reporter had described in such glowing terms. At certain seasons of the year, when business is dull and society events few and far between in the small cities, every little happening is heralded with joy, and in this case the young hostess had laughed long and loudly when she read the wonderful and lengthy account of her little party. The truth of the matter was that twelve girls sewed and played games—guessing games and other light amusements—from two until five, and then had ice cream and cake made in the home kitchen by the girl and her mother. The enterprising reporter had it that the "house was beautifully decorated for the occasion, the color scheme being white and gold," and it was partly true, for bouquets of asters and goldenrod were in all the rooms, but the girls had their good time on the lawn, only coming into the house for the cake and ice cream to be away from the flies and dust of the city street.

After much persuasion, the country girl was induced to give a little thimble party herself, and though she went into it with the air that says plainly, "I know what a fizzle it will be, but maybe after you've tried it you'll be satisfied," and ten girls were asked for an afternoon. The decorations were white asters and goldenrod, both of which could be had with little trouble, and the refreshments were cake and ice cream. The girls sewed a little while on fancy articles for Christmas gifts, and then were furnished with slips containing a little poem from which certain words were omitted. The spaces were to be filled up with the names of flowers, and a prize was given to the girl having the rhyme correct. The prize was only a pretty work basket, but the city girl's prize had been a work basket, so everything was copied as nearly as possible to try to convince the country girl of her mistakes. Well, they had a delightful time, of course, but not many stitches were taken, and before the last guest had gone the telephone jingled and the reporter wanted to know "all the details" of the party for his paper. The next day almost the identical phrases he had used for the town party appeared in the account of the country party, and the girl on the farm had her first lesson in the possibilities of country life.

As a matter of fact, the thimble party is one of the nicest ways to entertain in either city or country, and the country hostess has all the beauties of fields and woods at her command, while in the way of refreshments she decidedly has the advantage over her city cousin. The refreshments should always be simple, as anything like one hostess trying to outdo the other is sure to break up the good times. "One wet and one dry" is a good rule and also gives a wide range. Cocoa and sandwiches, cake and ice cream, cake and coffee, tea and wafers, sweet sandwiches and iced tea for hot weather, lemonade and cake, wafers and sherbet, hermits and coffee, hot oysters and coffee, and sometimes only taffy or home-made candy, according to the season, will not ruin healthy appetites, nor make the hostess too much work. The games may be "home made" or copied from magazines, and often music may be substituted for games. Indeed, just getting ten or twelve bright, prettily dressed girls together, without giving them much to do in the way of sewing and games, is to give them a good time, and the country girl has just as much right to good times as the town girl.

The Girl Who Laughs

The girl who laughs—God bless her!—
Thrice blesses herself the while;
No music on earth
Has nobler worth
Than that which voices a smile.

The girl who laughs—life needs her;
There is never an hour so sad
But wakes and thrills
To the rippling trills
Of the laugh of a lass who is glad.
—Ladies' Home Journal.



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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.

How Daisy the Outlaw Was Reformed

By D. Ward King

DAISY was an outlaw when I bought her. She had been abandoned as a hopeless case by those who attempted to manage her, and although they told me it was possible to saddle and ride her. I discovered that those who knew her best preferred to walk.

Although Daisy was an outlaw, she was not vicious; she was spoiled—spoiled by injudicious handling at breaking time—and she was covered with the marks of many a battle, a number of the scars being as large as a man's hand. Daisy did not win every battle, but she was victorious at the end of the war, for after a year or so of trouble and contest, her



One of Daisy's "Bad" Days Before Training

owner gave up trying to use her, and turned her out to grass permanently.

A marvelous change in Daisy's behavior was brought about by the change in owners. From being an outlaw of whom even men were afraid, she suddenly, within a hundred days or less after purchasing her, became so tractable and pleasant that the women of our household used her to the buggy, and except when her time was taken by the care of little colts, she has been used as a driving horse by women and children almost constantly ever since.

Daisy possesses an unusual combination of valuable traits. She is gentle, calm, intelligent. She is not afraid of covered wagons, bicycles or automobiles. She will meet and pass at night without a tremor a steam thrashing-machine outfit, with its rumbling, rattling machinery, its blazing headlight, its hissing steam and its grotesque shapes and shadows.

On the other hand, Daisy is foolishly fearful of a buggy whip. A whip in the socket irritates her (we use open bridles), and a whip in the hand of the driver so excites her that she must be held quite firmly. Daisy will not drive double, nor will she permit another horse to be led beside her, nor will she herself be led beside another horse or beside a team hitched to a buggy or wagon.

However, these defects of character and behavior are seldom in evidence if Daisy's peculiarities are known and she is kindly treated. Yet she is likely to try her halter if she is hitched to an unaccustomed hitching rack or is tied in a strange stable. She will not put her weight against a collar, so we use the breast harness. And when she is pulling, whether in the mud or in ascending a hill, she resents any urging either by the voice of the driver or by slapping with the lines. At the beginning of a journey she prefers that we do not cluck to her when we are ready to go, it seems to startle her, so we say, "Come, Daisy." One might conclude from this that horses as well as people appreciate a moment's warning before being asked to move.

The cause of all these peculiarities can be found in Daisy's early mismanagement. She refuses to pull in collar harness because all her battles were fought in a collar hitched beside another horse. The whip was an instrument of torture, so much so that when she became mine her beautiful bay coat was still dotted with yellow spots, whip marks, the ghosts of bygone wounds.

To offset these objectionable features in Daisy's character there are numerous excellent qualities, for Daisy is saddle bred and is a pleasant saddle horse. She is a bright bay, about sixteen hands high and of twelve hundred pounds weight. She is a "good looker," with the graceful, easy, springy action of the saddler, combined with the long, gliding stride so often found in tireless roadsters. Added to these excellences is the fact that she is absolutely sound in wind and limb, is as gentle as a pet, so brainy that she is considerate toward children, and is perfectly fearless. This household is unanimous in agreeing that Daisy's virtues far outweigh her weaknesses; she has no vices.

As I write these lines I am reminded of an accident which occurred in our dooryard only a few days ago. The mother had been to town, and returning, put our little daughter in charge, who started with Daisy and the buggy for the stable. In childish carelessness the little girl turned a corner too sharply and tipped the buggy over on its side. The child was stunned, no one was near, but Daisy stopped and stood stockstill. When we found them, Daisy was as motionless as a statue, with one of the buggy shafts wrenched over her back and the other as nearly under her as it could be pushed, the buggy lying flat on its side, with the harness all twisted and strained. The child crawled out unhurt before we reached the scene, and we righted the buggy with Daisy still between the shafts. Such conduct was so characteristic of Daisy that we did not realize what an escape the little one had had until we began to speculate on what might have happened if a less reliable animal had chanced to be in the harness.

We should make careful note that Daisy's natural character and disposition have undergone no change. The difference in her behavior is due entirely to a difference in treatment, and the simple narrative here presented is written for the purpose of emphasizing this difference.

Maybe you are curious to know exactly wherein this difference lies, and I will try to point out, so far as I am able in the space at my disposal, the essential differences. Fundamentally the differences are two: One is in the master's mind, and the other, partially dependent on the first, is in the master's actions. The successful master's mind must be kindly disposed toward the horse and must lend itself eagerly to an effort to comprehend the thoughts which occupy the brain of the horse. In other phrasing: The master must put himself in the animal's position and must attempt to think the thoughts of the horse. It is assumed, of course, that the master is enough of a horseman to recognize certain sorts of behavior as symptoms of a certain course of mental action on the part of the horse, for the horse cannot speak and must depend on its master's skill as an interpreter of sign language.

Now when I began Daisy's reformation I first established myself on a friendly basis with her. I used her only under the saddle at the beginning, never asking her to do anything I thought she would refuse to do, and with great patience taught her a few little tricks, such as coming sideways to the gate for the rider to open it without dismounting. I was deliberate and very gentle in every movement and endeavored to convince her that I was her friend. After I felt sure she had confidence in me I began cautiously to prove to her I was her master.

Our first, and I believe decisive, contest arose over the crossing of a tiny brook. I was riding through the pastures one day when Daisy decided that a brook of slender width was far too great for her to step across or jump.

The brook was merely an excuse for Daisy to turn back, and I instantly realized that here was my opportunity to give battle, with every chance of victory in my favor. I dismounted at once after her refusal and struck her around the fore legs, below the knee, with the long reins of my Western riding bridle. I struck only three or four light blows, and then, having remounted, again asked her to cross the brook.

A second time she stepped sideways, dancing and tossing her head. Again I dismounted and struck her above the fetlocks, this time oftener and more sharply than before, but she was determined. A

third time I urged her and a third time Daisy declined. But still I insisted, and mounted and dismounted, whipping with greater severity at each punishment, neither petting nor coaxing, but speaking coolly and quietly, taking matters calmly and without hurry or excitement, thus holding the contest to a clearly defined issue between Daisy's will and mine.

Of course I won, and more important than all else, I won without losing Daisy's friendship, which with a spoiled horse is the main point. During that struggle Daisy got her first idea of mastery without cruelty.

Perhaps I should say that I bought Daisy with no intention of using her, but valued her because she is a splendid individual and because of her blood, expecting to keep her with our bunch of brood mares. But as I became acquainted with her and discovered her sense and kindly disposition, I concluded that mismanagement was to blame for her bad behavior, and I came to look on her as an interesting problem. I was therefore still in an experimental frame of mind when I harnessed her to a driving cart and started to town. As we proceeded down the road Daisy began "hunting trouble," but I ignored all her aggravating acts and humored her to the limit. Remember, please, that the harness, the shafts, the wheels, reminded her of unpleasant and painful experiences, and at the least excuse she would have begun the old familiar tactics which had won for her in her fights with other folks.

But I would not quarrel, and the things I did not do on that drive to town would fill a page in the telling. For instance, there must not be an ounce too much pull on either rein, yet I must keep her in the road. She must be checked when she indulged in an impatient spurt, but the tension on the reins must be adjusted with almost the delicacy of a fine watch, and must change each fraction of a second or Daisy would discover an excuse for offense and would resent it. I was satisfied if I could obtain two things—motion and direction. Daisy kept in motion partly because we were friends, and partly because the battle at the brook was still fresh in her memory. Our progress up the second hill from home was laughable. My difficulties were complicated, just before we reached its foot, by a neighbor, who, seeing I had room for another passenger, hailed me for a ride to town. I dreaded the effect of taking him in, yet I could hardly frame an excuse for a refusal.

The hill near which he joined me was steep and long, with a thorny hedge on either side. True to my expectations, the added weight of my new passenger provoked Daisy, and before we were fairly started up the incline I saw she was going to quit. A word, a cluck or a slap with the lines at that instant would be received as an insult, to be resented with an angry and emphatic stop. But I must do something or she would presently stop of her own fast-growing displeasure.



Proper Training Made Daisy a Family Pet

And here the wisdom of going in a two-wheeled vehicle was made manifest, for I could turn at a sharp right angle without cramping a wheel. And this I did, turned squarely across the road and—apparently—prepared to drive right across a ditch and through the hedge. Daisy was amazed at my rash act, and in her astonishment momentarily forgot that she had planned to stop. My abruptness having served its purpose, I turned her head up the hill once more, and we traveled a rod or so before she recollected her determination to stop. Of course I was watching for the change and promptly steered her toward the other

hedge, with precisely the same results as were obtained in the first instance. I believe we made a dozen wheel marks across the hill before we reached the top. The ascent was finally accomplished with many turns, but without a halt, and Daisy has been one of our family drivers ever since.

Fertility From a Desert

BY A seeming paradox of Nature, nitrate of soda, the valuable mineral that makes fertile so many fields all over the world, is found in adequate supply only in one of the world's most barren wastes—a strip of desert in the northern part of Chile, four hundred and fifty miles long, running north and south at distances of from fifteen to ninety-three miles from the coast and at altitudes of from thirty-six hundred to thirteen thousand feet above the sea. While the climate is healthful, so absolutely sterile is the region that all supplies, food, fuel, clothing, water, and even the very soil that nourishes trees and flowers in the little plazas of the towns, must be imported.

But the one product of this desert is of a value hardly to be measured in money. Nitrate of soda is the only fertilizer containing nitrogen in the nitrate form, and it is therefore the most available food to be given to plants. Experiments by the United States Department of Agriculture and various state experiment stations have demonstrated its value in the cultivation not only of cereal and forage crops, but also of asparagus, tomatoes, cabbage, celery, turnips, peppers, sugar beets, onions, citrus fruits, tobacco and even forest trees. It is also indispensable in the manufacture of nitric acid and nitro-explosive and smokeless powders.

In the first year of the nitrate industry, 1830, 8,348 tons of the crude mineral were exported. In 1907 the nitrate exports were 1,833,800 tons. The government of Chile collects an export tax of \$0.438 on each 101.41 pounds, and from this source has derived, since 1880, a revenue of two hundred and eighty million dollars. While it has been feared that the fields will be exhausted, it is now estimated that they contain at least one billion six hundred million tons, which at a rate of consumption of five million tons a year should suffice the world for three centuries. The fields are practically controlled by a number of English and German refining firms, and one hundred or more of these refiners are organized in an association that co-operates with the Chilean government to protect the fields and to restrict the output.

The nitrate rock, or caliche, as it is called, lies at a small depth and is readily blasted out. Sometimes it is nearly pure nitrate, but it is considered commercially valuable if it yields thirty per cent of the salt, and much lower grades will undoubtedly be handled with profit in the future. The caliche is crushed, the nitrate is dissolved in huge boiling tanks, allowed to precipitate, is crystallized in large cooling pans or vats, and when dry is packed into bags for shipment. At present England takes forty per cent of the product, the United States and Germany each twenty per cent, France ten per cent and other countries the remaining ten per cent.

Reverie

At evening, when the twilight falls,
And length'ning shadows cast,
To me there comes a voice that calls
From out the distant past,
With sound as sweet as silver bells,
Or elfin music in the dells,
While thoughts come crowding fast.

With half-closed eyes I sit and dream
Of long-since vanished days,
While fairy fancies dance and gleam
And flit before my gaze,
Like forms reflected in the brook,
Or burst of sun in shady nook
As light through darkness strays.

Once more I see the friends held dear
In youth who passed away,
The golden days when skies were clear
And work seemed only play,
And feel with pleasure, almost pain,
The joys of childhood once again
When all the world was gay.

A sacred place within my heart,
Kept always fresh and green,
Is mem'ry's garden, set apart
To days that once have been;
And planted in that hallowed spot
There grows and blooms forget-me-not,
Sweet scented, pure and clean.

—Grant Kyler.

"HOME, SWEET HOME"

Our Christmas Gift to You

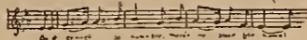
This Wonderful Picture
(Or Calendar)

is the work of Balfour Ker, one of the greatest artists America has ever known. It has been made into a beautiful Calendar for 1909, which we call the "Home, Sweet Home" Calendar. Never before has a masterpiece of such beauty, sentiment and family love been produced. This small and crude reproduction can hardly give you an idea of the wonderfulness of this magnificent painting.

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"HOME, SWEET HOME"



A Small Reproduction of Balfour Ker's Greatest Painting

Your Christmas Present

FARM AND FIRESIDE wants to give every reader who accepts one of our Last Chance Offers below **promptly**, a Christmas present. We have scoured the country for something really beautiful, and have obtained this wonderful painting by Balfour Ker for our 1909 Calendar. We are sure it will delight your whole family. It cost us hundreds of dollars merely to reproduce this great masterpiece in FARM AND FIRESIDE. There is no advertising of any kind on it.

There will be no charge for this Calendar, but you must accept one of the offers below by December 31st—that is all. The beautiful reproduction is 11 by 14 inches and will be sent to you packed to prevent breaking, and prepaid.

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We are strengthening all the departments, adding new editors, printing more illustrations, paying more and more money for reading matter, and,

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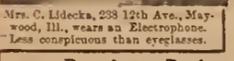
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The Household



Steam Cooker

SOME housekeepers claim that food cooked by steam is more savory and juicy, in fact more nourishing, than when it is cooked by any other method. It is an acknowledged fact that



Steam Cooker in Which Four Different Foods Can Be Cooked at the Same Time

good food is many times spoiled by being improperly cooked, and upon good cooking depends the success or failure of a meal.

Every woman ought to be interested in the new steam cooker. Food cooked in it can never burn. Onions, cabbage, meat and pudding can be cooked at the same time without any one of them partaking of the odor or flavor of the other. Water is put in the lower vessel and the food is cooked by means of the steam, which rises from the water and emits from the small tubes running in each compartment. If one has a small stove, this cooker is particularly useful, because it saves space. People who are doing light housekeeping and use small oil or gasoline stoves will find it invaluable.

These steam cookers range in price from one dollar and seventy-five cents to three dollars and twenty-five cents, according to the size.

Some Time Savers

A CLOCK in the kitchen will save many steps. There should be at least three clocks in the house—one in the sitting room, one in the kitchen and one upstairs.

Have the kitchen table on rollers, so that it can be easily moved from place to place when needed. It is a good idea to have plenty of trays to use in going to the cellar, from pantry to kitchen, dining room, and so forth.

Have needles, thread, thimble, pins, scissors and a sharp knife in as many rooms of the house as possible. These are things that come in use almost every hour of the day, and if they are in all the rooms, it will save you many steps.

It is a good policy to keep all kitchen supplies in glass jars. This will enable you to note their contents without opening them. Glass fruit jars will do nicely, also the jars with lids that contain meat or jams, that one buys at the store. In them may be put spices or anything that is used in small quantities. If tin boxes or canisters are used, then they should be labeled with the name of the contents.

"A place for everything, and everything in its place." We all know this old saying, but how many of us live up to it? So much more can be accomplished if kitchen utensils are hung in convenient places and can be easily obtained when needed. One woman has quite a system in keeping her cooking utensils in place. Above each hook she pastes a little card bearing the name of the article hung there, and she has no trouble at all in keeping things in their proper places, and she knows just where to find a certain pan when she needs it in a hurry.

Little Helps

L EFT-OVER cereals, sliced, and fried until brown on both sides, served with sirup, is fine as a breakfast dish.

Use corn meal for wiping discolored earthen and granite baking dishes, after heating them well. It cleanses without scratching.

To make an improvised pepper shaker for use in the kitchen, use a large baking-powder box, and with a small wire nail drive holes in the lid.

The juice of a lemon in hot water taken the first thing in the morning is a fine thing for the liver, and for stout women is better than any anti-fat medicine.

If wall paper has been rendered a bit oily by some careless boy resting his head against it, put a white blotter over the spot and pass a warm iron over it.

All good housekeepers have their mattresses and bed springs covered. Take unbleached muslin, and make a regular fitted cover—just the same as a mattress cover. It will keep your mattresses new and clean for years.

To save the tedium of frying small oysters, add beaten egg and rolled crackers, salt and pepper to oysters in the bowl, mix, and spread evenly in a buttered skillet, and fry brown; turn with a pancake shovel as much as it will hold.



Attractive Window Box Which Will Give a Cheerful Look to the Living Room

EVERY one loves a bright, cheerful living room, for it is the living room above all others that should have a sunny, comfortable and happy-to-be-in-it atmosphere. The living room is generally the most popular room in the house, and for this reason mother should do everything in her power and means to make it cheerful and homelike. There is not a person in this beautiful world of ours whose heart is not gladdened by the presence of flowers, and nothing can be cozier or more ornamental in the living room than a window box filled with a variety of blooming and sweet-scented flowers and fresh green ferns. To make it, two ordinary wooden boxes are required, with a zinc tray underneath each one to catch the drip.

Among the many winter-blooming bulbs adapted to pot culture in the house are the hyacinth, various sorts of daffodils and narcissi, tulips, lilies, amaryllis and freesia. The geranium, verbena, heliotrope, begonia, petunia and alyssum should not be taken from the garden for winter blooming. Any of these desired for blooming in the house in the winter should be grown for that purpose.

About the first of January it is well to go over all the pots filled with bulbs which are being held in the dark, in order to discover if any of them have been "lifted" out of the pots by being overfilled with roots. See that the soil in the pots under the bulbs is not packed in so tight that the tender roots cannot penetrate it, pushing the bulbs upward.

Laundry Hints

L USTROUS calicoes and gingham will retain their luster much longer if they are ironed on the wrong side with a very hot iron, care being used not to scorch the cloth, after which press lightly on the right side before folding.

To insure smooth, stainless garments, great care should be taken in examining the irons. Thoughtfulness and thoroughness in preparation always bring gratifying returns. Have a newspaper on the ironing board, on which to try the iron after taking it from the range, and be sure to wipe the edges carefully with a soft cloth, to remove possible flakes of soot or stove polish. In waxing the iron, do not use more wax than is absolutely necessary, as an overabundance of wax, while making the iron slip easily, often leaves disagreeable grease spots in its trail.

Stains

S HOE polish can be removed from wash fabrics by soaking the stained spots in sweet milk and laundering in the usual manner.

To eradicate smudges or tar from the hands or washable clothing, rub well with lard, then wash thoroughly with soap and warm water.

Mud stains will disappear from cloth by the following method of cleansing: After brushing the dry mud away, sponge the remaining stain with a weak solution of ammonia and water. This is absolutely safe to apply to black cloth. Colored goods, however, should be sponged with a solution of bicarbonate of soda, as the latter does not affect coloring matter.

Facts Worth Knowing

TO IMPROVE the flavor of a cup of cocoa or chocolate, sprinkle powdered cinnamon over the top before serving. It is to the drink what salt is to an egg.

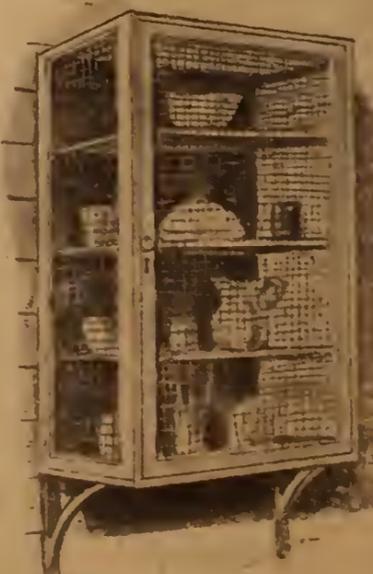
Add a few drops of vinegar to the water in which eggs are poached. They will set more quickly and perfectly.

Heat your knife before cutting new bread, and it will prevent crumbling.

Using a pair of old shears to cut off the fins of a fish is a better way than using a knife.

Laying Linoleum

BEFORE laying the kitchen linoleum, see that the hollow, worn places in the boards are built up with layers of paper fit neatly around the hard knots by cutting holes in the paper. This will keep the linoleum from wearing off in spots and ridges, and will keep the room so much warmer. Before permanently fastening down new linoleum, allow it to remain on the floor long enough to stretch. This prevents bulging and subsequent cracking.



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Some Christmas Dinner Recipes

Turkey Soup

BREAK the turkey carcass in pieces, removing all stuffing; put in a kettle with any bits of meat that may have been left over. Cover with cold water, bring slowly to the boiling point, and simmer two hours. Strain, remove the fat, and season with salt and pepper. One or two outer stalks of celery may be cooked with the carcass to give additional flavor.

Roast Turkey Stuffed With Oysters

MAKE a stuffing of equal parts of bread and cracker crumbs rolled fine. Season highly with salt, pepper and melted butter, and add one pint of raw oysters with their liquor. Add also two eggs well beaten. Stuff the turkey loosely, truss, and roast, basting frequently with butter and the drippings. During the last fifteen minutes of cooking dredge the breast with flour and baste frequently to make it brown. Make a gravy with the drippings, using brown flour to thicken.

Chicken Pie

CLEAN and cut up two chickens, and cook until tender in water to cover, seasoning with butter, pepper and salt. Thicken the gravy with one tablespoonful of flour made smooth with a little more milk. Make a crust of four cupfuls of flour, one teaspoonful of salt and three teaspoonfuls of baking powder sifted together, mixed with one cupful of butter and one cupful of milk. Roll out the crust to the size of the dish, fit it on, gash deeply in several places, and bake until the crust is brown. The dough may be cut in strips and laid crosswise on the pie, or into small flat cakes and laid over the top.

Fried Celery, Tomato Sauce

WASH and scrape celery, cut in three-inch pieces, dip in batter, fry in deep fat, and drain on brown paper. Serve with tomato sauce.

BATTER—Mix one half cupful of bread flour, one fourth of a teaspoonful of salt, a few grains of pepper, one third of a cupful of milk and one egg well beaten.

Stuffed Onions

REMOVE the skins from onions, and par-boil ten minutes in boiling salted water to cover. Turn upside down to cool, and remove part of the centers. Fill the cavities with equal parts of finely chopped cooked chicken, stale soft bread crumbs, and the finely chopped onion which was removed, seasoned with salt and pepper, and moistened with cream or melted butter. Place in a buttered shallow baking pan, sprinkle with buttered crumbs, and bake in a moderate oven until the onions are soft.

Waffles

ONE pint of milk, thickened with flour as for gravy, one tablespoonful of lard in the thickened milk, two eggs beaten separately, two teaspoonfuls of yeast powder. Make a batter of the eggs, one pint of milk, flour and a little salt, add the thickened milk, and beat light. Bake in hot waffle irons well greased.

Baked Winter Squash

CUT in pieces two inches square, remove the seeds and stringy portion, place in a dripping pan, sprinkle with salt and pepper, and allow for each square one half teaspoonful of molasses and one half teaspoonful of melted butter. Bake fifty minutes, or until soft, in a moderate oven, keeping covered the first half hour of cooking. Serve in the shell.

Cream of Lima Beans

SOAK one cupful of dried beans over night, drain, and cook in boiling salted water until soft; drain, add three fourths of a cupful of cream, and season with butter and salt. Reheat before serving.

Fruit Cake

ONE pound of butter, one pound of sugar, one pound of flour, ten eggs, two pounds of seedless raisins, two pounds of currants, one pound of citron, the grated rind of one orange and one lemon, vanilla to taste, one teaspoonful of baking powder. Bake four hours in a slow oven.

Suet Pudding

ONE cupful of chopped suet, one cupful of raisins, two eggs, one bowlful of flour, one cupful of milk, one cupful of molasses, one half cupful of sugar, two teaspoonfuls of baking powder, salt, ginger and cinnamon to taste. Steam four hours, and serve with sauce.

English Plum Pudding

ONE cupful of molasses, one half cupful of butter, one cupful of sweet milk, one teaspoonful of soda, one even teaspoonful each of different spices, one cupful of chopped raisins, three and one half cupfuls of flour. Beat well together, and steam for three hours. Serve with a hard sauce.

Maple Sirup Pound Cake

TWO cupfuls of sugar, two cupfuls of maple sirup, one half pound of butter, one cupful of milk, six cupfuls of flour, four eggs beaten separately, a little salt and a flavoring of cinnamon. This is very delicious and new.

Chocolate Rolls

WHIP the white of an egg to a stiff froth, and beat into it enough icing sugar to make a paste firm enough to mold. Shape it into long, narrow rolls like old-fashioned candy sticks, and dip each into some melted chocolate that has been flavored with maple, lemon or vanilla. While they are still rather soft roll them in some fresh grated coconut that has been thickly sprinkled on a plate. Leave them until perfectly cold, or, better still, until the following day.

Raisin Lemon Pie

ONE cupful of sugar, one cupful of chopped raisins, one half cupful of cold water, the juice of one large lemon or of two small ones, one half common cracker rolled fine, and one egg beaten to a froth, the yolk and white separate. Mix all together, and bake between crusts.

Spiced Grapes

PULP the grapes, and put the skins in one dish and the pulp in another. Cook the pulp until the seeds separate, then strain out the seeds and return the pulp to the preserving kettle, after measuring it with the skins. For each pint of pulp and skins together add one pint of sugar, one teaspoonful each of cloves and cinnamon, one half teaspoonful of grated nutmeg and one half cupful of good cider vinegar. Boil until thick and rich, then seal in small glass jars or glasses. This is a delicious jelly to serve with cold meats.

Apple Custard Pudding

PUT one quart of pared and quartered apples into a stew pan with one half cupful of water, and cook until soft. Remove from the fire, and add one half cupful of sugar, two tablespoonfuls of butter and the grated rind and juice of a lemon. Have ready two cupfuls of grated bread crumbs and two tablespoonfuls of flour; add this all to two well-beaten eggs. Turn all into a well-buttered pudding dish, and bake forty-five minutes in a moderate oven. Serve with sugar.

Mince Meat

THREE pounds of beef after it is boiled, two pounds of suet, three pounds of raisins (seeded or seedless), two pounds of currants, one pound of citron, six pounds of chopped apples, three pounds of light brown sugar, six nutmegs grated, one tablespoonful of ground cloves, seven tablespoonfuls of cinnamon, one pint of sherry wine, one pint of brandy, one quart of sweet cider, the grating of three lemons. After standing, more cider may be added. Home-made wine will answer.

Original Butterscotch

PUT one fourth of a pound of butter and one half cupful of water into an enameled sauce pan, and let the butter gradually melt. Add one pound of moist brown sugar, and let the mixture boil gently for twenty minutes, keeping it well stirred from the bottom of the kettle. When a little dropped in cold water hardens immediately, it is ready to remove from the fire, but it must continue to boil until it reaches this stage. Pour it out evenly over a buttered tin, and before it is hard mark it into squares with a knife that has been dipped in cold water.

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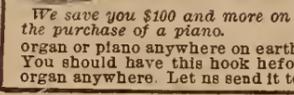
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Quick Sponge Cake

FOUR eggs (beat one minute), one cupful of sugar (beat five minutes), one cupful of flour and pinch of salt (beat one minute), one half cupful of cold water, another cupful of flour in which has been mixed two teaspoonfuls of yeast powder. Flavor to taste; use egg beater until finished. Bake in moderate oven.

Lemon Icing

ONE half pound of pulverized sugar, the juice and grated rind of half a lemon, three teaspoonfuls of sweet cream. Stir the sugar in the lemon, then add the cream, and stir until smooth. Spread on cake either warm or cold.

Frosted Grapes

SELECT fine bunches of ripe grapes; wash, and drain them until dry. Dip them carefully into the whites of eggs beaten with sufficient granulated sugar to make a nice frosting. Hang the bunches up by strings to dry. These are nice for dessert or at afternoon teas.

Indian Pudding

SCALD one quart of sweet milk; take one cupful of bolted Indian meal and two tablespoonfuls of flour, wet with cold milk, and then stir the scalded milk into it until it thickens. Into a baking dish put one cupful of molasses, two tablespoonfuls of sour milk, one teaspoonful of salt, one even teaspoonful of cloves and one quart of cold milk. Mix thoroughly. Do not stir after it begins to whey. Bake three hours, or longer if you wish it to have a red look. One cupful of raisins may be added and one cupful of chopped suet.

College Candy

INTO an enameled sauce pan put one pound of golden sirup, one cupful of boiling water, one and one half pounds of moist brown sugar and one half wine-glassful of the best vinegar. Add one half teaspoonful of cream of tartar, and let it boil until a little will harden when dropped in cold water. Then add one fourth of a pound of warmed butter and one fourth of a teaspoonful of baking soda. Stir slowly from the bottom of the kettle until the mixture becomes brittle when a little is tested in cold water, then pour into a shallow buttered tin. Pull it until it is nearly white, and flavor as desired.

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All this puts a big responsibility upon us—the responsibility of making FARM AND FIRESIDE for the coming year a bigger money's worth than ever before. Are we going to do it? You better believe we are!

We have had so many letters from our subscribers showing how much they appreciate these magnificent works of art that we are going to give you more of them, and make them better and better all the time. The next colored supplement will be

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And it will truly be a work of art. You who received the superb picture we gave with the Thanksgiving Number will realize the high standard we have set in these art supplements. We have received a great many messages of appreciation and congratulations on that picture in the Thanksgiving Number. But we are sure this beautiful Christmas picture will please you even more. It is a *perfectly beautiful* picture of Christmas happiness. And to make it more artistic we have had a pretty red and green holly border lithographed on it, and have put two appropriate Christmas verses underneath. The whole picture is finished in six luxuriant colors. It is without a doubt the most beautiful Christmas picture we have ever seen, and we looked all over for pretty pictures, too. This picture alone is easily worth the price of a whole year's subscription.

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Thoughts for the Farmer

Is the fence good where that bunch of hogs is running? If not, they may cause trouble for you and your neighbor; better see about it.

Two pigs well fed I find to be more profitable than half a dozen that are half fed and always trying to get out and cause you trouble.

Are the ewes all in a good, healthy condition? If not, sell the worst and care for the rest, so they will go through the winter and not suffer.

Don't put your fattening hogs in that old muddy pen again; provide a good, clean, healthful lot for them, and they will fatten on less feed.

See that the pregnant sows are cared for properly, so they will bring a good, strong litter of pigs, which is much more profitable than a few weak ones.

R. B. RUSHING.

Farm Notes

Rhyme of a Dozen

One step at a time,
That's the way we must walk;
One word, then another,
That's the way we must talk.

Two eyes, wide open,
That's the way we must learn;
Two hands, quite busy,
That's the way we must earn.

Three meals every day,
That's the way we must live;
Three dollars a pair
For good shoes we must give.

Four horses to work,
That's the way we must farm;
Four in the morning,
Sometimes set the alarm.

Five o'clock, daylight,
To breakfast we must go;
Five cents a yard
We must pay for calico.

Six days in the week,
We must stop working then;
Six cows to milk
Morn, and at night again.

Seventh day at last,
We must rest, read and pray,
And like a good Christian
Enjoy the whole day.

Eight hours to sleep,
Rainy mornings add a half;
Eight dollars to get
For our every veal calf.

Nine is the number
Of little pigs often found;
Nine cents, a good price,
For the old hens per pound.

Ten ears of corn
To the horse must be fed;
Ten o'clock at night
All must be in the bed.

Eleven, nearly noon,
Don't let dinner be late;
Eleven bee hives,
My! the honey they'll make.

Twelve short hours,
And the day has been run;
Twelve short months,
And another year is done.

WILLIAM J. BURTSCHER.

Agricultural News-Notes

The only real remedy for bad roads is to make them better.

Kentucky has the largest crop of blue-grass seed ever gathered.

The states of New York and Iowa lead in the production of hay.

The two grains upon which the people of the world mainly live are wheat and rice.

The first carload of 1908 corn arrived in Chicago October 8th. It was from Oklahoma.

Hon. Guy B. Tucker, Commissioner of Agriculture of Arkansas, says that rice is rapidly becoming a leading crop in that state.

Massachusetts has one of the largest granges in the United States. It is the one at Worcester, and numbers five hundred and four members.

According to the "Hawaii Planters' Monthly," the estimated output of the pineapple canneries this season is 388,000 cases, valued at \$1,200,000.

Fully one third of the foreigners who land in New York and other North Atlantic cities never get beyond the city limits of the port of entry.

Baltimore is the great canning center of the United States. Over five million cases, each containing two dozen cans, were packed there in 1907.

Alas for the Alaska wheat! It is a seven-headed, fifty-year-old fraud. Take the FARM AND FIRESIDE and get the facts about this and other frauds.

American apples are finding increased favor in European markets, notwithstanding the great injury done to the trade by dishonesty in packing.

In Oregon about eight thousand acres devoted to hop growing have been plowed up this year, and about half as many acres in the state of Washington. *

BUY DIRECT FROM OUR FACTORY

saving all expenses and profits of the dealer. Elkhart Buggies and Harness have been sold direct from our factory to the user for 35 years. We are **THE LARGEST MANUFACTURERS IN THE WORLD** selling to the consumer exclusively. We ship for examination and approval guaranteeing safe delivery. No cost to you if not satisfied as to style, quality and price. Over 200 styles of Vehicles and 65 styles of Harness. Send for new free catalog.

Elkhart Carriage & Harness Mfg. Co., Elkhart, Ind.

No. 676. Top Buggy with padded wing dash and Stanhope seat. Complete. \$57.50. As good as sells for \$25 more.



EVERY BOY wants a STEVENS for Christmas

The love of a gun is born in a boy. Nothing will delight him more than a good gun of his own.

Why not let him have his long-wanted gun and learn how to shoot? It will please him immensely.

Moreover, that's by far the best way to insure his safety. For most boys will handle a gun every chance they get, whether you know about it or not.

Give him a Stevens Rifle for Christmas and see how happy it makes him. Then see how he'll take to outdoors—how he'll tramp the woods and fields—how manly and sturdy and healthy he'll grow out in the open air. See how keen of sight he becomes, how quick to think

and to act. It's a good way to develop character in a boy.

Stevens Rifles are the safest of all guns and they're steady and true to the aim—straight-shooting, hard-hitting. And a Stevens Demi-Bloc Double-Barrel Gun, or any Stevens Shotgun, will please a man just as much as a Stevens Rifle will please a boy.

Send for the Stevens Catalog and learn how thoroughly well-made, how moderate in price these guns are. Tells how to choose and care for a gun. 5c for postage brings it. Then, Dan Beard's book, "Guns and Gunning." A book boys revel in. Full of the lore of the woods and the camp—about birds and small game—hunting and shooting—and all that a boy wants to know about guns. Sent postpaid for 20c, paper cover, or 30c, cloth cover. Your dealer can show you Stevens Rifles, Pistols, Shotguns, or if not, we supply you direct on receipt of catalog price.

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When the mercury drops out of sight, and you just can't keep the house warm, you'll find it wonderfully convenient to use a

PERFECTION Oil Heater

(Equipped with Smokeless Device)

It's very light—carry it about—heat any cold room. Turn the wick high or low—no danger—no smoke—no smell. Easily cared for and gives nine hours of cozy comfort at one filling of brass font. Finished in nickel and japan. Every heater warranted.



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with its flood of steady, brilliant light is ideal for the long winter evenings—read or sew by it—won't tire your eyes. Latest improved central draft burner. Made of brass, nickel plated. Every lamp warranted. If your dealer cannot supply the Rayo Lamp or Perfection Oil Heater, write our nearest agency for a descriptive circular.

STANDARD OIL COMPANY
(Incorporated)



Vol. XXXII. No. 6

Springfield, Ohio, December 25, 1908

Terms { 1 Year, 24 Numbers, 25 Cents
5 Years, 120 Numbers, \$1.00

The New Movement in Agricultural Education

By Hon. W. M. Hays, Assistant Secretary of Agriculture

THE impression has grown strong in America that our schools are needlessly narrow by being too much limited to the traditional general school subjects. The feeling has grown that we are educating too many away from the productive industries and away from home making. That teachers and school people have been slower to recognize this narrowness than have business people and parents is not strange. It has always been difficult for persons who have graduated in one school or under one system of instruction to teach another system.

But a new force has entered education. Scientific research has built up parallel with the older classical knowledge a body of new practical knowledge. The older knowledge which dealt with the sayings of men and with the more abstract sciences no longer has the entire field. A system of education that includes either the old knowledge alone or the new knowledge alone is deemed narrow. Courses of study blending the old and the new provide a much broader education than did the traditional subjects of a few decades ago.

This new body of scientific knowledge formed the basis of splendid courses of study, preparing men and women for the so-called higher technical vocations, as in medicine, engineering, chemistry and the various lines of agricultural research. Technical schools of collegiate grade created leaders, who in their turn are taking this new education into secondary schools, and thus to large numbers of people. Graduates from these technical high schools do not aspire to be called professionals; their field is rather leadership in the productive industries and in home making. Some of the graduates of these secondary schools, however, with further preparation in normal schools, carry this vocational education into the primary schools.

Thus scientific investigation has broadened out our collegiate, secondary and primary school system. All these schools are going to both give splendid general training and deal with the specific work which each person under the modern division of labor must perform. The school is thus brought into closer relationship with every-day life. In the cities the youths sometimes spend the day in the shop and the evening in school. In other instances there is a schoolroom in the shop. Here the experts lecture and demonstrate to the pupils the principles underlying the operations of the shop. These same teachers lead the students

at the bench or forge, thus uniting the school instruction with apprenticeship instruction.

In the consolidated rural schools likewise the teacher gives theoretical instruction in agriculture in the classroom, demonstration and practise instruction in the school laboratory, and apprenticeship instruction is secured by co-operation between the parent and the teacher. The home duties, mornings, evenings and Saturdays and during longer vacations are given an educational value under outlines planned jointly by the teacher and the parent. Thus the boy learns his agriculture in a most practical form, meeting at once the conditions of science in the classroom and the practical status of the farmer in the field. The farm girl likewise secures things new in theory and practise in the school laboratory, and works them out under the every-day con-

ditions of the farm home. And the strength these new, practical subjects will bring to the rural school will enlarge its scope and power along the general lines of education, also. The total sum of rural education will be greatly increased.

It seems perfectly clear that we must have for this work the four classes of schools—agricultural colleges, agricultural high schools and consolidated rural schools, with normal schools to aid in fitting teachers. A bill introduced in Congress, known as the Davis Industrial Education Bill, and also the Nelson Act passed two years ago, if the former be also enacted into law, will provide these four classes of schools in sufficient numbers. Below the fifty agricultural colleges the Davis Bill would provide three hundred agricultural high schools, or one such school for each district of ten of the three thousand agricultural counties. It would provide also for agriculture, mechanic arts and home economics in the normal schools. It would not forget the city youth, and would provide secondary schools of mechanic arts and home economics for those

training of collegiate, secondary and primary grade for persons in city communities. In other words, it would carry modern scientific education to the people who will work in the manual vocations of farming, manufacturing and home making.

In so far as agricultural education is concerned, the main problem is in the rural school. We have now two hundred and fifty to three hundred thousand little rural schools. If we consolidate two hundred thousand of these into thirty thousand consolidated rural schools, each provided with a teacher of agriculture and a teacher of home economics, our farm population can be put on an expert vocational basis.

America has about thirty-five million youth and fifty-five million workers and home makers. By adding one cent a day to the efficiency of our workers we would have an increased income of wealth and home comforts of two hundred million dollars annually. By adding five cents a day we would have annually a billion more of effective wealth. We could well afford to spend one fifth of either of these sums to secure the larger sum. The expenditure of forty millions would give a profit of one hundred and sixty millions; the expenditure of two hundred millions would give a profit of eight hundred millions. These figures look ridiculously large. They are neither large nor small as compared with the size of the problem. The world's greatest waste is in labor, the cause is inefficiency, the largest remedy is in general adoption of school schemes which have already proven practicable.

Our state agricultural colleges have learned how to produce efficient teachers, experimenters and editors along country-life lines. Thirty or forty secondary agricultural schools have fully demonstrated that three hundred agricultural high schools would be of immense service in American education. Six hundred successful experiments with consolidated rural schools have shown the American farmers that under the plan of consolidating, country-life education can be successfully carried to nearly all farm youth. The numbers required are thirty thousand consolidated rural schools, three hundred agricultural high schools, fifty agricultural colleges, one hundred and fifty or two hundred normal schools equipped to teach agriculture, and some tens of millions of dollars to care for the increased cost.



Congressional District Agricultural High School, Tifton, Georgia

who live in city communities. At each agricultural high school it would provide for a branch experiment station.

Its greatest work, however, would be to provide teachers for thirty thousand consolidated rural schools in county districts, for trade schools in all urban districts and for instruction in home making in all secondary and lower schools. The Davis Bill, the Nelson Act, and earlier acts for agricultural and mechanical colleges, would soon provide fifteen million dollars for education in the industrial vocations, and state appropriations would double this amount. This sum would give facilities for approximately twenty-five thousand students in agricultural colleges, one hundred and fifty thousand in agricultural high schools, and would make a good start toward providing for half a million or more in technical courses in consolidated rural schools. In a similar manner, it would provide vocational

This is the Last Number at the Old Price—See Page 26

Store the Ice Crop In a Combined Ice and Cold-Storage House

Cold Storage for the Farm

WOULD you rather receive thirty to forty cents for the eggs your hens produce than the beggarly ten or twelve cents you have been accustomed to get for them during the late spring and summer?

Certainly! So would your neighbors. Well, then, after you learn how it may be arranged to get the benefit of the higher price, why not make it possible for your neighbor to get in on the raise of the market—and charge him a reasonable price for the privilege, enough to make a living profit for yourself. If not that, you can easily work together on a co-operative plan. You can't help but make a profit either way.

The means to the end of securing the highest price for your eggs is practically incidental, a side issue. You need ice on the farm in the summer, anyway; in the dairy, in the home. It is not so much a luxury in these days of modern life on the farm as it is a necessity. If you have been progressive enough to take advantage of your opportunities, you already have an ice house on the farm. If not, you plan to have some time, and you might as well build it this winter. You've already put it off too long.

If you have yet to build, or if your present house is too small to meet your increasing requirements, then by all means build one with the double purpose of providing ice for household use and as a cold storage for farm products and necessities. It is but little more trouble and expense, and the small extra cost will soon be covered by the profitable returns from its use.

Cold-Storage and Building Plans

The accompanying drawings show the plans for a combined ice house and cold storage, or refrigerator. The only difference between an ordinary house and this is the refrigerating room built within the center—a house within a house. In building the refrigerating room one of the main considerations is resistance to pressure, both from the sides and top.

When building a new house it is desirable to have it high rather than to have it cover ground space. The elevation drawing shows a building altogether too "squat." The object of the tall house is to be able to use the season's supply of ice without going much, if any, below the top of the refrigerator. The size of the main building will depend, first, on the capacity of the cold-storage room, and, second, on the number of tons of ice that will be required for use outside of the house. It is obvious that, with the refrigerator in which to store or cool milk, cream, butter, meats and other perishables, there will be little requirement for ice outside—only the very small quantity that may be used for making iced drinks, cracked ice for the table, for freezing ice cream occasionally, etc., and where milk or butter is delivered at a distance, cracked ice for packing. For all other purposes of cooling or storing, even to keeping a barrel or keg of water cold for summer drinking, the ice-house refrigerator will be used, with all the advantages, with better results and with less waste than where the ice is removed and applied locally to individual vessels and coolers.

The refrigerator should be made large enough to afford ample accommodation, not only for the present, but for the prospective needs of the future. Skimping in size now may prove very poor economy later on when you find that you could profitably use a storage capacity two or three times greater than you had planned. If you will build double the size of apparent needs you will find that the space can be utilized later to advantage, if not by yourself, then to rent to your neighbors.

For the purpose of economizing space the drawings show a square building, but an oblong building is preferable. Doors for filling to the height of the top of the refrigerating box may be placed on two sides to facilitate handling. Above that height but one line of doors is necessary, set in the gable end.

The cold-storage building should be divided into three or more rooms. The arrangement of rooms in the drawing is merely suggestive. There should be at least a separate room for eggs, one for milk, butter, meats, etc., and a general room for miscellaneous uses.

By storing eggs in cases holding thirty dozens each you can calculate the space required to accommodate the product of the heavy laying season, which you will

want to hold until late fall or winter before marketing. And make ample allowance. You will find the plan so profitable that next season you will want to double or triple the size of your flock. By the end of the second season you will find egg storage such a money-making business that you will be warranted in building a second house; and you will build that one more in line with the advice I offer now, large enough to meet future needs.

If you can't produce enough eggs to fill it on your own farm, you can buy the neighbors' products when the market is low, holding until they are worth double or triple the price you paid. You can make a good, snug sum in that way, and it will be easy money, too, requiring but little labor and a small capital.

In calculating for the size of the ice house, make ample allowance for storing enough ice above the height of the refrigerator to meet all requirements for ice to be taken from the house to use, at least until the end of the heated term. If you should have ten, twenty, thirty or even fifty tons of left-over ice in the bottom of the house surrounding the storage box, all the better; there will be that much less to fill in the following winter, and your stored products will be safe against loss for lack of ice.

It is immaterial which you build first, ice house or refrigerator, and the latter may readily be built inside an old house.

The floor space occupied by the refrigerator will be regulated by the needs or capacity of the present house. The walls should be at least eight feet high. The posts for the main frame should be six by six, or, better, eight by eight inches, set eighteen inches to two feet apart, according to the weight to be sustained. Dressed and matched boards should be used inside; rough planks will do for the outside if fitted tight and underlaid with heavy building paper. This applies also to the entrance alley, built just high enough to walk through readily.

melting ice the whole top should be covered with a good coat of cement. The entrance must have two bevel-faced, tight-fitting doors, to exclude warm air when entering or leaving.

The egg room should have an extra large, independent ventilator, regulated with a slide inside, to prevent the temperature going below the freezing point. Smaller ventilators for the other rooms may be connected with this. The floor should be of cement, sloping to the center, with perfect drainage.

The main frame, or ice-house wall, may be built of two by eight or two by ten inch studding, with the ordinary heavy foundation and arrangement for drainage. If the air space between the

ceiling and the siding on these studs is filled with sawdust, none need be used on the sides in packing the ice, but two-by-four-inch studs should then be set outside of this wall, to be covered with any kind of siding, laid over building paper; this is to create an air space, advisable in warm climates. Provide good ventilation in the roof.

With this refrigerator you can escape the butcher's bills for fresh meat during the summer by killing your own animals—beef, calves, hogs, mutton—and hanging

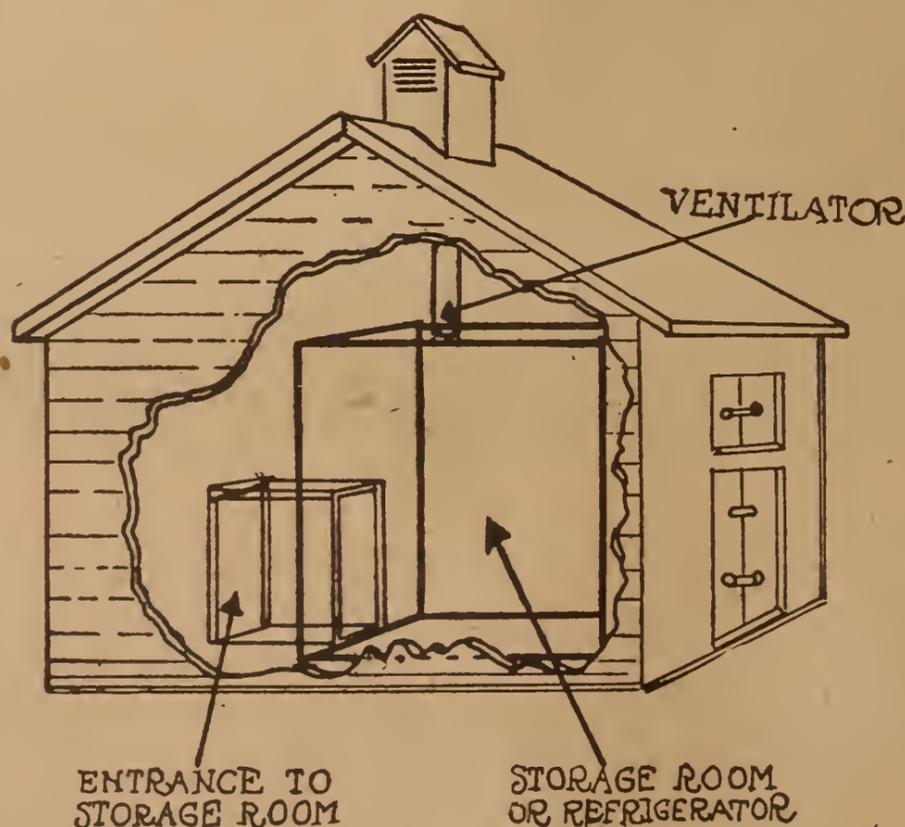
them in the refrigerator, where they will keep frozen and fresh until used up by the family.

And lastly, build the ice house and refrigerator right up close to the house, where the women folks can have ready access to it.

RICHARD MAXWELL WINANS.

Farmers Should Get Ready for the Ice Harvest

EVERY farmer needs ice in the summer, so this is the time to begin to get ready for its supply. It is not necessary to build a large house to furnish all of the ice necessary for the family on the farm, provided the building is properly constructed and the ice properly packed.



All air spaces between the walls should be filled with sawdust or close-packed shavings.

The roof of the refrigerator is sustained by two-by-twelve-inch floor joists, laid on plates the same size as the posts, with cross beams and center posts placed on a line with the partitions. The covering of two-inch matched stuff is laid on a supplementary flooring of matched lumber covered with tarred paper. As a further precaution against drip from

A building twelve by twelve feet with a twelve-foot studding has ample capacity.

A stone or cement wall should be built about two feet above the surface of the ground. This wall ought to extend down into the ground at least three feet. That part of the wall below the surface of the ground can be constructed of small, loose stones as large as a half brick or larger. It is better to have these stones loose, simply rammed into the trench, than to lay them into cement like the

surface. If put loose, they will furnish drainage, which is one of the most important requisites in keeping ice. Above the surface of the ground the wall should be laid with cement mortar. A drain should extend up under the middle of the house, and it would be much better to have two.

After building the walls, fill the building full of loose stones or half bricks, or any kind of stone that can be had on the farm, up to the height of the wall. This not only furnishes drainage, but it forms an air chamber, breaking the connection with the earth, and prevents melting from the bottom. Sawdust must be placed on top of these stones and tramped in to form a smooth surface for the placing of the ice. Some folks may think that putting in the loose stones in the bottom is unnecessary, and yet experience has proved to me that it is a necessary part of the ice-house building.

For sills for the building use three-by-six-inch stuff, laying it double, so that the corners can be lapped and the building made strong. Set up three-by-six-inch joists, twenty inches apart. Board on the outside with one-inch lumber, then put on building paper, and cover the paper with regular half-inch siding. The inside can be ceiled up with any good half-inch lumber, avoiding cracks as much as possible, so that sawdust will not get into the space between the studding. This forms a dead-air space of six inches. It is not necessary to put building paper on the inside, because when the sawdust is packed against the sheathing it makes an air-tight space. For a roof one can use any kind of modern roofing, but shingles pay the best in the long run.

The outside doors should be double, with building paper between, and should be placed in the end of the building. The bottom door should extend from the ground up to the plate, and if this is thought to be too long for convenience, two doors may be used. Then above the plate which will be in the peak of the building, a door should be made, because the space for the lower door will be filled in filling the house.

Our method of placing the ice in the house is this: Place the ice, leaving an eight-inch space between the ice and the inside of the building. Place the cakes on edge rather than flat, because they can then be more easily taken out. The flat side, however, is just as good in keeping the ice. In front of the doorway put in short boards which fit in even with the inside sheathing. After every layer of ice is put in, place sawdust along the outside and jam it well down. Put the boards across the doorway as the house is filled, then when the outside door is shut, this will also leave a dead-air space in the doorway. Use plenty of sawdust on top of the ice—about one foot thick is enough.

In taking out the ice, be careful in covering well with sawdust the ice that is left alongside the cakes that you take out. A small ventilator on the top of the ice house is good, as we all know that ice will not keep well in a poorly ventilated house. I have known of cases where persons have filled houses without any ventilators at all, and in May, when they began to need ice, they found it half gone, and by the first of July all gone. The next winter they cut holes in the peak on one side, and they had ice until the twentieth of September, so that showed that it wanted ventilation. The best time to harvest the ice supply is in January or February, because then the ice is much better than it is in December.

CHAS. A. UMOSELLE.

New Saws and Fresh Filings for Farmers

It is never too late
For the farmer to begin
The building of a shed
For his tools to go in.

Some towns may need skyscrapers, but most farm districts need roadscreapers.

The farmer who is behind the date in his farming is not likely to be up to date in anything else.

Whitewash the poultry house on the outside for your own sake, and ditto on the inside for the sake of the hen.

Some people turn night into day, and shorten their lives. The farmer turns in at night, and lives long and happily.

WILLIAM J. BURTSCHER.



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COMPLIMENTS OF FARM AND FIRESIDE, SPRINGFIELD, OHIO

Christmas Day will soon be here,
Oh, how merry we shall be!
Stockings full of lovely gifts,
And a shining Christmas tree!
Every one is good to us,
Everything is bright and gay,
Surely no one need be sad
On the happy Christmas Day.

Oh, mother, mother, let us haste!
We have so much to do,
For this is Loving-Giving time;
We must be busy, too.
So many lonesome dolls and toys,
And bears with begging paws;
So many waiting girls and boys—
We must help Santa Claus.

A New Year's Gift To the Readers of Farm and Fireside

The price of Farm and Fireside is to be increased shortly after the first of next year. There are only a few weeks left during which you can get it at the prices below.

You know that Farm and Fireside is giving more reading matter by half than is given by any farm paper for double the price.

You know, too, that during the past year we worked harder than ever before to make Farm and Fireside the best farm paper in America. Lots of our readers tell us Farm and Fireside is the best farm paper ever published. All we know is that nearly two million people read every number. That's proof enough for us.

Now we are adding new Features, new Editors, new Departments, a new Novel, "The Soul of Honor," by Lady Troubridge, and the most beautiful, lithographed, color pictures from the brushes of great artists.

We are improving the reading matter and paying more and more money for contributions, making it better in every way, and—

We have got to raise the price.

But to those who read this page we extend for a few weeks more this One Last Chance to get Farm and Fireside at the lowest price per copy ever offered by a farm paper.

You will not want to miss the cheerful influence of Farm and Fireside in your home twice a month—nor the novel "The Soul of Honor," nor the rest of the pictures in color.

Accept one of the offers below to-day. \$1.00 will bring Farm and Fireside to your home twice a month for five long years—and give you all the good things that go with it. Then you will be sure of getting Farm and Fireside for 20 cents a year while others are paying a great deal more.

What You Get

Farm and Fireside 24 numbers a year—equal to 1600 standard-size pages—more reading matter than any magazine published at \$4.00—the brightest and most helpful paper for farmers and their families in this country.

The New Magazine Features Many exciting stories, unusually attractive fashion pages, household recipes, Sunday reading and lots of illustrations. No farm paper in the country is as attractive to the farmer's wife and children as FARM AND FIRESIDE.

Almost a Complete Novel "The Soul of Honor," by Lady Troubridge. This is a thrilling story of love and adventure which has just begun and which will run through all the winter months. Of course we had to pay a high price—the highest ever paid by a farm paper—but you'll say it's worth it. Don't miss it!

One More Picture in Color by a famous artist will be given with FARM AND FIRESIDE during the winter months. It is the finest picture of all and you will surely want it in your home—but you won't get it unless your subscription is paid in advance. Make sure by accepting one of the offers below.

Our New Year's Gift to You if you accept one of the offers below by January 15th, will be a copy of the beautiful FARM AND FIRESIDE "Kid" Calendar for 1909. This is by far the prettiest calendar we have ever given our readers. The pictures at the left do not do half justice to the superb paintings reproduced on the calendar. There are four of them and they are pictures of the prettiest, cutest little youngsters you ever saw. The original paintings of these pictures cost hundreds of dollars. Each calendar is 8½ by 26 inches, reproduced in beautiful colors on fine calendar stock expressly for our readers. Sent carefully packed and prepaid, **without cost**, if your subscription is sent by January 15th.

How You Get It

Offer No. 1

\$1.00

gives you FARM AND FIRESIDE twice a month for five whole years—120 numbers—together with all the good things above, including the colored picture and the superb 1909 "Kid" Calendar—the publisher's gift to you if you send your subscription by January 15th.

Offer No. 2

50c

gives you FARM AND FIRESIDE twice a month until March, 1911—54 numbers—together with all the good things above, including the colored picture, and the superb 1909 "Kid" Calendar—the publisher's gift to you if you send your subscription by January 15th.

Offer No. 3

25c

gives you FARM AND FIRESIDE twice a month for one whole year—24 numbers—together with all the good things above, including the colored picture and the superb 1909 "Kid" Calendar—the publisher's gift to you if you send your subscription by January 15th.

For 20 Days Only

these offers are open to you. The beautiful calendar is given for **promptness** and we cannot furnish it if you send your subscription later than **January 15th**.

Rush Your Order Before January 15th

Just write us a note like this:

FARM AND FIRESIDE, Springfield, Ohio.

Gentlemen:—Enclosed please find \$1.00, for which I accept your Limited Last Chance Offer No. 1. Please send me all the things mentioned in your offer, prepaid. I also choose the Taft (or Bryan) family picture.

Then sign your name and address **in full**.

If your subscription has expired or is about to expire you will find a Red Mark notice of it in this number. Please renew promptly by accepting one of these offers.

Send All Orders to

Farm and Fireside, Springfield, Ohio



These are a few very small reproductions of the "Kid" pictures on the Calendar. The pictures you get on the Calendar are 8½ by 12 inches each.

SPECIAL NOTICE

To every person who accepts Offer No. 1 above at \$1.00 we will send, **in addition** to all the things mentioned above, 24 of Tissot's Famous Bible Paintings in colors—12 from the Old Testament and 12 from the New Testament. Millions of people have paid 50 cents each to see these pictures. They will be sent carefully packed and prepaid.

Around the Farm

Items of Interest and Value to the Progressive Farmer

Planting for Our Future Lumber Supply

WHERE is the lumber to supply our needs to be found? The best estimates obtainable from the forestry bureaus and from practical lumbermen give us a fifteen or twenty years' supply of hard wood and a possible twenty-five or thirty years' cut of soft woods.

We are using an enormous amount of timber each year, at least three or four times as much as the yearly growth of all the remaining forests amounts to annually. When our present supply of merchantable timber is gone, not later than thirty years hence at most, and probably much sooner, what then?

Iron, steel and concrete will be increasingly used, but there are a thousand places where nothing can acceptably take the place of wood. It takes from sixty to one hundred and fifty years to grow our common American trees to useful size. Improved logging methods and greater care to start and protect the new growth of trees on cut-over lands will help keep some trees to supply our ever-increasing needs, but that our present forest area can ever be made to supply enough timber to run our factories and mills does not seem possible.

Forest Lands

There have been many millions of acres of public land put into forest reserves during recent years, and eventually this land will be made to produce its maximum amount of timber; but too much must not be expected from this source, as a very large part of the land of these forest reserves is rocky, barren and arid and never can be made to grow much timber of value.

A very large per cent of all the land in this country that has an agricultural or timber-producing value is in the hands of private owners, who will not devote it to forestry, as agricultural and pasturage uses promise quicker and seemingly greater returns.

It does not seem possible to devote lands that will grow cereal crops or grasses to forest use in the production of trees that take one hundred years to become of value.

Private land holders cannot be censured for devoting their lands to the use that brings greatest returns, but if these landowners can be shown that part of their holdings can be devoted to forestry and return greater profit in a reasonable length of time, this will go a long way toward solving the question of where our timber is to come from.

I am a farmer and landowner in as good a farming region as can be found in the state. During the past three years I have planted one hundred and fifty acres of this land to trees, one thousand on each acre of land, and I am sure these trees will pay me better than ordinary farming of this land could pay, and it will produce from sixty to eighty bushels of corn to the acre, and other crops accordingly.

Plant the Quick-Growing Catalpa

How do I expect such returns as this from growing timber if it takes one hundred years to grow a crop? All trees do not grow so slowly as the oaks, pines, cedars and in fact all the ordinary American trees of common use. There is one American tree, the wood of which is of quick growth, making one inch a year in thickness when grown on suitable soil and properly cared for while young. This tree is the *Catalpa speciosa*, or hardy Western catalpa. It grows in native forest in very limited areas in southern Illinois and southern Indiana and was never in sufficient quantity to be put on the market and be known commercially. The value of this tree early became known to the residents of this region, and it was in such demand for all kinds of uses that the trees are almost extinct in native forest growth at the present time.

Catalpa wood is of about the same weight as white pine; it is stronger and stiffer than white ash, and as tough as hickory. It takes a most beautiful finish when used for interior house work or for furniture, and has beauty of grain, rivaling even white oak. As a bending wood it is superior to ash, both bending better and holding its place perfectly. It is as durable in the ground as black locust or red cedar, making the best of telephone and telegraph poles. It does not check or crack in seasoning, even when put into a dry kiln green, and it does not warp or crack when exposed to all kinds

of weather conditions. It is superior to ash for all kinds of handles, and the equal of hickory for many uses, even making the best of ax handles, a use that requires the strongest and the toughest of wood.

For carriage and buggy makers' uses it will take the place of ash, hickory and poplar. Our local carriage factory is now building a buggy entirely of catalpa wood—wheels, shafts, body and every part where wood enters into buggy construction is of catalpa wood. This vehicle is being built for the Ohio Experiment Station at Wooster, Ohio, and will be put into every-day use to test the suitability of catalpa wood for such purposes. I furnished the lumber from which this buggy is being made, and it all came from twenty-four-year-old trees. The largest of the logs used were twenty-two inches in diameter. The carriage makers who are building this vehicle say that they never used any other kind of wood that worked under tools so nicely.

There is no other American hard-wood tree that will grow in twenty-four years' time to saw-log size that is fit to put to such uses as these.

The Ohio Experiment Station has distributed near one half million of catalpa trees to landowners throughout the state during the past four years, and is doing a great work by inducing farmers to start experimental plots of these trees in nearly every county in the state.

Two Kinds of Catalpas

Unfortunately, there are two kinds of catalpa trees, the *Catalpa speciosa*, or hardy Western catalpa, which grows to be a tall and straight-bodied tree of great value, and the *Catalpa bignonioides*, or Southern catalpa, which is a short-bodied,

has been fighting for years to compel the nurserymen to be more careful in securing pure seed of the *Catalpa speciosa*, and several of the state experiment stations, notably Ohio, has issued bulletins that help to make the farmers and landowners more careful in selecting the trees they plant.

Experience has shown that one thousand catalpa trees can be grown on one acre of ground until they are eight to ten years old, when one half of them will have to be cut out, to prevent undue crowding of the trees. The trees thus thinned out will make the best of fence posts, and much of the first cut will work into the toughest and best of handle material, as a young and thrifty tree makes a much tougher and stronger wood than an old mature one.

In fifteen to twenty years' growth heavy thirty and thirty-five foot telephone poles can be cut from these trees, and such poles are now worth, in car-load lots, in the central states, from five to seven dollars apiece.

I am largely interested in the telephone business, and if I were building my telephone lines again I would give twenty-five per cent more money for catalpa poles of equal size than for white cedar poles, which have long been the standard for telephone and telegraph construction.

Value of Trees for a Windbreak

The value of trees for a windbreak around the farm buildings and feed lots is not wholly appreciated or understood. The cold winter winds are constantly driving away animal heat, and this means more corn, oats and hay to maintain the live stock.

The difference in temperature of feed lots and barns exposed to sweeping win-

City Man as Farmer

LETTERS from city people, such as clerks, bookkeepers, or other employees in city stores or factories, are still coming in, inquiring whether it be safe to leave the city for a trial of farm life. In "Tribune Farmer" recently the following question was asked: "Can a young or middle-aged city man, with little or no experience in farming, gardening or poultry keeping, and with small capital to back him up, afford to cut loose from his city occupation, burn his bridges behind him and expect to make a fair living by going to the country?" Mr. Bolton Hall, author of "Three Acres and Liberty," replies to this as follows: "There seems to be but one rational answer to this question, and it is emphatically 'No!'"

I am glad to have this emphatic "No" from the distinguished author. But no man who is acquainted with the actual conditions could have answered otherwise. Nor was Mr. Hall's book written for the purpose of coaxing people away from their safe moorings in the city to try an uncertain future in the country. What he wanted to show is that "it is easier to live in comfort on the outskirts of the city as producers than in the slums as paupers." What he wanted to point out to the city laboring man is the chances he may find in "small areas intensively cultivated in close proximity to good markets," in other words, in well-directed soil tillage as a side issue only and while still holding his regular position, and as a means of adding to his income, to his enjoyment of life and health and to the happiness of his family. These opportunities are present in abundance, and only too generally neglected.

But in our descriptions of country life and its possibilities we have at times put on the color so thickly, and painted pictures in so alluring colors, that it is no wonder that people who have not been in touch with the country before, or have seen it only from afar, are as irresistibly attracted to it as the fly to the molasses jar. Theoretical figuring, especially in the line of poultry keeping, has also helped.

Some Will Fail

A few short months ago one of our merchants asked me whether I considered it safe for him to "carry" a certain party who had given up a safe position in the city, rented a farm for a big rental, and started up a poultry establishment, with incubators, brooders and a whole outfit. This party had hundreds of hens of several fancy breeds, and expected to get big returns which would enable him to pay for feed, groceries, etc., after a while. I knew the end would come soon, and so it did. The owner of the farm lost his rent, the groceryman did not get all his pay, and the young amateur poultryman had nothing left. He is now again working in the shop, and makes good wages. Nor was this the only case of the kind which came to my knowledge. A sparrow in the hand is worth two in the bush any day. And the dog crossing the creek, with a piece of meat between his jaws, when grabbing for the image of the meat in the water, lost the real piece he had. He is a very foolish man who will give up a safe position in the city for the supposedly greater chances of country life, unless he knows exactly what he is doing. I have seen country boys leave the farm, come to the city, where they made good wages, then give up their jobs to return to their old life and take up farming again. I did not blame them, either, and they are now successful, prosperous and happy farmers.

There is less risk. I think, for the country boy to leave the farm and go to work in shop or factory than for the city worker to give up his job to try farming. The farm boy can make just as good wages in the city as the other; he needs no capital, and when he finds that there are drawbacks in city life, and he gets sick of his job and longs again "for the flesh pots of Egypt," he can return to the farm, richer in experience, and will be liable to remain on the farm contentedly ever after, while the city worker, when his farming operations do not prove the success that he had anticipated, may also return to his old city life and occupation, if still open to him, a wiser but a poorer man. For it takes capital to engage in successful farming; and failure is liable to swallow up all his savings.

T. GREINER.

This is the Last Number at the Old Price.



Catalpa Speciosa Trees Three Years Old. They Were One-Year Sprouts Less Than One Foot High When Set in the Spring of 1906

crooked, scrubby-growing tree, seldom growing tall enough to make anything of value but fence posts, and these are generally crooked. This tree grows all through the Southern states, and most unfortunately the seed of the two kinds look very much alike and the nurserymen have almost invariably secured seed for their nurseries from this scrubby Southern tree and sold the trees to farmers as the tall, straight-growing kind. This has been most unfortunate, as so many plantings of these scrub catalpa trees have proved disappointing, and thus discouraged others from setting trees.

"Arboriculture," the official organ of the international society of the same name,

ter winds, as compared with ones thoroughly protected by timber, is truly remarkable, and this difference easily figures into millions of dollars each year. This waste could all be avoided by the planting of trees, and these trees would soon be bringing in an added income from necessary thinning.

It is our duty, as individuals, to be pioneers in this great work of reforesting the land; we must not let this country of ours be stripped bare of trees, a prey to the wild winter winds, the burning summer blast, the onrushing floods; all the destructive forces of Nature wreak their vengeance on an unprotected, treeless land.

H. C. ROGERS.

Ohio.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

Boiling Lime-Sulphur Mixture

THE "ordinary iron kettle" is all right for boiling the lime and sulphur. When I first began to use it in small quantities I employed an ordinary "pot-ash" kettle, and there was never any injury to it. Several neighbors with small orchards have been using such kettles for several years, and they are as good as ever. Of course this necessitates rehandling the stuff, and an extra amount of water must be used to replace that which boils away. A small steam boiler is much more convenient and satisfactory where any quantity is to be used, but the kettle will do the business in good shape.

In most localities there are steam engines used by thrashers which are idle in the spring. These can usually be hired for a moderate sum, and with a steam hose attached to the boiler and run into an ordinary kerosene barrel or two, will cook the material in fine shape. The barrels can be placed on an elevated platform, so that the material can be drawn into the spray barrel without dipping. The writer has used such for several years. It is not necessary or even desirable to cook more than one third of the water with the lime and sulphur. The remainder can be added of cold water in the spray tank or barrel, and if thoroughly mixed will be just as effective and much pleasanter to handle, as well as requiring less space and heat to cook.

There is no particular virtue in the stuff being hot when applied. The object of the cooking is to combine by heat at least an equal amount of lime with the sulphur, which produces a different compound—namely, a double sulphide of lime—which will kill the scale. Neither of the ingredients alone will do it, or the two simply mixed together.

In this neighborhood this season there is a great difference in results obtained from the sprayings. My next neighbor, whose trees were badly affected last year, obtained practically perfect results from the lime-sulphur wash; this season, after an even more thorough application, he has quantities of apples affected by the scale, while in my own orchard adjoining, with the material put on at the same time and no more thoroughly—both of us used power sprayers and bought our sulphur at the same place—I had no scaly fruit, except in a few trees in the hen yards, only half of which could be sprayed. What made the difference? I had wood-burned lime from Hagerstown, Maryland, which so thoroughly went into solution that we had no sediment. He had an ordinary lime, and quantities that did not dissolve were left in the cooling barrels. Hence he did not obtain the chemical compound above referred to, and did not kill the scale.—Edward Van Alstyne in *The Rural New-Yorker*.

Sugar-Cured Pork

WE USUALLY slaughter upon two different occasions—one for lard, consisting of large and excessively fat hogs, and then smaller ones for meat. The hogs slaughtered for meat should be of about the same size, and we prefer hogs weighing two hundred and fifty to three hundred pounds. After the carcasses are thoroughly cooled through, they are cut up in the usual manner. In cutting up, all scraps are worked into sausage, and much of the fat meat is thus disposed of. The shoulders are all trimmed to a uniform size, and the same may be said of the hams. The side pieces are cut into strips six inches wide, the thickest pieces being made into lard or sausage.

We have three separate barrels or hog-heads, as they have been made for the express purpose. Into one is packed the sides, in another the shoulders and in the other the hams. The reason why this is done is because the different parts require different periods of curing. If all pieces should be packed in one barrel, some would be too salty and others not sufficiently so. The meat is then packed in these barrels as solidly as possible after having been dry salted. As soon (in about three days) as the salt has drawn about all the blood from the meat, it is removed from the barrels, the salt all scraped off, the barrel cleaned out, and the whole is again repacked without any salt. It is then weighted down by the aid of a large, flat stone, and a pickle put over it. The pickle is made of salt put in water, enough salt being added so that when heated the brine will hold up an egg. To this is added, for every two hundred pounds of meat, four pounds of brown sugar. When the pickle is cold it

is poured over the meat, which should be kept covered all the time until cured.

We have found that ten to eleven pound hams require about six weeks to cure. To ascertain this, one of the pieces can be removed, a cut made in the thickest part of it and fried for a meal. It should not be salt enough in the thickest part to require parboiling, as that removes all the good part of the meat, but it should be salt enough to keep. When sufficiently salt, it is removed from the barrel, hung and allowed to drip a day or so, when it should be peppered, hung up and smoked to suit the taste. When sufficiently smoked, each piece should be wrapped in heavy paper and sewed in a muslin bag, to keep away from the flies.

Meat cured in this manner will be found to be good enough for any person. Some saltpeter can be put in the pickle to give a red color and a harder texture to the meat. We like it better without the saltpeter.

New, sweet barrels will be found best for meat. Old meat barrels can be sweetened by smoking them, after having been cleansed with water and lime. Never pack meat until all the animal heat has gone out of it. All small, floating pieces of meat must be removed from the pickle. Keep the meat covered with brine all the time. The pickle should be skimmed when boiling. Clear, fat pork will not become oversalt. Look at the condition of the meat occasionally, and watch for leakage. —Iowa State Register and Farmer.

Constitution—the Power to Endure

THE true breeder should keep constantly in mind the fact that it is his duty to so breed as to increase, if possible, the vigor and staying power of the animals he produces. Constitution should be just as much an object with him as productive capacity, for constitution lies at the bottom of all profitable productive capacity.

There is a wonderful difference in animals, from man down, in their ability to endure protracted effort. The Hoard Creameries once owned a draft horse, which, before he died, had worn out over twelve hundred dollars' worth of horses in their work by the side of him. There was nothing unusual in his physical endowment, except that the muscular development of the abdomen was very marked. Some of the other horses that worked with him were larger, heavier and better developed in muscles generally. But they did not have the endurance, the staying power, that old "Dick" had. He usually had the short end of the even, yet he would wear them out.

This quality to endure repeated muscular contraction is seen clearly in hunting dogs. Kronecker, a famous German physiologist and experimenter, found this fact wonderfully brought out in the experiments he made by taking a muscle from different dead dogs and subjecting them to the action of electric excitation. "There were dogs which, after having given one hundred and fifty contractions, would respond no more. With others the record ran up to one thousand and fifteen hundred contractions."

This gives us some insight to the principle we are discussing—namely, that in our selection of breeding animals we should keep the question of physical endurance constantly in mind. It is not enough in breeding dairy cows, for instance, that we look for large productive capacity. We must have cows that last well; that are not easily thrown off their feed; that have a strong resisting power against disease. Not only must the sire and dam come down from large producers, but they must give evidence that they have constitution. One of the best external evidences of this much-desired quality is in the structure of the abdomen; a strong middle piece is a grand thing. In the testing of cows the yearly test is worth much more to determine the staying power of the cow than the weekly or monthly test. We should select our breeding animals with a constant view to their ability to bestow endurance on their offspring, for this is a quality that must be inherited; we cannot feed it into the animal.—Hoard's Dairyman.

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Why We Should Rotate Crops

I HAVE for many years insisted that the grain farmer who uses a proper rotation of crops in which the legumes play an important part need never buy an ounce of nitrogen in any form. That this is true has been proved in the experience of hundreds of our best farmers. The old idea of a rotation has been that land needs rest. In the Southern cotton belt some farmers, seeing the havoc wrought by the continuous cultivation of cotton on the same land, and depending simply on the use of commercial fertilizers to get the crop, adopted the plan of letting a field lie idle each alternate year to rest it, as they said. But Nature will not allow land to rest, for she scatters the seed of grass and weeds, and the land is as busy at work growing these as in growing anything else. The difference is that the growth of these plants, largely coming from the air, as the growth of all plants does, returned to the soil some organic matter to form humus, and thus, to some extent, arrested the loss of nitrogen. If, instead of only weeds and grass, peas or clover had been grown, there would have been an actual gain in nitrogen.

The Practise of Rotation Uses More Plant Food

A rotation of crops, instead of taking less plant food from the soil, actually increases the amount of plant food taken by reason of greater crops. In carefully conducted experiments through a long series of years it has been shown that the continuous growing of wheat on a soil used up less of the phosphorus and potash in the soil than a carefully planned rotation of crops for the same period.

But it was shown that in the continuous cultivation the nitrogen content of the soil was greatly reduced, while in the rotation in which clover was used, and the corn crop received stable manure, there was in ten years an actual increase of three hundred pounds per acre of nitrogen over and above what the crops had removed, though the phosphoric acid and potash had been considerably reduced.

If, then, we can, through a proper rotation, the use of legume crops, and their feeding to enable us to get manure, not only maintain, but actually increase, the nitrogen in the soil, and only need to apply the phosphoric acid and potash to maintain the fertility of the soil, why should we buy what we do not need to buy, but which we can actually increase our store of, through a good rotation?

Increased Humus Adds Value to the Soil

The chief value of a rotation of crops comes, then, not from any resting of the soil, but in the increase of the humus or organic decay, which not only furnishes nitrifying material, promotes the activity of the bacteria engaged in this work, but, through its power to retain moisture, and its retaining more carbon dioxide in the soil, dissolves the plant food for us, and enables the soil to pass the crops more safely through a long dry spell. All plants must have the food in the soil completely dissolved before they can use it. The decay of organic matter in the soil is one of the most efficient agents in the breaking up and solution of the mineral matters in the soil, through the fact that it contains a large proportion of carbon dioxide, which acts as a solvent and prepares food for the plants.

It has also been shown that a soil abounding in humus will contain a larger amount of available phosphoric acid than a soil in which the humus has been burnt up in long continuous cultivation. Hence the great value of a rotation consists in the accumulation of organic matter in the soil to form humus and to keep up and increase the nitrogen content.

But, as such a course creates a greater demand on the soil for phosphoric acid and potash through the greater activity of the crops, it is easy to see the importance of the use of these in the promotion of the growth of the legume crops, the main reliance for nitrogen and humus making.

But to get the full value of the legumes in doing this work for us in an economical way, we must use live-stock feeding in some form. We can, of course, get all that the legumes will do for us by burying the whole growth in the soil, and thus quite rapidly increase the humus and nitrogen content, but in doing this we lose the feeding value of the crop, which would take from it but a small part of its manurial value, and therefore such a

course would not be an economical one. The feeding also includes the use of the other roughage on the farm either as feed or bedding and its return to the soil, and makes the crops, otherwise exhaustive, aid in the increase of the humus-making material. This very fact, in my opinion, makes the shredding of the corn stover a matter of farm economy. A great deal has been said in opposition to shredding corn stover. There may not be a great deal more of it eaten, but what is left is in a far better shape as an absorbent of the liquid manure, and in better shape, too, for the spreading of the manure. Then the shredded material can be stacked outside, while cut stover is hard material to stack and keep. The feeding, then, of the legume crops enables us to use the straw and the corn stover in the best manner, and these going out with the manure will be the means for rapidly increasing the humus-making material, and we will only need to buy phosphates and potash, and, on some soils that abound in potash, only the phosphoric acid, for the very accumulation of organic matter will be an efficient aid in the solution of the insoluble potash. And when this is helped further by an occasional liming, we can save greatly in the purchase of fertilizers.

The decrease in the productive character of soils through the continuous cultivation of one crop is due, therefore, not to the actual exhaustion of food elements, except nitrogen, but to the robbing of the soil of the humus, the great conservator of nitrogen and moisture and solvent materials, and through a good rotation of crops and the use of legumes, we draw more out of the soil in mineral matters, and hence greater crops, while actually increasing the store of nitrogen, and can thus avoid the purchase of this costly plant food, and for the same amount of money in fertilizers can get larger amounts of the mineral matters needed. It is not, then, resting land that is needed, but making it work harder and more profitably for us. Soil does not get tired, it simply gets poverty stricken and loses the food that sustains the bacteria that are working to give us the nitrogen in the organic decay. These are starved out in the continuous cultivation of one crop through the exhaustion of the humus—the life of the soil.—W. F. Massey in *The Southern Planter*.

A Popular Error

IN THE handling of live stock I do not know of a mistake so common among all classes of men, aside from the veterinarian, than the one connected with the common colic of the horse. Scarcely without an exception, when the horse is cramping from colic, he is thought to have something the matter with his kidneys.

Cramps in the intestines from accumulation of gases or some irritating food cause him to stretch himself with the fore and hind feet wide apart. No doubt this gives some relief by tightening the muscles across the abdomen. It is not an indication of any fault with either the kidneys or the bladder. It is a physiological fact that spasm in the bowels acts reflexly upon the bladder, making this latter organ inoperative for the time being. The remedy in almost every case is niter, or some remedy directed to relieve the bladder or the kidneys. The correct remedy would be to give a purge to remove the irritating substance from the bowels, and anodynes to relieve the pain.

The bladder, except in cases of long protracted colic or inflammation of the bowels, will take care of itself. Diseases of the kidneys are quite rare in the horse, and when they do appear, seldom come with an acute attack. Remember, then, if the horse is rolling on the ground, getting up and lying down, bloated, and stretching himself out, the chances are a hundred to one that it is colic or some other disease, and no fault whatever with the bladder, although his actions might indicate a distention of that organ.—Geo. H. Glover in *Colorado Agricultural College News Notes*.

On mild days in winter give the cellar a good airing. This not only keeps mold from developing and makes the whole house more healthful to live in, but it also helps to keep the floor timbers in good condition. Rot may develop pretty rapidly in these timbers in a damp, poorly ventilated cellar, and in consequence danger or loss follows.—Farm Journal.

Review of the Farm Press

What Others Are Saying About Important Farm Matters

The Best Time to Water Horses

A HORSE should be watered before feeding, and never given a large quantity of water after a meal, for the simple reason that the water will wash the food out of the stomach before stomach digestion has taken place, and the food will not be well prepared for absorption; and besides, it is sometimes the cause of colic.

There is a popular idea that a warm horse should not be allowed to drink, and unlike a great many other popular ideas, there is a little truth in it. If you water a warm horse in the ordinary way, letting him drink all that he will, you are likely to have a foundered horse on your hands. This is especially so if, at the time, the horse is fatigued. Nevertheless, it is always safe to allow him from six to ten swallows, no matter how warm he is. If this be given on going into the stable, and he be allowed to stand and eat hay for an hour, and is then offered water, he will not drink nearly so much as he would had none been given before.

The danger is not in the first swallow, as we often hear it asserted, but in the excessive quantities he will drink if not restrained. The most dangerous time to give a horse a full draught is when he has cooled down from fatiguing work and has partaken of a meal.

John Splan, the great trainer, writes: "As to water, I think that a horse should have all that he wants at all times. A man says, 'Why? Will you give your horse water before a race?' Yes; before the race, in the race, and after the race, and any other time that he wants to drink." When I say give your horse all the water he wants before the race, I do not mean that you shall tie him in a warm stall where he cannot get a drink for five or six hours on a hot day, and then take him to the pump and give him all that he wants. What I mean is to give him water often.

After long, continuous exertion the system is greatly depleted of fluid. Nature calls for its replacement, and this is the cause of a thirst which is so intense that if the animal is not restrained at this time he may drink much more than he needs.

Personally, I much prefer keeping horses, both summer and winter, in an open shed, with a large water tank in the yard, to tying them by the head in a barn.—F. W. Culver in Colorado Agricultural College News Notes.

How Can Country Life Be Improved?

TO IMPROVE the condition of country life the farmer must be put in a position to have more net money at the end of the year. This is the main consideration. To accomplish this in the most effective and quickest manner the following is suggested:

First—That he be shown on his farm how to reduce cost of production by the use of labor-saving tools, sufficient horse power, and if a dairy farmer, by better cows, cheaper feed and how to save his manure.

Second—That he be shown on his farm how to increase production by proper rotation, better seed, plowing, harrowing, planting, fertilizer, cultivating and harvesting. If a dairy farmer, the value of the various kinds of feeds for cows.

Third—To accomplish the foregoing in an effective manner, and rapidly, requires a special organization. The state should be divided into districts, and a practical, competent farmer put in charge, to make the farm demonstration outlined above. These farm teachers should be under the experiment station, and the latter should have a special department for the direction of this particular work.

With the foregoing properly provided for, it is an easy matter to solve all the other needs of the farmer.

First—He should be protected in the matter of seed, fertilizer and feed. The production of these things should be under the supervision of the state bureau of agriculture.

Second—The highways should be under the state bureau of agriculture, and in two departments, with an engineer at the head of each—one to look after the dirt roads, the other the stone or brick roads.

Third—The United States Department of Agriculture should determine a standard for the various parts of all farm machinery, so that any part of a certain size machine would fit another like machine

of the same size. For instance, a plow point on tool No. 3 made by the Johnson Company should fit plow No. 3 made by the International Company. A standard of parts for freight cars is now in use on the railroads of the United States, and the same principle can be applied to farm machinery.

Fourth—Farm labor should be paid on the piece-work system, and the prices arranged so that an efficient farm hand can earn standard wages, as compared with other work. The value of this will be that the farmer will rapidly improve in his methods, as well as the farm hand; labor will be more easily secured and retained; and when the results of the year are counted, the cost to the farmer will be less than under the present plan. At first thought this plan might seem to the inexperienced as too complex for the farm; but if introduced by degrees it could soon be worked out. It is done successfully in the repairs of cars on the railroads, and it is a less difficult matter to do it on the farm.

Fifth—Libraries should be established at central points, and books delivered therefrom by the rural carriers at a charge say of two cents a book. The B. & O. Railroad from its library in Baltimore distributed books by its baggage department to the employees at the smallest hamlet free of cost. In the remote sections libraries should be installed in the public schools and in charge of a teacher.

Sixth—Savings banks, meeting proper requirements of the United States government as to safety, should be designated as depositaries, and money orders for deposit in such be issued by the rural carrier at a small charge, the receipt from the bank to be returned free of postage. Postal savings banks, as have been recommended, might in time prove disastrous to our form of government. In a republic the government should not be responsible for the savings of the people. Ample facilities and protection can be provided without taking this great chance on the stability of our government. The aim should be to enlarge, not minimize, individual effort.

Seventh—District farm demonstrators should organize neighborhood farm clubs, similar to the Gunpowder Club of Baltimore County, Maryland.

Eighth—Establish in each state one or more free farm high schools, ten per cent of the scholarships to go to poor boys, and cover board and lodging. Applicants to have had farm experience, not under sixteen years of age, and must declare their intention to follow farming. General education to be only in the simple branches, the course not over two years. Winter courses of three months, ten per cent to go to poor boys free of all cost. Teachers in farm schools to have practical farm experience.

Ninth—Farmers who follow a proper rotation and protect their hilly fields in winter by cover crops or furrows to get a reduction in taxes, or by law compel these things to be done.

Tenth—The bureau of agriculture to establish an organization to give the sale of country produce by commission merchants such supervision as to protect the farmer against fraud. Also to make the same provision governing fertilizer, seeds, feeds, etc.

Eleventh—Milk and cream shipped to be bought on test.

Twelfth—State bureau of agriculture to be composed of successful farmers, business men and technical men. Place to be honorary and pay only enough to cover expenses, say one hundred dollars a year.

Thirteenth—A special low rate of postage on seeds, plants, etc., should be made by the United States government, say five cents a pound, packages not to exceed ten pounds.

General: In my judgment any scheme for the betterment of the farmer that fails to effectively provide for the application of the first two suggestions in this letter will be unsatisfactory. It would be better for him than all the things suggested here or that may be suggested by other minds. For with the farmers prosperous, the other things will come; but the other things will not bring prosperity.—D. F. Maroney in Wallace's Farmer.



Native Catalpa Speciosa Growing in the Wabash Valley
See Article on Page 5

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Gardening---By T. Greiner

Transplanted Plants—Their Superiority

TOMATO, cabbage, lettuce, pepper, egg-plant, cauliflower and celery are all improved by transplanting. With the possible exceptions of lettuce and egg-plant, all of these are greatly improved with intermediate transplanting, and celery with two intermediate transplantings—that is, lifting with a small wooden trowel made from a piece of a shingle, and setting in check rows two to four inches apart, according to the size of plants one desires to set in the open. This intermediate transplanting should be done in a cold frame with glass or canvas cover in a bed of rich composted soil. The reasons for all this procedure are many and obvious:

The first and most important reason for intermediate transplanting is to increase the root system. To remove young plants carefully and reset them invariably increases the number of deep-striking roots. Nature usually provides but one main or tap root, her motive being to reach the moisture of the subsoil as quickly as possible, in order to fortify the plant against drought or other injury, not presupposing culture. When thus severing the main or tap root and re-setting the young plant, we impose upon ourselves the duty of extra care and cultivation necessary to foster its life until it may again support itself. Having thus increased the root system, making more plant food available, the leaf portions of the plant increase proportionately to balance the increased root system, resulting in a greatly increased crop production.

Second: Transplanting to specific distances provides more room for the growing plants, so that they may not become drawn and woody, and apportion to them ample and equal food supply when starting upon their career.

Third: Transplanting affords an additional opportunity to reject weak or inferior plants, so that the new bed will contain only plants of uniform size and vigor, a characteristic so much desired by the efficient gardener.

Fourth: Transplanting tends to hasten growth and maturity as based on the increased root system, thereby accomplishing earliness.

Fifth: Plants that have started slowly on account of unfavorable temperature, non-congeniality of soil, or infection, often may be induced to thrive if removed to a more favorable spot, when, if left alone, would result in failure. This reason for transplanting may be resorted to when like seed for replanting are not obtainable and one does not prefer to substitute another variety with which to fill out the garden space.

Sixth: Plants transplanted in check rows may be readily cultivated to enhance their growth, kill weeds and conserve moisture.

Seventh: Transplanted plants command a higher retail market price than seedlings.

Important Points in Transplanting

It is as easy to become adept at transplanting plants as at typewriting, typesetting or any other tedious and accurate work. The small shingle trowel mentioned is all the tool needed for the work. It makes a small, narrow opening in the soil and is preferred to a peg, and the eye soon becomes accustomed to the instantaneous marking of uniform distances.

In resetting plants it is of paramount importance to place the roots in the soil in as natural a position as possible, a little deeper than they grew in the original bed, making the soil hold them fan shaped and firm. Holes too deep or holes too shallow are both objectionable, the one being too apt not to be closed at the bottom, the other to force the roots into a matted condition.

A moist, cloudy day is an ideal one for transplanting young plants. When the bed is completed it should be well watered, to settle the soil about the roots, and then covered. Glass is preferable if the nights are quite cool, though coarse, brown mu-lin is very satisfactory. For the first few days the canvas may be folded back for the mild morning sun, replaced at near noon, removed again toward evening, then placed back securely for the night. When the plants are established, discretion should be used in the manipulation of the glass or canvas, according to the demands of the weather.

Root plants may be transplanted, but it is not advisable unless it were in the case of extra-early beets started in the

hotbed, or turnip-rooted radishes lifted out at thinning time. The roots are usually ill shaped, yet their table quality is not impaired. Long varieties always become distorted and are not marketable.

My favorite time for transplanting young plants is when they are starting the third and fourth leaves, which are the first and second following the embryo leaves. I think they are less easily injured by removal at this juncture than at any other time, and the full benefits of transplanting are obtained.

Plants should always be kept growing. Pinch them back if they are too forward. It can do nothing more than to make them more stocky, which is even desirable. I sometimes clip off the points of the leaves of tomatoes and cabbages for this purpose alone. It is tedious, but it pays.

Indiana.

L. C. SEAL.

Fertilization of Strawberries

OWING first to the nature of the methods practised in the growing of strawberries, and second to the character of the strawberry plant itself, heavy fertilization is always necessary with this crop. Indeed, one of the great and common faults in the management of strawberry fields lies in niggardly feeding.

The strawberry is native to soils rich in humus, and a relatively high proportion of this element in the soils on which it is cultivated is a necessity for the best success. The use of manure is therefore important in all soils in which the percentage of organic matter is small, if immediate results are looked for. If time for preparation can be taken, similar, and at least in one direction, superior, results can be obtained with fertilizers, but the turning under either of a green manure or a rich clover sod will be an essential preliminary. Manure, whether from the stable or barn yard, frequently carries weed seeds, and since the removal of weeds from the strawberry bed after the vines begin to run is somewhat difficult, dependence on green manuring, or a freshly turned clover sod, as a source of organic matter is in this particular direction an advantage.

Notwithstanding this fact, the use of manure is ordinarily advisable, if it can be procured at a reasonable price, in good mechanical condition and not especially stocked with weed seeds. From twelve to fifteen cords spread in the fall and plowed under gives a good foundation for a productive strawberry bed. If the manure turned under in the fall is in fine mechanical condition, it would seem best to replot in the spring, but if the manure applied is coarse, it will be preferable to disk harrow in the spring rather than to plow. In cases where manure is used, it seems best to supplement it with fertilizers. Wood ashes are well suited to the crop. The amount which it will be advisable to apply will vary with the condition of the soil at the outset and the amount of manure used, but in most cases from one thousand to fifteen hundred pounds will not be too large a quantity. In place of wood ashes, in localities where these are difficult to obtain or high in price, somewhat similar results may be obtained by using a combination of basic-slag meal and low-grade sulphate of potash. From eight hundred to twelve hundred pounds of the former and three hundred to four hundred pounds of the latter will be suitable quantities. Either the wood ashes or the combination of slag and potash suggested should be spread after plowing and deeply worked into the soil with the disk harrow.

Starting With Infertile Soil

In case the soil on which the strawberry bed is to be set is comparatively raw and infertile at the start, it will pay to use, in addition to either the ashes or slag meal, about one hundred pounds of nitrate of soda mixed with two hundred pounds of basic-slag meal. This mixture should be applied as soon as the plants are rooted, and should be cultivated in.

In case no manure is available, or where it can be obtained only with difficulty, the soil may be brought into a suitable condition for strawberries by turning under a green manuring crop, or if a strong clover sod is available, this, when turned under, is likely to afford a suitable foundation for a successful strawberry bed. Among the green-manuring crops likely to prove most useful are winter rye, buckwheat, crimson clover, the soy bean or cow pea. Any one of the legumes named will be superior to

the rye or buckwheat, as they will enrich the soil in nitrogen.

In order to secure a vigorous growth of the green-manuring crop, it is advisable to fertilize it, and an application of wood ashes at the rate of twelve hundred to fifteen hundred pounds to the acre; or a mixture of basic-slag meal, one thousand to fifteen hundred pounds, and low-grade sulphate of potash, three hundred to four hundred pounds, will prove useful. Such application will be sufficient in most soils to produce a strong growth of either of the legumes above named, but if for any reason either buckwheat or winter rye is selected as the green-manuring crop, it will be advisable to use nitrate of soda at the rate of about one hundred and twenty-five pounds to the acre in addition to the other materials. In case the nitrate of soda is to be used, it is advisable to mix it with two or three times its own weight of basic-slag meal, in order that it may be more evenly distributed. If the nitrate is to be used for winter rye, it should be applied in the spring. If for buckwheat, it should be harrowed in at the time of sowing.

If a clover sod is to be turned under for strawberries, it will be advisable to make the application of wood ashes or of the slag and potash for the clover a year previous to breaking it up. Although practically all the plant food applied the previous year in the green-manuring crop will remain to benefit the strawberries which follow, it is advisable to make a further application of fertilizers in preparing the land for setting the vines. The strawberry is a plant which it pays to treat liberally, for it has extraordinary capacity for productiveness.

The Best Fertilizer Mixtures

Either of the following mixtures of materials should give good results, the quantities being those recommended to the acre: 1. Tankage or Peruvian guano, six hundred pounds; fine-ground bone, one thousand pounds; low-grade sulphate of potash, six hundred pounds; nitrate of soda, one hundred pounds. All these materials may be mixed, applied after plowing and thoroughly incorporated into the soil by harrowing. 2. Dried blood, two hundred pounds; tankage or Peruvian guano, eight hundred pounds; low-grade sulphate of potash, six hundred pounds; basic-slag meal, one thousand pounds; nitrate of soda, one hundred pounds. The slag in this selection of materials must not be mixed with the blood, tankage or guano, as it will cause a loss of ammonia. It will be better, therefore, to apply the slag by itself, but all the other materials may be mixed before application.

The purchase and mixture of materials in accordance with the suggestions which have been made will enable the buyer to obtain more plant food for a given expenditure than can be obtained in the special fertilizers on the market, and the saving in the cost will much more than cover the expense of putting the materials together. Somewhat similar results may, however, be obtained by using from two thousand to twenty-five hundred pounds of high-grade mixed fertilizers containing from three and one half to four per cent of nitrogen, seven to ten per cent of phosphoric acid and six to eight per cent of potash.

If the soil is prepared in accordance with the suggestions made, the use of fertilizers in the bearing year will not ordinarily be required. Some injury to the vines is likely to follow the application of fertilizers in bearing years, unless great care is taken to make the application when the foliage is dry, and even then so much of the fertilizer sometimes remains on the foliage that it burns the leaves when dissolved by dews or light rains.—The Country Gentleman.

Forcing Rhubarb

RHUBARB roots can be lifted even when frozen, and should then be trimmed of all dead matter, any ragged roots being cut off clean. Use large, healthy roots of from two to five years old. For soil, get some rich garden loam; set the clumps of roots about one foot apart each way, either simply filling in about the roots or covering the crowns lightly. To fertilize, sprinkle the bed with a solution containing one ounce of nitrate of soda to one gallon of water; thin liquid cow or horse manure can also be used.

Do not admit any more light than you can help. The best book on this subject is "The New Rhubarb Culture," by J. E. Morse.—The Country Gentleman.

Fruit Growing

By Samuel B. Green

Mountain Regions for Apple Culture

It is not generally known to apple growers that a mountain region in the South, which by virtue of its altitude affords the same cool temperature that a Northern region gives, has yet other advantages that a Northern location, with its higher latitude but lower altitude, cannot give. The "Sunny South," particularly in its mountain regions, has the clear air and abundant sunlight that put the rich colors on the outside of the fruit and the fine flavors within. Other things being equal, the greater the amount of sunlight, the higher colored the fruit. In regions where cloudy skies are prevalent fruits and also flowers are of dull colors. Clear, sunny weather will give bright flowers and also highly tinted fruits. The maximum hours of sunlight are obtained at high elevations. It is for this reason that mountain-grown fruit is superior in color and flavor to that of the same varieties grown in the lowlands.

The Advantages of Altitude

An apple tree in its soil and fertilizer requirements differs little from a forest tree. The conditions of soil that will produce heavy timber will produce productive fruit trees. Forest trees grow naturally on mountain slopes because they find there a rich soil, abundant drainage and clear sunlight. The same conditions will produce large, productive, long-lived fruit trees. Where the natural forest is taken off the mountain slopes by the lumberman a forest of fruit trees can profitably succeed it. Indeed, no cultivated crop so well holds sloping lands from washing as do the strong roots of fruit trees. The common agricultural trouble known in the South as "washing of land" is only another name for uncontrolled drainage. Trees, since they are perennial in growth and have their roots in the soil at all seasons, are more useful than any other crop in protecting mountain lands from destructive erosion. Sloping soils which will wash must necessarily be well drained. This is the foremost reason why trees like sloping land and why mountain orchards give better results than those in similarly cool locations, but on flat lands with the water table too close to the surface.

The cool but sunny slopes of Southern mountains have ideal conditions of soil and drainage that are unexcelled for the culture of hardy fruits. The cool climate of a Southern mountain region obtained by high altitude is, for many reasons, better for apple growing than the equally cool but less sunny locations in the North obtained by higher latitudes.

Natural Irrigation in Mountain Regions

It is not only necessary that trees be protected from excessive moisture by drainage, but to insure their best growth and productiveness they must have a copious and constant supply of water during their season of growth, and particularly when they are developing a crop of fruit. If the roots of a tree are immersed in water for any length of time its leaves will turn yellow and drop, and it will cast off its fruit. If this condition becomes chronic, as on ill-drained lands, the roots will sooner or later become diseased and rot off. On the other hand, excessive droughts may leave in the soil so limited an amount of moisture that the tree will show yellow foliage and cast off its fruit as it does on too-wet land. As sloping land is a natural corrective for too much water being supplied to trees, it is also a means of furnishing moisture in times of excessive drought. In elevated regions it is often found that moisture precipitated on mountain tops is carried down gradually, so that lower slopes receive from it a copious and constant supply. This is especially true where the soil is more or less mixed and underlaid with rock or shale. The rocks protect the moisture from the sun, and the roughness of a rocky or shaly bed affords a natural reservoir, which gives up its moisture in a slow but constant supply to lower lands. Moisture obtained in this way is known in the irrigated regions of the West as "seepage water" and is used to grow immense fields of wheat in the foothills clustering about the bases of high mountains. This condition is found to a greater or less degree in all mountain regions. In coves and protected places it amounts to a natural system of subirrigation. The slope that in times of flood takes excessive and injurious moisture from the

roots of the trees, in times of drought brings the life-giving moisture to them. In mountain regions one frequently sees large, healthy trees clinging to rocky crags, where they would scarcely appear to have sufficient soil to cover their roots. Though they have little soil, they have from their location so perfect a system of root aeration, irrigation and drainage that they grow and flourish to perfection. Such natural conditions of drainage and irrigation occur only in mountain regions. —North Carolina Department of Agriculture.

Growing Low-Headed Trees

UNTIL within the past few years everybody who grew fruit trees wanted great, tall, "long-legged" ones, so that a team might be driven beneath the lowest limbs. Most of the Eastern fruit growers still live in the past in this respect. In the Far West the warm sun of mild winter days caused sun scald on the tall tree trunks and the fruit growers learned that a low-headed tree shaded the short trunk enough to protect it, and the practise of growing low-headed trees followed. The East is slow to adopt this improved method, but it is gaining ground.

Compared with high-headed trees the low-headed ones have the advantage of being easier to prune, spray, graft or bud, gather fruit from, and are as easy to cultivate. Thus a saving in expense in caring for the trees is made. Falling fruit is not injured as it is when falling from a high-headed tree.

Nurserymen ought to take the lead in advocating low-headed trees, and those who propagate, advertise and push the sale of such trees will reap the reward. A nursery tree should have only those limbs within one foot of the ground removed, instead of being mutilated and "bean poled" four feet from the ground. If the tree remains in the nursery the second year the "leader" should be topped at about two and one half feet and the side branches be cut back to perhaps four inches; this is the proper way to form foundation branches for apple, pear and plum trees. With peach trees which are always dug when one year old or less, the side branches should never be taken off in the nursery. They should be left for the fruit grower to develop into low-headed trees. —Maryland Station Bulletin No. 130.

Seedless Grapes

F. W. S., Arizonia, Missouri—There are quite a number of seedless grapes. Among those that are best know are the Sultana, Thompson and the small grape of commerce that is known in the grocery stores under the name of dried black currant, which is really a little seedless grape that grows in Greece and neighboring countries.

There are several grapes that have very few seeds. Among them are Malaga and Tokay. The seedless or nearly seedless grapes mentioned, however, are not adapted to the Northern states, but are all of European origin, and while they may be grown in Arizona, California and neighboring states to advantage, have not been successfully grown east of the Rockies.

I do not know the Charles A. Green grape, but it is reported as being a white kind, of good variety, and adapted to the Northern states. It is probable that it can be grown in good grape districts in Wisconsin. It is reported as having originated in Janesville, Wisconsin.

Grafting Peach Trees

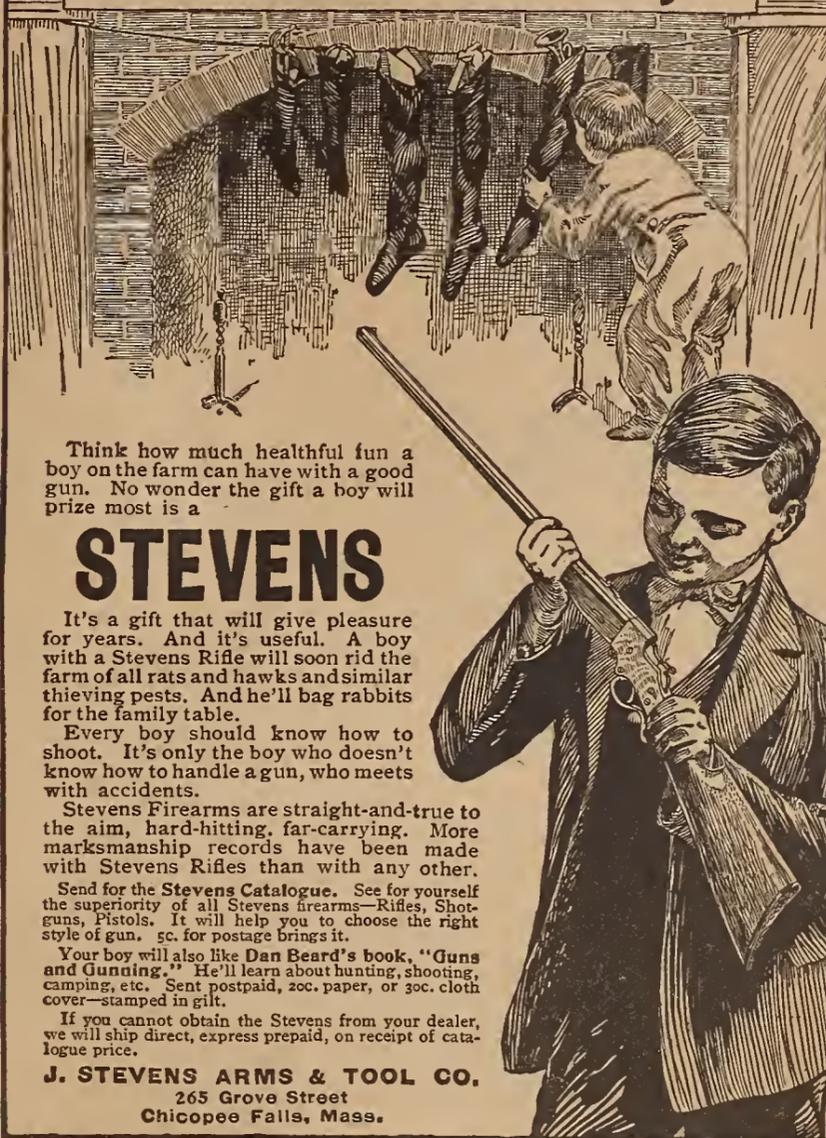
I PROPAGATE nearly all my peach trees by grafting. I came here from Kansas in 1882, planted a large peach orchard on peach roots, and lost all by root knot, so I tried again, with the same result. I then budded them on a large variety of native plum. This stock was immune from root knot, but would overgrow the stock slightly. I then grafted about four inches below the surface of the ground, and have a perfect union of peach and plum.

Growing peaches on Pasco plum stock has long since passed the experimental stage in my orchards, where peach-rooted trees had previously died out from the effects of root knots. I have peach trees twenty-one years old, and they are still in a thrifty condition, yielding annually heavy crops of fruit. Peach trees grafted on this variety of plum are used by many of the largest and most progressive fruit growers in Florida.

Florida.

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The Winter Care and Food of the Dairy Herd

ONE of the leading questions connected with profitable management of a dairy farm is the question, "Will it pay to devote more than ordinary attention to the care and food of the herd during the winter months?" I answer most emphatically that it will pay, and that the times and circumstances which surround us at the present time demand that we abandon the old practise of summer dairying or milking the cows for a few months while they are in the pasture, and drying them off in the fall, and adopt a system of all-the-year-round dairying.

Since the coming of the modern silo the problem of providing an abundance of succulent food for winter feeding of the herd has been solved, and all practical dairymen who have had experience with silo feed, or ensilage, know that when it is fed in connection with clover, alfalfa and other proteinaceous fodders it is possible for a dairyman to produce winter milk at a very low cost. The high price of labor during the summer months and the increased difficulty farmers have experienced in hiring competent dairy help for a short time during the summer make it essential that they devise some plan whereby they may profitably employ their help during the winter months. No good, capable man likes the idea of finding a new place to work every fall, and for this reason a dairyman loses a good hand. If farmers would plan their work so that they could employ more labor during the winter they would have less difficulty in finding competent help.

A Comfortable Stable Essential to Winter Dairying

Cows that are producing a profitable flow of milk must have a warm and comfortable stable during the winter. Years ago, when summer milk production was the chief aim of the dairymen, the stables were usually ventilated with half-inch cracks between the boards, but with this kind of ventilation the stables were too cold for the economical production of milk. Then came the other extreme, and dairymen boarded up the stables with matched material and made them practically air tight, and would not turn their cows out to water. This resulted in lack of exercise and vitiated air, and was followed by debility and tuberculosis. Then dairymen were advised to build stables large enough to furnish a certain air space for each cow, and these proved too cold in winter and otherwise faulty. Some of these stables have proven better than others, owing to different methods of construction and materials used in building, but at the present time the chief efforts are being made to provide a better system of ventilation and light. Pure air and an abundance of sunshine are essential to the health of the herd, and if these factors are neglected the stable will be more or less damp and afford a breeding place for disease and vermin.

Animal housing is rapidly approaching a science, especially as it concerns the cow. The cow will stand a very low temperature when she is kept dry, and it is therefore essential that we guard against damp walls and a saturated atmosphere. The question of ventilation is a matter too long to discuss at the present time, and I would advise every dairymen who contemplates building or remodeling his stable to send to his agricultural college or experiment station for bulletins pertaining to stable ventilation.

Maintaining the Health of the Herd

The health of the herd is a matter of prime importance. Suitable food, pure water, good ventilation, proper exercise and good care are all necessary. The great question that confronts us is where to draw a line between necessities and luxuries, and that must be governed by the common sense of the dairyman and the exigencies of the case. With dairying, the same as with other branches of animal husbandry, there is such a thing as being "more nice than wise," and it is up to the dairy farmer to draw this line aright and accomplish the best results with the least expense.

Some dairymen object to using stanchions; but the stanchion is not hard on the cow after she becomes used to it, especially the new and improved swing stanchions. Tying a cow might be considered cruel, but the real inhumanity of the whole thing comes from keeping the cow in the stable all of the time, without allowing her to go outside and exercise. Some dairymen have water in front of

their cattle all of the time, and personally I believe it is a very good method, but with a large proportion of dairymen it is more of a detriment than benefit, for they neglect to turn the cattle out for exercise every day. Such a watering system should not be introduced if merely to deprive the cattle of their daily exercise. To keep the cows as they should be during the winter involves time and labor, and how to reduce these to a minimum is the problem we must solve.

There are numerous methods of tying dairy cows, and all have some points of utility, but everything considered, we like the swing stanchion better than any other method of tying that can be constructed at a reasonable cost.

The mangers and gutters should be tight and kept neat and clean. The cows should be kept clean, and aside from cleaning their flanks and udders, they should be groomed twice or three times a week. We oftentimes run an old house broom into the cutting machine far enough to cut it off and leave a square stiff edge, and then cut off the handle about two feet from the broom, thus making a very good brush for use on the cows. This is less harsh than a curry-comb, and a man can go over a whole herd while he would be cleaning two or three animals with a brush and comb. Some may argue that it is a piece of over-refinement to clean a cow in this manner, but I tell you frankly it is time to do away with such nonsense.

The consumers of dairy products are becoming alarmed, and justly so, over the conditions under which milk is being produced, and ten years from now dairymen will look back and wonder at their stupidity at trying to produce milk under the conditions as they exist at the present time.

It is not only in certain localities, but everywhere in the dairy sections, that improvement in the methods of caring for the stock and handling of the products is being made. There is no other branch of farming that has enlisted the scientific ability of the country to such an extent. At the present time on many of our best dairy farms the work in every department is being conducted on scientific principles.

Feeding the Herd During Winter

Good, early cut hay should form the basis upon which we compute the rations of our dairy cows during the winter. This may consist of good clover, alfalfa or mixed hay, and should be supplemented with some form of succulence, preferably ensilage. It is a poor system of winter feeding that does not provide an abundance of good, palatable roughage. When we have good hay and ensilage the amount of Western grain foods and commercial by-products required to maintain a suitable flow of milk will be reduced to a minimum. However, I believe that under ordinary conditions it will be a paying investment to buy some grain food to feed out in connection with the home-grown fodders and ensilage.

The question of how much grain food may be fed with economy is a matter that must be governed largely by the condition of the cows, the price of milk and its products and the prices of the grain foods that are to be fed. I believe that as a rule it will prove more economical to make the home-grown foods play a more important part in the rations, especially when we have good silo feed and proteinaceous fodders at hand. The cattle will maintain a better physical condition than when they are forced to their utmost capacity on a ration of concentrated dairy foods.

When we make a specialty of all-the-year-round dairying we are enabled to carry our cows through the winter in better condition than when they are allowed to go dry late in the fall and kept through the winter on starvation rations. A cow that comes fresh along in the fall, and is well fed and cared for during the winter, will go out to pasture in the spring and give very nearly as large a flow of milk as a cow that freshens in the spring while she is in a run-down condition. She will be dry during fly time, which is the most unprofitable time of the year for the dairy business, and thus the loss of milk will be less than at any other like period during the year. She will freshen again at a time when dairy products are bringing the very best price, for as a rule October and November are months of high prices for all dairy products.

It is a sad mistake for a dairyman to allow his cattle to become run down in vitality and flesh during the winter. The cow that goes out to pasture in a weak and run-down condition will require the

best part of the summer to get back to her normal condition. Self-preservation is the first law of animal nature, and a cow that is in poor condition will put her fat upon her back before she will put it in a pail.

It is difficult to conceive of anything more interesting and pleasing than to enter a stable on a winter's day and see the cattle feeding quietly in their clean stalls and on their comfortable beds of straw.

W. MILTON KELLY.

Wintering Horses

AT THIS season of the year every farmer is confronted with the proposition, "How can I best winter my horses?" No doubt many experienced horsemen have solved this problem to their own satisfaction, but the great rank and file of farmers are still in more or less of a quandary as to how this may be done most economically and to the best advantage. Generally speaking, there are on the majority of farms three divisions of horses—namely, those that will be worked throughout the winter, idle horses, and foals.

In regard to the first class there will not be very much difficulty. Their feed will, of course, be governed by the amount of work that is required of them, and therefore will not differ materially from other seasons. Grooming and blanketing are important, not only because they improve the appearance, but are no small factors in keeping the horses in good condition and economizing in feed. By blanketing in the stable it is possible to have the animals comfortably warm without any sacrifice of ventilation. The trouble is that where horses are stabled in the basement of a barn, as the majority of our farm horses are, the stable is too warm and close when the doors and windows are closed, and when any of these are left open it becomes too cold. This is bound to cause discomfort to the animals and endangers their health. It will be seen, therefore, that "comfort" and "ventilation" are two inseparable points. By installing some good system of ventilation and exercising ordinary precautions in regard to feed and care any extra trouble will be well repaid by the increased health and vigor of the horses.

How to treat the idle horse, however, is a matter that is more open to discussion. There is no need to supply fat and flesh nor stimulate muscular energy. All that is necessary is a maintenance ration—that is, one containing sufficient nutrients to rebuild the tissues of the body broken down by the every-day activities of the vital organs. This can be done in most cases with no grain whatever, by feeding clean oat or wheat straw, with a few pounds of roots in the form of turnips or carrots daily, to keep the bowels in good condition. As a luxury a small quantity of oats, say two quarts a day, may be given him, if desired, as may also a moderate allowance of clover hay be occasionally substituted for the straw.

As exercise is very essential to good health, it is a splendid practise, after the morning meal has been disposed of, to allow freedom in a large yard or field, where he may roam at will. Even on comparatively stormy days, when rain is not falling, a few hours in the open air will be profitable. When this course is impossible, the horse should at least be provided with a roomy box stall, and in this he will voluntarily obtain enough exercise to safeguard his health. Under such treatment he will be in good condition when March arrives, to go into preparation for spring fitting.

In respect to the winter care of foals, it may be said that there is but little danger of them being too well cared for. The future of the mature horse very largely depends upon the well doing of the foal during its first winter. As to feed, he should be given all the nice, well-cured clover hay and finely chopped oats he will eat up clean three times a day. It is a good plan, in feeding the chop, to scald it by putting it in a pail and pouring boiling water over it, after which cover it with a blanket and allow it to stand for a few hours or over night before feeding. A mess of this fed morning and evening will be much relished and give good results. As they enjoy a variety, I do not consider it good policy to make a whole and continuous ration of hay and oats. A turnip or a carrot fed at the noon meal will always be acceptable. In addition to this, a feed of bran containing a small quantity of linseed meal should be given two or three times a week. Exercise is of course necessary, the barn yard or an adjoining

Live Stock and Dairy

paddock again answering for this purpose. It frequently happens that when such exercise is on straw, manure or some such soft, yielding substance, his feet require special attention. Under such conditions the growth is greatly in excess of the wear. It is therefore important that the feet be dressed to a natural shape with a blacksmith's foot knife and rasp.

With the practise of more rational methods in wintering our horses, remembering that each class requires a different system of feed and management, there would be little use for condiments in their rations, and the veterinarian's harvest would be considerably reduced.

J. HUGH MCKENNEY.

Points on the Horse

A SUBSCRIBER, D. W. B., Pawtucket, Rhode Island, writes: "I have read your interesting notes and comments on horses, which were published in the July 25th issue of FARM AND FIRESIDE, and thought perhaps you could give me a few points on these animals. My hobby is black horses, but I cannot keep them black during the summer. Last March I bought a pair of coal-black horses which were fine coated and in good flesh; they are now quite brown. My barn lays to the west and is warm where the horses stand in the evening. The floor on which they stand is made of cement, except where they are cleaned. Do you think that the above conditions would have had effect? Do you think that iron or any other medicine could be given that would correct the trouble? Do you know of any breed of horses that is fast black?"

Just how to keep horses black during the summer is a problem difficult to solve, unless artificial means are employed. Of course, one may use hair dyes, but I had much rather my horses would possess their natural color than to employ such. It must be remembered that it is natural for the color of the hair of the horse to change at certain seasons of the year. In the spring, when

animals rest more comfortably on them. When a horse is compelled to stand on cement floors during a hot day in summer he will stamp the bedding from beneath his feet fighting flies, and as a result his feet will become sore unless they are protected with shoes.

In regard to giving iron or any other medicine with the view of changing the color of the horses' hair, permit me to say that this desirable condition cannot be produced by dosing and dopping. Many horses have been ruined by promiscuous dosing with drugs. A well horse needs no medicine. A sick horse needs the service of a trained veterinarian. There are, of course, a few simple remedies which the owner may safely administer for a few simple, easily understood diseases, but it is a safe rule to keep drugs away from your horses, so far as possible. If a horse is in the hands of an intelligent master, if he has good quarters and proper care, if he is given proper exercise and not overworked, if he is given pure water and a good ration, there will be no need of administering drugs. He may not possess the color desired, but his condition, which I regard as being the most essential thing, will be such that dosing with drugs will not be necessary.

Cleanliness Makes Healthfulness

Grooming and cleaning are necessary to keep horses in a healthful condition. Any man who is capable of owning or managing a horse naturally takes pride in the appearance of the animal. He wants the horse to show the effects of the good care he has had. But the grooming and cleaning of horses are of greater importance than that. It isn't simply a matter of looks. It means health, vigor, spirit and nerve. The horse is a hard-working animal. Old tissue in his body is constantly being torn down and thrown away. A large part of this is eliminated from the body through the pores of the skin. In fact, almost as much waste matter is expelled from the body of the horse through the pores of the skin as



Prize Percherons

the horse lays off his long, warm coat of winter hair and puts on a shorter, finer and sleeker one, the color of the new coat is different from that of the old. Then, again, the heat of summer, especially when horses are exposed to the hot sun, has a tendency to change the color of the hair. The hot sun seems to dry up the elements necessary for a healthy growth of the hair, and it becomes stiff and has a dead-like appearance. When a horse is well bred, well reared, well managed, and possesses a keen activity, a fire, a vigor and a spirit that distinguishes him from the plug, I can hardly understand why it is that the color should be given any large degree of consideration.

As to the barn conditions having a bad effect upon the horses, will say that I do not think that such conditions would have anything to do with the changing of the color of the hair of the animals. There is one thing, however, in regard to your barn on which I do not agree. That is the cement floors. I do not believe such floors are suitable for any class of live stock. They are too hard on the feet of the animals and do not allow as free a passage of air underneath as they should. I have had some experience with cement floors, and discarded them. I prefer solid, dry, ground floors to any others. They are more natural and the

by the bowels. Think of that, the pores of the skin play as important a part in the health of the horse as do the bowels. It is just as necessary to keep them open and in good condition. Then, the use of the comb and brush is absolutely necessary.

One of the best tools for a groom is a stiff broom with the handle cut off to a convenient length, say about two feet. This affords a good leverage, and enough power can be brought to bear on the coat of the horse, not only to remove a great deal of dust in a short time, but to make the coat bright and to invigorate the skin.

Finish the grooming process with a woolen cloth, going over the horse with it from head to heel. Give particular attention to the fetlocks, and rub them clean and dry. Clean out the feet with a foot hook, and do it every day. If there are any abrasions on the limbs or on any part of the body from the wear of the harness, clean them thoroughly and apply a small quantity of axle grease each day until well.

In answer to the last question, I will say that I know of no breed of horses that is fast black.

WM. H. UNDERWOOD.

This is the Last Number at the Old Price—See Page 26.

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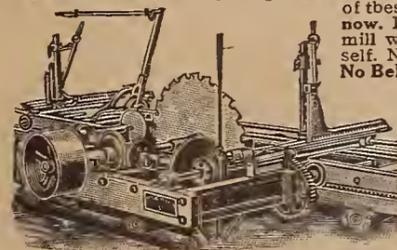
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Live Stock and Dairy

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THE sheep must have a good shelter from the snow and sleet and cold rains of winter. A shed built against a large building and opening to the south is the best for sheep in the winter. The barn will be a splendid protection, and the farmer who builds his sheep shed against his barn is wise. The shed should be fitted up with hay racks running along its sides. These may be three feet wide and about the same in depth. The height should not be much more than the width. There should be sufficiently large spaces between the planks running along the sides of the racks to give the sheep freedom in moving their heads in and out.

If there is not enough room in the shed for the feed troughs, they may be constructed on the outside; but it will be better if there is space for them in the center of the shed. The troughs may be constructed in the following manner: Drive down pairs of stobs about twelve feet apart, according to the length desired for the troughs. Nail heavy cross-pieces to the stobs just about a foot above the ground. The troughs can be set on the crosspieces and nailed there. It is best to make the troughs about eight inches wide and four inches deep. The lumber should be good and strong.

Oats, bran and shelled corn mixed make a splendid feed for sheep. They will be delighted with good clover or alfalfa hay. When alfalfa is fed they will not need so much grain. In fact, sheep will almost fatten on alfalfa alone. If it is chopped up fine, so much the better. Keep salt near, so the sheep can have access to it whenever they please. It will be a good thing if they can run to a watering trough that is filled with temperate water.

On pleasant days sheep may be allowed to run out into the sunshine, but the shed should ever be open for a sure retreat from wintry storms. How well the sheep are cared for in the cold weather will govern the profit to the farmer at lambing and shearing time.

W. D. NEALE.

The In-Pig Sow

DIFFERENCE of opinion, certainly difference in practise, prevails as to the best way to commence pig breeding. Some prefer to purchase an in-pig sow, or gilt, because it enables them to get to work without waiting, and they think they are saving some trouble and getting more for their money. This is, however, not always the case, for the effects of bad management in the hands of the former owner may become apparent, when the sow comes to farrow, in the possession of the new one. The management of the sow at the time of parturition has, of course, an important bearing on her welfare and on that of her offspring, but the kind of treatment she gets during gestation has even a greater influence.

When an in-pig sow that is close to her time is purchased, something is risked, and all that can be done is to feed her judiciously during the time that has to elapse before farrowing time, but with a gilt that is home bred, or purchased young with a view of her being employed for breeding purposes, much may be done by careful management to secure a good time at farrowing, a strong, healthy litter of pigs, and a good supply of milk for them.

It is rather a moot point whether it is best for the novice to purchase an in-pig sow, a gilt ready for breeding, or to buy young sow pigs and bring them along until old enough to put to the boar. In the latter case, although the expense of feeding and attendance, and the risk of loss from accident or disease, may bring the cost to much about the same thing, an opportunity is afforded of feeding and training them on the most approved principles to secure the best results.

If a commencement is made by purchasing young sow pigs when newly weaned, it is best to obtain them from an early spring farrow, and keep them on so that they are put to the boar in time to produce their first pigs before the first quarter of the following year has expired. Early spring pigs make the

most robust and healthy stores. Young pigs, besides being very subject to rheumatism, do not grow and get on or make such good use of the food supplied in the short, cold, damp days of late autumn and winter as they do when the weather is more genial. All young animals thrive best and grow fastest, and that on less expensive food, during the long sunny days of summer, and pigs especially so. Young sows from an early spring farrow do not have to face the drawbacks of winter until they are of an age and a robustness of constitution favored by summer conditions to withstand them.

The selection of the breed of pig to keep, often a great source of trouble to the amateur, must necessarily be left to the individual taste or judgment, founded on local knowledge, but the age at which to breed is a subject on which something may be said to advantage. Early breeding is now the fashion, and it has followed closely on the heels of early maturity and sexual precocity.

The Effects of Early Breeding

Some breeds of pigs mature earlier than others, but in none of them are the sows fit to send to the boar at less than six months old, which is sometimes done simply because oestrus has made its appearance. The practise is to be strongly deprecated. The animal herself is immature, her growth and development, and therefore her future usefulness, are affected by the drain on her strength during gestation and lactation, while the offspring are generally puny and ill nourished. If, after mating early, she is heavily fed to keep up her strength and assist her to nourish her future offspring, there is often trouble at parturition, owing to the development of the fetus exceeding the capacity of the genital passages.

Where the sow is not intended to be permanently retained for breeding purposes, it may answer fairly well to breed early, but our contention is that if a sow is good enough to breed from she is good enough to keep, and it is not wise to start breeding until the gilt is approaching twelve months old. There is no doubt but that, within certain limits, a sow becomes a better mother with each succeeding litter, bringing finer, stronger pigs and having a better supply of milk on which to nourish them. If the sow is a good one she should be permanently retained as a breeding animal.

Irregular breeders, vicious sows and inferior milkers should be ruthlessly weeded out, but a really good and careful mother should be kept breeding as long as she continues to do so regularly, and brings a fair number of even pigs, for which she provides plenty of milk. Where the mating of gilts is concerned, it is better to be three months behind than three months too early, if the object in view is a useful sow that will not only attain her own natural size, but produce good, quick-growing pigs.

Condition is a matter that must not be overlooked, for it is of the utmost importance in the breeding animal. Breeding condition is quite a different thing from butcher's condition or show condition, and it should be recognized that the fit condition for breeding is the condition of carrying no more fat than accompanies good health and vigorous growth. Many of the breeding difficulties of which the pig man complains, including the non-appearance of the oestrus and the failure to conceive, are due to the animal being too fat. The principal quality to be desired is growth, and this is better brought about by feeding on nitrogenous foods, with plenty of exercise, than by stuffing with fattening material in close confinement.

Proper Feeding is Desirable

When in pig the sow should be well fed, but not so as to fatten her, and she should always have plenty of exercise, because this is essential to the well being of every pregnant animal, and the proper development of her prospective offspring. No sow farrows with better results and gives so little trouble as the sow that enjoys the advantage of a run at grass.

It is not possible to pay special attention to individual sows where a large herd of breeding stock is kept, but it is often possible, by a little kindness and consideration, to change a sullen and intractable animal into an unusually gentle one, and where only a few sows are kept this certainly pays. Pigs are generally supposed to be unsympathetic animals, utterly devoid of intelligence and concerned only with eating and sleeping, but those who have taken the trouble to cultivate their acquaintance know better.

It can scarcely be expected that animals whose contact with man is limited to seeing him sometimes empty a bucket of swill in their trough, or the somewhat closer, if less agreeable, attention of a kick in the ribs or a bang with the broom at cleaning-out time, will develop very friendly feelings toward him or repose any great confidence in the beneficence of his intentions when he wants to handle them. It may not matter so much about being friendly with the fattening hog, but it may make a considerable difference whether or not the pig man is on good terms with the breeding sow, for if the animal is vicious and dangerous to approach or will not brook handling, it may go hard with her should parturition prove difficult. The sow that resents the slightest interference at such time or with her offspring is a complete nuisance. It is this class of animal that kills and eats her pigs, and will scarcely tolerate the presence of even her feeder in the farrowing pen. Fear is often the chief factor in the so-called vices of all animals. If a sow is noticed and spoken to at feeding times, or occasionally rubbed down the back, it will render her familiar with handling and assure her of kind intentions.

W. R. GILBERT.

Team Feeding

THE cost of keeping the teams required to carry on the farm work constitutes one of the heavy items of expense in the farm enterprise. On too many farms more horses than are needed are kept, making the expense still heavier; but even when this is not the case the item is a heavy one. The most important point from which to attack it is that of the proper adjustment of teams to the work to be done, so that each horse shall be kept at work the greatest number of hours possible. This will materially reduce the hour cost of the team work employed.

But it is with especial reference to the feeding problem itself that I wish to write at this time. Oats and timothy hay are considered to be the horseman's standard ration. Unfortunately this ration is generally an expensive one. A cheaper one is needed. A recent bulletin from the Ohio Experiment Station gives excellent results regarding a comparison of oats and corn as the grain ration of horses at work. Their results indicate that an equal weight of corn in the ear produces as good results as oats. By weighing the two I find that an equal bulk of ear corn just about equals in weight the same bulk of oats. In other words, four quarts of corn with the ears merely broken enough to go into the measure readily will weigh approximately the same as four quarts of oats. As a farm proposition, therefore, it means growing a bushel of ear corn as against a bushel of oats. An acre of corn demands more work than an acre of oats, but with us I am convinced that it is easier to make that acre produce one hundred bushels of corn on the ear than it is to make it produce fifty bushels of oats. On many farms, particularly where the acreage is small, it will be found easier to produce corn enough to carry the teams through than to produce oats enough to do it.

Carrots are another product which will materially aid in this team-feeding problem. Whether carrots are equal to grain as a ration for horses at heavy work or not I am unable to say, though some claim them to be fully as good as oats. I do know that for horses under the conditions commonly prevailing on our farms during winter, where there is little severe continued labor and much standing in the stable, they form an excellent feed for at least part of the ration.

Under favorable conditions carrots will produce a large yield an acre. They call for considerable hand work in weeding, but enable one to produce the equivalent of a very considerable portion of the grain ration on a very small area. On many farms it is not easy to provide enough land to grow oats enough for the farm teams. By substituting corn and carrots in part the farm may perhaps be made to provide its own feed.

At present the horses at Morningside are getting carrots in the morning, oats at noon and corn on the ear at night. This I consider an ideal division, but I should not hesitate at all to make it two feeds of carrots and one of corn each day, especially under light work, or two of corn and one of carrots under heavier work. With present high prices of grain this part of the ration demands careful attention.

FRED W. CARD.



Poultry Raising

Why the Meat is Better

It is often asserted that the meat of pure-bred poultry is sweeter than that of scrubs. The reason is that they get better care. They have been well fed and tended for generations, and by doing so this became one of their characteristics. The scrubs are often left to go unfed, and receive very little attention, and as they decrease in general the meat also becomes poorer.

GREGOR H. GLITZKE.

Buckwheat for Poultry

LAST July I sowed about an acre of buckwheat especially for the poultry. It was not harvested, but was left standing for the chickens and turkeys to gather as they wanted it. It was sown late in July, so that it would not ripen much before frost, and if a part of it gets trailed down it will not rot or sprout before spring.

It is a pleasure to see the chickens gathering the buckwheat and to note their nice, clean, thrifty condition, largely due to the buckwheat; and we have been getting some eggs—not many, of course—all through the molting season.

A small field of late buckwheat left for the chickens to harvest, or a larger buckwheat stubble, is an excellent foraging ground for the poultry during the fall and any pleasant days during the winter season. The buckwheat will not rot unless it is warm enough for it to sprout. Buckwheat has a nutritive ratio of 1 to 7, which is of course a too wide ratio for an exclusive ration for poultry, but it can be supplemented with a more concentrated food.

A. J. LEGG.

Poultry Pin Feathers

Clean the roosts every day regularly.

When the weather is severely cold gather the eggs often.

Never compel a hen to lay in a nest that is filthy. It is a thing the hen detests above all things.

Keep the hens in out of the deep snow. They will get chilled if you do not, and chilled hens mean fewer eggs.

Get some bone for your hens some way. If you can't do anything better, take a bone and hew the scraps off with a hatchet. I have seen men do that; but look out for your fingers if you try it.

This winter is a good time to study up on poultry. Get some good book and make a business of learning all you can; and study in your own hen houses, too. You can learn as much that way as any.

If any disease gets among your birds, especially if it be contagious, better clean the whole brood out and begin over again. But before you get the new fowls, thoroughly fumigate and otherwise renovate the houses from ceiling to floor. You cannot be too careful about this.

Count no eggs until you get them. Some folks do not have hard work to do that in winter; but we are more and more learning the secret of making the hens lay at this season of the year. When we get that mastered we will tackle perpetual motion.

Keep an eye out for insect pests in winter as well as in summer. They will bite just as hard when the weather is cold as any time. And the hens cannot get out to the earth to roll in the dust, either, which makes it all the worse; but you can furnish dust, and you must if you will have healthy birds.

E. L. VINCENT.

The Dust Room for Hens

THE custom with many poultrymen is to provide for the hens in winter a dust box large enough for only a few hens to occupy at the same time. There is, I have found, a much better way. I have noticed it is the better way to let the hen follow her own instincts as much as possible. I try to study hen nature, and find she best serves me when I let her have her own way. I have the floor of the henery covered with soil, and on days when the sun shines brightly I often find the whole flock in front of a window where the sun shines on them, taking their bath together. The dust box they seldom use. I have also noted, when the hens were out in summer, the whole flock wallowing in some place where the soil was mellow and dry.

To permit the hen to follow her instinct in this matter of taking her toilet I introduced the plan, partly suggested by what I had seen in the house of one successful poultry keeper, of providing

a dust room large enough for the flock of hens I keep in one room—twenty-five or thirty—to occupy at the same time. One corner or end of the henery can be separated with wire netting, placing baseboards three feet high. If the henery contains one hundred and fifty feet, forty to fifty feet is about the right space to partition off for the dust room.

In the fall cover the floor of the dust room two feet deep with road dust or dry fine garden soil. It is sometimes well to scatter a little grain in the soil of the dust room, cover it, and let the hens scratch for it. They will fill the henery with a cloud of dust. Lice cannot live in such a place. One poultryman who has a dust room told me that there is never any lice in his henery, that lice couldn't live there, and when he bought lousy hens they soon got rid of their lice.

The old dust box we still find in many henneries, and which is often used all winter without renewing the dust in it, does not permit the hens to follow their instincts. We see in most animals the instinct of cleanliness. They will generally free themselves from insect parasites if given the opportunity, so this natural instinct of the hen leads her to keep her body clean and free from lice, and the dust room gives her this opportunity in winter.

W. H. JENKINS.

Two Enemies of Poultry

ONE of the worst enemies the poultry keeper has to contend with is the disease called roup. Some think the word is a shortening of another word, "croup." But if we will think of it as what is known as diphtheria in people, we will perhaps come as near to the truth as possible.

Now, we would not think of dallying with diphtheria a moment, would we? Just so, when we find that one of our chicks has genuine roup, the first thing ought to be to get the sick bird out of the flock just as soon as possible, and put it in a clean, dry house. If a common bird—that is, not a fancy one—is bad off, it would be wisest and best to end its miseries at once, for the chances are against its getting well.

Then close all cracks and make the houses where the others are as dry as possible. Turn the birds out and disinfect the houses by burning sulphur and carbolic acid in them. Also pour a tablespoonful of turpentine and the same of carbolic acid over some unslaked lime, and scatter that about the houses.

A simple remedy is to take a tablespoonful of lard and mix it with half that quantity of ginger, cayenne pepper and mustard, equal parts, adding flour enough to make a stiff dough. Make

this into pills about as large as a good-sized bean, and put one down the bird's throat, say twice a day, twelve hours apart. Anything that induces low vitality among fowls brings on this disease.

Another bad disease among fowls is blackhead, which comes to turkeys. This is a malignant contagious disease and sometimes gets very serious. Not much can be done by way of remedy. For that reason fowls affected by it should be removed as soon as possible. Prevention is the only safe thing to rely on. Roosts and feeding places should be disinfected, if the trouble has existed for some time, by the use of carbolic acid or other reliable disinfectants. As the disease may be transmitted through the droppings of diseased birds, these should be removed as often as possible and the houses sprinkled with air-slaked lime.

It is best to remember that all such troubles are best fought before they get a hold in the flock. Clean and dry houses, pure food, clean drinking vessels and good water should enable the ordinary poultryman to escape enemies of this kind.

E. L. V.

Poultry Notes

YOUR roosters will not lay any eggs this winter. Now is the time to get rid of this superfluous stock. Even if they do lack a couple of pounds of coming up to standard weight, sell them. The laying stock cannot have too much room, and every rooster takes up more room than pullets, and amounts to nothing.

To successfully raise the best and most profitable fowl the farmer must plan and follow out a systematic course in breeding and raising his flock. Never breed from the entire flock, but select the choicest specimens, which must be carefully separated from the more or less defective birds, and from these, and these alone, should the eggs for hatching be obtained.

In mating fowls there are principles to be observed, as well as in all other work with Nature's laws. One principle to be followed is that "like begets like." Not that the progeny of two fowls will invariably be just like the parents, for the progeny may partake of the ancestry of a generation or more back. In a great many cases the ancestry of fowls has been so injudiciously mated for several years back that the blood does not contain a fixed line of principles so that parents will reproduce themselves in characteristics.

VINCENT M. COUCH.

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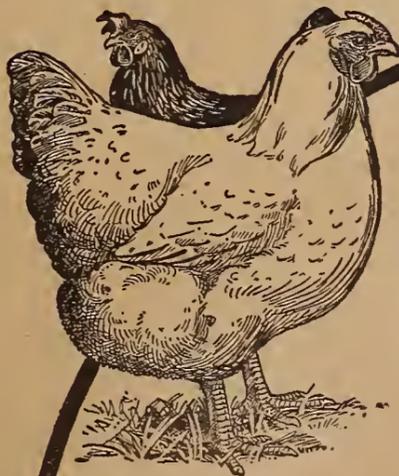
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Practical Farm Notes

Give the Boy a Chance on the Farm

ANOTHER young farmer writes me that he is forced out of the "home nest" because it has become too crowded, and the farm will not support the whole family of seven. He says he thinks he will try the city, because, if he gets a job, the hours are not so long as on the farm. He thinks he will not be exposed to the weather so much, and therefore stands a chance of keeping in better health, and in the end making about as much as working for farmers. Still, he says, he would rather stay in the country near home if he could have a fair show "and not have the liver worked out of him!"

Before I go any further, let me give part of a letter written me by a boy who has hit upon a plan that may well be adopted by some others. He says: "Last year I asked father if he would let me have what we call the west pasture to grow corn on, and what rent he would charge me for it. The pasture was a ten-acre tract that had been pastured four years and was about run out of grass, except in a few spots. He told me to make my proposition in a business-like form, and he would see what he could do. I offered him twenty-five dollars a year for three years. He said if I would make it thirty I could have it. So I made it thirty. I went to town, two miles away, and made some inquiries for manure, and found forty-two loads, which I bought for twenty-five cents a load. Some of it was good, and some pretty stinky, but I took the lot and hauled it out, four loads a day. Well, to make a long tale short, I did the best I could with that field. I gave two dollars a bushel for the seed, and it was fine. I worked at it every minute I could get, and not a weed grew in it, and I planted about six grains to the hill and thinned it to three good plants. That was a job for your whiskers. But it paid. I contracted the crop for fifty-eight cents a bushel, and delivered it as fast as I could husk it, and it turned out just eight hundred and seventy bushels. That was eighty-seven bushels an acre, the biggest crop raised in this neighborhood. It brought me four hundred and ninety-five dollars and ninety cents. Then I sold the stalks to father for pasture for ten dollars.

"I am giving the land all the manure I can get hold of at a reasonable price, and I want to beat this year's crop next year. If the spring had not been so wet that I was full three weeks late in planting, I believe the field would have made a hundred bushels an acre. I have ordered another lot of seed from the same firm, and they are going to send me the best they have, and I am going to do the best I can to beat the best farmers near and far. I will be nineteen years old next spring. Father says I did pretty well for a beginner, and he hopes I will get a chance next year to do a good job."

Wherever it is possible, I think it is advisable to give the boys a chance to do something for themselves. So many boys write me that they have no chance to do anything for themselves, and when they reach their majority they have nothing with which to begin life. Many farmers appear to think that the boy should be content to work for them until he reaches his majority, and should be content to then begin for himself. The boy should have something to begin with at that time, and if he has a chance to earn it before that time he is not going to throw it away. This plan is far better than keeping a boy without a dollar until he becomes of age, and then giving him a lump sum and telling him to hoe his

own row. It is far better than sending him to school to learn Latin and Greek and football, and then starting him in business a mere bubble which the first jolt will burst.

So many farmers do not seem to understand that a boy has aspirations long before he is twenty-one, and that he is fairly aching to do something for himself—something that will advance him a step toward independence. I know a strapping big young chap who is only eighteen, but has a team, and this year he has made over four hundred dollars farming out lots, which he has rented for terms varying from one to five years, and working for farmers who are short of horse power. He lives at home, paying actual cost of board and buying his own horse feed. He told me his father wanted him to stay at home, as the old gentleman is not very strong, and he says he intends to stay as long as he is wanted; but in the meantime he is going to keep adding to his little pile and getting into good financial shape.

I know a farmer who held all of his five boys down until they became of age, and then turned them out without a dollar. All the boys are good workers, but still are not making much headway in the world. Judging from present indications, they will be forty years old before owning homes of their own, even of the humblest type. One of them said to me, "I never had any chance in life, and the best I can hope for now is a little two-roomed house on an acre lot in which to spend my last days." The chief trouble with the boys is they acquired bad habits when they started out, all of them using lots of tobacco and drinking to a considerable extent. How much better if they had been given a start at home and encouraged to become fine, clean young men.

Give the boy a chance, but don't make a "smart Alec" of him, nor a mollycoddle. Have him reach his majority with a good knowledge of business—of earning and keeping money, and of spending it to the best advantage. FRED GRUNDY.

The Possibilities of the Farm

THE crop reports just given out by the Department of Agriculture show the usual low average yield of our farm crops. The figures representing the yield of an acre of land not only do not come anywhere near the possibilities of an acre, but not even within gun shot of what we might and should reasonably expect. When, for instance, the average yield of potatoes ranges materially below one hundred bushels an acre, there must be something radically wrong, and there may seem to be need of investigation by a commission. Such yield can pay the expenses of production and leave to the producer a margin of profit only when the price of potatoes realized is abnormally high. Says Bolton Hall ("Three Acres and Liberty"): "The farmer thinks that he has done well if he gets a hundred and fifty or two hundred bushels of potatoes from an acre; he does not know that others have gotten 1,284 bushels."

Mr. Hall calculates that to raise potatoes as an ordinary farmer raises them requires him to go over the land at least a dozen times, and it would pay him to go over it much oftener; that it will make him walk at least thirty-three miles over each acre, and if he has twenty acres he must walk at least six hundred and fifty miles, and all this to raise, say, one hundred and fifty bushels of poor potatoes an acre or three thousand bushels on his twenty acres. Mr. Hall then continues: "Now suppose he cultivates the soil, instead of just 'raising a crop,' and gets six hundred bushels of fine potatoes to the acre, he need plant only five acres, walk only two hundred miles, and because his potatoes are choice and early, get many times the price that his pedestrian neighbor gets."

The City Man is Tempted by Possibilities

It will not do to tempt the city man who is possessed of a notion to switch off to farm operations by holding out to him such figures and possibilities. There are a few instances on record of yields of over twelve hundred bushels of potatoes on one acre. But the most skilled of farmers, had he attended the best colleges in the land, and got all the knowledge of scientific farming at his fingers' ends, would not be foolhardy enough to engage to raise even a thousand bushels on one acre. On some of the new lands in the far West is stated a yield of six hundred bushels is sometimes obtained from an acre. Years ago

we sometimes had four hundred and up to five hundred bushels an acre in the hilly regions of central and western New York.

My own aim as a potato grower used to be the four-hundred-bushel mark. We did not often reach it, however, even by planting whole potatoes. At the present time the farmer who raises two hundred and fifty bushels an acre in field culture in these same sections thinks he is (and he really is) doing pretty well. Having learned how to dispense almost entirely with hand labor except in picking up, and doing almost the whole work with horses and machines, he has succeeded in reducing the cost of production so materially that the two-hundred-and-fifty-bushel crop leaves him a good margin of profit. Possibly he might, by different management, succeed in raising four hundred or more bushels an acre. But we have to consider cost of production. It may be more profitable to raise twenty-five hundred bushels on ten acres than on five.

Large Yields Are Not Always the Best Yields

Altogether it is not well to deal with possibilities. Neither can the one hundred and fifty or two hundred bushels which the ordinary farmer raises on an acre properly be called "poor potatoes." Well-matured tubers of a one hundred or one hundred and fifty bushel yield are often much better and in greater demand in the market than the overgrown and often hollow specimens of a five hundred or six hundred bushel crop. Neither is it altogether true that the progressive farmer, "because his potatoes are choice and early, gets many times the price that his pedestrian neighbor gets." True it is, however, that early potatoes (early varieties planted early) can usually be sold in a near market at better prices than any potato will bring later. The bulk of our potato farmers, however, have their reasons why they do not cater to this early and home trade. In the rich soil of the home garden I expect the yield of my Early Ohio, Irish Cobblers or even Hebrons to reach or exceed the four-hundred-bushel-an-acre rate, and I would not be wholly satisfied with much less. Under particularly favorable conditions and without any "slip," of which there are notoriously and proverbially a good many betwixt cup and lip, we can, and often do, grow these early potatoes at the rate of five hundred or upward an acre in our gardens. But this is not field culture and not field soil, and we can seldom grow potatoes at that rate on larger patches. In this case "to cultivate is to watch the soil as you would watch your cooking, and to tend the crop as you would tend your animals." More than ordinary fertility and rotation, however, are always main features.

Possible Yields With Onions

Earlier in my experiments with onions I held out a two-thousand-bushel-an-acre crop of Prizetakers as an easy possibility. As we set about one hundred and twelve thousand plants to the acre, and often have every plant in some rows or parts of rows to reach the one-pound weight (and upwards), there is theoretically nothing in the way of reaching the two-thousand-bushel crop on one acre, barring slips. And as there may be numerous specimens, especially of Gibraltar onions, which will overrun the one-pound weight materially, they may largely make up for vacant spots, onions cut out with the weeder or killed by maggots. Yet I have never been able to actually raise two thousand bushels on an acre, or even five hundred bushels on a quarter acre, and I am always satisfied when my crop amounts to two hundred to two hundred and fifty bushels on the quarter acre, which it usually does.

My soil, however, can hardly be considered "onion land." I know of soils on which I would readily engage to raise fifteen hundred bushels and perhaps upwards an acre, and in fact could do that much more readily than raise six hundred bushels of potatoes on one acre. On the whole, however, we must admit that even the best of us do not raise as big crops as we might, and especially not as big as the possibilities, within or without our reach, might allow.

T. GREINER.

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Practical Farm Notes

Neglect of Farm Machinery

The careful observer who chances to travel through a farming community at this season is struck by the amount of expensive farm machinery left standing in the fields exposed to the deleterious effects of sun, wind and rain. Binders stand in the oats fields where the team was unhitched, grain drills where the fall seeding was finished. Double cultivators rest with tongues reared over the corn-field fence, and the fence corners seem to be the natural habitat of the small cultivators, plows and harrows.

An occasional farm will be passed where the implements have been gathered in from the fields and huddled in an indiscriminate mass at the end of the barn, the owner seeming to think his duty done in housing his mechanical helpers.

The fact, too, will be noted that a farm where no machinery can be seen standing exposed to the elements wears a general air of thrift and prosperity. The buildings are usually in good repair, fences are kept up, good stock is in the fields and an atmosphere of peace and plenty prevails.

On farms where the machinery seems to be sheltered by the great outdoors, just the reverse is usually noticed. The carelessness shown in taking care of the farm implements is manifested in other ways about the farm. Buildings and fences are neglected, and the whole place has a general run-down appearance. A farm will be seen occasionally where the machinery will be unhoused and the buildings and fences in good repair; but these are exceptions, and neglect of farm implements seems to lead to general untidiness about the farm.

Many struggling farmers and renters argue that, considering the price of building materials, they cannot afford to build houses to shelter their farm implements. They store what they can in the buildings they have, and let the rest go. These men have never stopped to figure their loss through neglect of their machinery. They see only one side of the question. Every mechanic knows that a machine properly used and housed will last twice as long as one that is neglected. Many careful farmers use machines for ten, fifteen, perhaps twenty years, which, in the hands of the careless ones, would be in the scrap heap inside of five years.

If the farmer who says that he cannot afford to build sheds for his machinery would use more care in operating it, and borrow money, if necessary, in order to house it, he would be astonished to find that he was making money by so doing.

Machinery is costly. The farmer who is compelled to lay out large sums every year or two for implements to do his work is bound to have his nose on the grindstone all the time, unless he has an income outside of the farm.

It is possible to get some idea of the pecuniary loss caused by carelessness in this regard, but it is impossible to figure the loss of time caused by tinkering with rusty, neglected machinery. A machine that is carefully operated, and housed when not in use, is bound to do better work, year in and year out, than one that is abused and exposed to the weather, or, if housed at all, is left in the field to gather a coat of rust before it is sheltered.

A young farmer was compelled, through lack of barn room, to leave his binder unhoused until late in December. He had always been careful of his machinery, at least as careful as the average farmer, but the time he lost at the beginning of the next harvest in getting that binder in working order convinced him that it paid, and paid big, both in time and money saved, to keep his machinery under shelter.

Some farmers know nothing about machinery, and seemingly cannot learn to use and care for it properly. If they can make money farming, and pay big bills for machinery every year, they are wonders. Farming, like any other business, has to be watched in the little as well as the big things. Leakage along this line will keep any farmer poor unless he has other sources of income.

Then there are farmers who must trust their machinery to the tender mercies of hired help. About all they can do is to get the best help they can and try to train them to be careful in using and caring for the farm machinery. With men of mechanical mind this will not be difficult if done tactfully, but with some classes of farm help the farmer has a well-nigh hopeless task. If a farmer does secure help that is careful of his tools and implements, he should value them as jewels, for jewels they are, and treat them accordingly.

Every farmer owes it to himself to see that there is no leakage in his business along this line, and if there is, to stop it quickly and effectually; for the best way to prosper in any business is to keep expenses down to the limit.

H. J. DANCE.

The Bank Depositors' Guarantee

Quite a large number of people have written me bemoaning the fate of the depositors' guarantee measure. One says it is a public shame to have a measure possessing so many really excellent features crushed down to its death through ignorance. Bless your soul, it is far from being dead. It is destined to become a mighty live issue before long.

The best thing about a presidential campaign is its educational feature. People may do a good deal of kicking about the way things are managed, but not until they are brought into the lime light and remedies plainly pointed out during a hot presidential campaign do the great majority learn anything about them.

It is unfortunate that some of the best measures for the betterment of the people are dragged into politics. The tariff and this depositors' guarantee never should have been made political measures. The banking interests fought the guarantee of depositors bitterly, and great "vested interests" fought fiercely for the continuance of the high tariff on some leading manufactures, and they won—that is, many people think they did—but time will show that their victory was merely a temporary check. When about a million soft jobs are depending upon the outcome of an election, measures that are beneficial to the people generally are in the shade, so far as the vote is concerned. But they get before the public and set people to thinking, and eventually we get them.

It is not a good idea to make great changes in governmental matters with a rush, and that was what many feared if a change of administration was brought about. I feel satisfied we will get the depositors' guarantee all right, but it has been temporarily delayed because it was made a party measure. We will get it because it is right. It is right and fair between man and man. It gives the depositor the same security that the banker demands from the borrower. The same security that the government itself demands from the bankers. States will adopt it, and then national banks will have to or lose their deposits.

A short time ago an old man said to me: "I am very anxious to see that depositors' guarantee become a law, because I have but a short time to stay here, and I have a little money which I would like to put into a bank for the benefit of my widowed daughter and her three children. I am offered four per cent and three per cent, but I have no assurance that these banks will stand, and they give me no guarantee that my child and her children shall not lose this money through failure. I do not feel sure that it will be positively safe, and I fear I shall go down without this anxiety removed."

One of my correspondents says: "The banker that is not willing to give the depositor the same security that he demands from the borrower is rotten. He surely must be intending robbery. He does not propose to allow any borrower to rob him, but he wants the opportunity to rob the depositor to be left open to himself." This man lost a lot of money through the breaking of a bank, and naturally he is bitter. But the bankers opposed this measure because they think it will cut into their profits, not because they are dishonest. They are merely men looking out for their own incomes, like most of us, and they want all they can fairly get.

I would advise all who are in favor of this measure to write a letter to his senator or representative telling him he favors it. Don't send clippings from papers, but write. This will do more good than voting into the air. Just tell him that you would like to have the measure enacted into a law. Also write your member of the state legislature, or tell him, you would like to have him vote for it as a state measure.

FRED GRUNDY.

The record for the quick baking of bread from standing grain in the field has heretofore stood to the credit of Minnesota. The time was twenty-nine minutes. The Waitsburg, Washington, record this year is twenty-two minutes. The former record was made before many of the recent improvements in harvesting and milling machinery.

The Rural Life Commission

FROM Fred Grundy's writing on page 2 of the November 10th issue of FARM AND FIRESIDE it seems that his feelings are hurt because President Roosevelt seems to be extending his guardianship over the farmer as well as over many other classes.

Just what the Rural Life Commission will be able to accomplish remains to be seen. Mr. Grundy says that it is to work along the lines on which the Grange has been working for years. Perhaps so; but would not the President and his commission be an able adjunct to the Grange? I feel sure that they will accomplish more by working in harmony than if they were pulling in opposite directions.

Would not the commission be a good avenue by which the farmers can get their wants before Congress? If conditions are not the best in rural districts—and from the petitions sent to Congress and what has been written on parcels post, the postal banking system and many other things, it seems that they are not—does it not give some encouragement at least for the President of the United States to inquire into actual conditions? An official investigation will do no harm, and may do good.

One strong point is won when we get the attention of the head of the government, and as I see it, our best policy is to give the commission a fair trial and all the information that we can, in order that they may make as accurate a report as possible. No use in pouting and fretting over wounded feelings because the commission may savor of guardianship! Possibly we are a little vain, anyway. It will be time enough to criticize the President and his commission after they have done their work and made their report.

West Virginia. A. J. LEGG.

A Letter on the Country Life Commission

IN YOUR issue of November 10th I notice the article on "The Commission on Country Life."

As a farmer it appears to me that the views of the average middle-class farmer would be of more value than the solutions arrived at by a commission of eminent students.

I have read a great many articles on the drawbacks the farmers labor under. As a personal opinion, I think if the farmer could get practical assistance along a few lines he would readily take care of the "sanitary" part of his farm.

In this section a great deal of the farmers' ready money comes from truck crops. This year the returns from the cantaloupes (from the commission houses in New York) ran from forty-five to sixty-five cents per crate of forty-five melons, or from ninety cents to one dollar and twenty-five cents delivered there. At the same time current quotations there were from one dollar and twenty-five cents to one dollar and seventy-five cents; thus the farmer gets what is left after the commission men take all they want. The moral is: Honestly conducted exchanges to handle farm produce.

Another thing is too much land. The agricultural colleges and departments are doing a work of incalculable benefit, but their teachings invariably run back to intensive farming. This is correct, so far as it goes, but if a farmer changes to intensive farming and less land, what is to become of the land lying idle? It should not be allowed to grow up, and yet if he rents he is in constant hot water from unreliable tenants. If he tries to dispose of some of his land, the real-estate men in his town will almost invariably advise against cutting it up. The government is repeatedly opening up new land for settlement in the West, and the railroads rush the farm-seeking foreigners west as fast as they land from the steamships; thus the man who owns a fair-sized tract of land is practically barred from getting down to intensive farming by the government itself, by the transcontinental railroads and by the real-estate agencies.

If the commission could work out a plan whereby the numerous middlemen's profits were wiped out, so that the farmer could get the value out of his crops, it would help vastly. Also, if the proper bureau would list farm lands for sale or wanted, so that homeseekers could get located without spending all their money for railroad fares, and also evolve a plan whereby banks could advance money to farmers on crops in barn, such as wheat, corn and staples, the farmer might then have a fair chance.

H. WATERS

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A Christmas Greeting

THE YEAR REVOLVES on its slow axle like a wheel, seed time, growing time, harvest, and the tired earth's resting spell coming to the top (or what we call "the present moment"), one after another, each in its turn. And this still, uncreaking moving of the rim of time has brought the season uppermost in which FARM AND FIRESIDE may fitly wish all its readers a "Merry Christmas and a Happy New Year," and pause, sort of expectant, as if in its turn from every one that looks upon these words the response might come: "Thanks. I wish you the same, and many of 'em."

* * *

THIS IS THE KINDEST HOLIDAY season of them all. This is the season in which we gather all our friends into one bundle, as it were, in which, more or less successfully, we try to make as many happy as we can. It is the gentlest holiday of them all. It isn't like Fourth of July, with its hideous bang-bang-bang! of cannon crackers, its scared dogs and runaway teams, its hands blown off and eyes put out, its burned houses, and fingers done up in rags with apple butter to take the soreness out. It isn't like Decoration Day, with its memories of a brothers' quarrel now nearly half a century old. It isn't like Thanksgiving Day, good as that is. It isn't like Labor Day, which is the festival of town workers walking through the streets in their best suits. It isn't like festivals of nationalities, or sects, or races, devoted to particular, exclusive sets of people who take this form of thanking God that they are not as other men are. It is a holiday that in greater measure than them all satisfies the craving for a more unifying feast to celebrate the fact that we are all children of one Heavenly Father and one Earthly Mother, one day at least in which we say to all the world, as Abraham said to Lot, "Let there be no more strife, I pray thee, between me and thee; for we be brethren."

* * *

THIS HOLY SEASON commands us to lay aside class strife a little while, to forget sectional hatred, our national jealousies (for which we have the pretty name of "patriotism"), our racial antipathies. We are all children of our common Heavenly Father, who has begotten us of one flesh and in one likeness, and our common Earthly Mother, from whose ample breast we draw our nourishment.

This season is one of peace not merely because a few more than nineteen hundred years ago there was a baby born in a barn in Bethlehem because its parents were too poor to go to a hotel or boarding house, a baby born to a carpenter who got small wages and whose hands were rough and hard from handling lumber, a baby born to a young woman who did her own housework and hung her washing out to dry upon the bushes in the yard of her one-story hut. The pictures we have of this the greatest of all historical events make the rude birthplace all aglow with the light from shining angels floating in the roof space and offering incense from their swinging golden censers, but we know that all the light there was came from the smoky flame of a grease lamp, and all the incense was the sweet breath of cattle.

* * *

JUST WHAT WE HAVE TO DO to make a kindlier, gentler way of living our rule and custom isn't of so much importance at the start off as the recognition of the fact that there must be a kindlier, gentler way of living found, and a high resolve to find it. The first thing is to turn our backs upon the City of Destruction and to set our faces toward Mount Zion. And the next thing is to unite, to become "holy" by becoming "whole," to put away that which divides us, especially that spirit which scorns all those who do the world's useful work and heaps high honors on the parasites. Only when each one of us bears his part fairly without shifting his rightful burden on those weaker in body or in mind can Christmas be the festival it ought to be; only then can be fulfilled the prophecy the angels sang to shepherds on the Galilean plain:

"Peace on earth, good will toward men!"

Waste Not, Want Not

IN AN interesting telegram to the recent annual convention of the American Mining Congress, President-elect Taft said:

"The mining industry of this country, which is second only to agriculture in its contribution to the national wealth, which furnishes more than sixty-six per cent of the total freight traffic of the country, and which employs more than a million men in its difficult and dangerous tasks, deserves all the assistance which this government can render it.

"No country is so rich in those resources which make for great and permanent wealth as is the United States; but this condition of itself has helped develop a national habit of waste in the use of our forests, our soils, our minerals and other resources. Fortunately, however, the public conscience of the country is awakening to both the loss of life and waste of materials in all of our industries; and we must see to it that the movement is guided wisely and carried forward to success."

The American people have been living in an age of waste and extravagance, and acting as if the vast natural resources of this country were inexhaustible. But it has been demonstrated that the end of some of the most important of them is in sight if the reckless waste goes on. The present movement for the conservation of all our resources started not one moment too soon. If, indeed, the public conscience of the country is awakening to the enormity of the waste that has been going on, then the future day of want is not so near at hand as we now realize that it might be.

Now, saving, like charity, should begin at home. So let us turn from the quiet contemplation of the broad subject of national conservation of natural resources to the home—to the farm—and stop the many wastes that are permitted to go on there. There's soil fertility, for example, wasted most prodigally. And there's the loss on farm machinery due to lack of proper care, paint and shelter, amounting in this country to more than twenty-five million dollars annually at a very conservative estimate. We can all help the new movement more by lending a hand right at home than by looking toward Washington. And it is just the right time these long winter evenings to do the planning for the saving at home.

Random Sparks

In all regions where corn is grown successfully it forms the basis of rations for fattening hogs. But as a food, corn is deficient in protein and ash and something must be added to balance the ration for fattening growing hogs. During the growing seasons forage crops serve this purpose, but when hogs are fed in the dry lot the supply must come from some other source. This may be found in soy beans, which can be produced on the farm.

* * *

There was a time when all the industries of this country were one-man industries, as farming is to-day; when the capital of each was small, machinery equipment small, available labor supply small and not to be relied upon. Lots to do and little to do with. Not very much in the industry except a living, more or less a good one. No big money.

But the industries got together. Sometimes they went into union voluntarily; oftenest they were kicked into it. They got together; that's the main point. Instead of cutting each other's throat in competition, they joined in co-operation.

They saved the cost of fighting, which is expensive work; instead of working in the dark, as farmers do to-day, not knowing until it is too late how much corn, for instance, will be produced, they learned to gage the capacity of the world's market; on a large scale and in a unified system they saved enormously.

It would be an able prophet, well worth five dollars a day for every day he chose to prophesy, who could foretell just how the farmers of this country will unite; but the prophet who can foretell that some day they WILL get together can hardly lay claim to more than helper's wages.

Back Talk to Lewis

Letters From Readers

EDITOR OF FARM AND FIRESIDE:—

I hope you are not going to introduce politics into your paper. You will hit some one over the head, no matter what theory you advance.

Kansas.

A. D. FURMAN.

EDITOR:—

I want to compliment you on calling to your assistance such talent as that displayed by Mr. Lewis, and believe that, avoiding cynicism and irony, such portrayal of weakness in both the prominent political parties and in the administration of public affairs as appeared in last issue can result only in good.

Oregon.

G. L. KING.

EDITOR OF FARM AND FIRESIDE:—

I am glad to see the stand taken by Alfred Henry Lewis concerning Railroads and Trusts, but think he is a little shortsighted about the tariff.

It must be conceded that as long as the Trust exists the small producer or corporation does not derive the full benefit of the tariff. It is fully understood that were it not for the Trusts, each producer would have an equal chance with all other producers of the same article. This increases competition, work is plentiful, and the working man can command much better wages. As the working man is more able to buy, a demand is created for all kinds of products. Thus the farmer as well as the manufacturer is benefited through the working man. Besides, competition always lowers the price of the manufactured article. So the farmer and the general public would be doubly benefited by the abolition of the Trusts.

But if home producers are not protected by a tariff, some will be crowded out of business by the foreign producer, which will restrict competition, the same as the Trusts are doing to-day.

The tariff protects us against the foreign Trust.
Caledonia, Michigan. O. S.

EDITOR OF FARM AND FIRESIDE:—

I have read Mr. Alfred Henry Lewis' comments on political topics, and while they are interesting, I cannot quite agree with his views on some points. When he says, "Your clerk would have committed a crime worse than treason in telling you of your rights," I think that he has overstepped the bounds of reason. It is true that it is a rule of the departments of government that their employees must not act as agent or attorney for any one who has a claim against the government. I ask Mr. Lewis whether this is wrong or unjust. If the government employs a man and pays him for his time, has he a right to solicit claims against his employers or to in any way become the agent of parties trying to collect claims against the government?

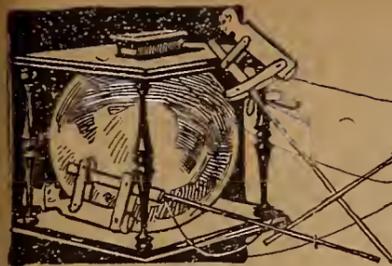
Then he makes a disrespectful assertion when he says, "The governmental instinct is to cheat you of your dues. It pays nothing it can lie out of or back out of or escape from in any fashion." I doubt very much whether he can prove this assertion, and I am sure that he has not proved it so far.

Mr. Alfred Henry Lewis says, "The Interior Department, in the day I speak of, maintained an outfit of sleuths to discover timber thefts. Likewise a force of law sharps to recover damages for stolen trees cost sixty thousand dollars a year. The report showed that for an even million dollars' worth of timber filched, those same thunderbolts of jurisprudence recovered thirty-eight thousand dollars. Thus the account made up: Lost \$1,000,000 worth of trees; recovered \$38,000; cost of recovery, \$60,000; total loss after recovery, \$1,022,000."

Mr. Lewis sets this forth as an example of governmental economy, but really does he make a fair statement of the affair? Was not this outfit of sleuths, as he is pleased to call it, maintained for the purpose of stopping timber stealing, rather than making money? His account is not fairly balanced until he adds the value of the timber that the department, by means of its agents, prevented from being stolen.

West Virginia.

A. J. LEGG



Politics

By Alfred Henry Lewis



SHALL MR. CANNON SUCCEED himself as Speaker? Mr. Taft—whose inaugural occurs the fourth of March—has already given notice that he will call an extra session. It is at the beginning of that session that Speaker Cannon must be told either to retain his gavel or to step down and out.

Not many moons ago I urged you to consider government in its comings in and goings out, and write your views to your member of Congress. As I then said, there isn't one of our statesmen but will pay more attention to a letter than to the voices of many men. I have faith in the mail bags of this country.

It was the mail bags that declared war against Spain. Every Washington force, from Mr. McKinley in the White House to Mr. Hanna in the Senate and Speaker Reed in the House, to say nothing of the Rothschilds—no more pygmies in Washington than in London, Berlin, Paris or Vienna—was set like flint for peace.

After the "Maine" was sunk, however, the letters came pouring in. The word was "Fight!" and in spite of that triangle of power recited war was declared.

That matter of Mr. Cannon and the Speakership should dip many a thoughtful pen in ink. Every one of us will have his own feeling, his own side.

For myself I should say that Mr. Cannon ought to stand back in favor of one more in harmony with the coming administration. The side personal is of no moment and should not be considered.

The Speakership isn't a Cannon, but a public question.

Mr. Taft, to carry out the popular will, must have a Speaker who, hand in hand, will work with him.

Mr. Cannon has no thought beyond opposing Mr. Taft.

With Mr. Taft in the White House and Mr. Cannon as Speaker, government will land nowhere, accomplish nothing.

Mr. Cannon for that reason ought not to be made Speaker.

Either that, or Mr. Taft should never have been made President.

Mr. Cannon wanted to be President. Mr. Cannon hates Mr. Roosevelt for preferring Mr. Taft, and hates Mr. Taft for being so preferred.

Mr. Taft is committed to the "Roosevelt policies." Mr. Cannon most violently condemns those "policies."

The House was planned as a Republic by those who drew the Constitution. It has become a despotism, with the Speaker as despot. No House measure can come up unless the Speaker is willing. No member can talk without the Speaker's consent. That consent must be sought before the session of the day begins, and the Speaker never grants it until the member tells him every word he means to say.

For each item of its history the Speaker is the House. Wherefore, possessing these powers, and with the House the source of tariff, appropriations, war, impeachments, and all else most of moment to the people, wise ones have described the Speaker as that officer next in power to the President himself.

Ought Mr. Cannon to be Speaker?

It would checkmate Mr. Taft in every move requiring House co-operation.

* * *

THERE BE TOPICS BEYOND a Speakership concerning which it might be worth the general while to stir up letterwise your congressman. Crops have been good; mills have started up; trade has quickened as well as lengthened its stride; commerce is beaming; banks are bulging. From a casual survey of the situation one gets a fur-lined feeling of prosperity.

And yet that impression of prosperity is not entirely a true one.

The trouble lies in this:

That prosperous picture is but the portrait of the prosperity of a few. This is more to be noticed in the cities than on the farms. However, since no one may say "I'm not my brother's keeper," the country is bound to be interested in the town, the town in the country. Injury to one will ever spell injury to the other.

And this is by a law of Nature.

With the potters' field claiming one of every ten who die in New York, with the charity organizations reporting conditions of suffering unparalleled in the past, with forty thousand "yeggs" and vagrants swarming about the country, with processions of the unemployed celebrating their idleness by pitched battles with the police, one may see with half an eye that the prosperity chronicled is not altogether general. As was said in the Senate by Mr. La Follette, in the dollar sense the country is in the hands of say a hundred men. What

If you don't agree with Mr. Lewis, "talk back" to him, confining your reply to two hundred words. We shall hope to publish some of these replies from time to time.—THE EDITOR.

with railroads and banks and Oil and Steel and Coal, they can do what they commercially will with us.

And they do it.

They make fair weather of it and call it "Prosperity;" or with a twist of the wheel they lay business on its beam's end, provoke a panic and turn prosperity into wreck—as they did, not many months ago.

It isn't good to leave a whole public at the mercy of the few. There is much, too, that might be done by law in the way of remedy. You have heard of the Initiative, the Referendum, the Recall; of direct nominations, parcels post, postal savings banks; of the election of judges and senators by ballot, and the public ownership of public utilities. Any or all of these would bring relief in this, that they would bring the people nearer to government, government nearer to the people. Would it be time lost were you to consider these policies in what they promise, what they mean, and then communicate your position thereon to that one you have sent to Washington to represent you in the councils of the nation?

It is my intention to print my own opinions touching these reforms between now and the spring plowing. With those opinions, when I express them, you will be free to agree or disagree. It should do no harm at least for all of us to fully say our say in the premises; and it might make for the enlargement of both our consciences and our understandings.

* * *

AS AIDING YOUR EQUIPMENT in the way of facts and figures, let me here unload a hatful of statistics. They may be said to give the outline measure of our national affairs. Some of these figures have been laid before you in former issues. I've thought it good, however, to group them in one article. They will then lie more within your reach, when you get ready to illumine the congressional mind in connection with what should or should not go publicly forward at the hub of government.

One hundred years ago there were about six million people in this country. Now there are ninety millions, or fifteenfold as many.

Likewise, in Mr. Jefferson's hour \$5,000,000 were annually paid to run the government, whereas to-day the over-all annual cost of government goes beyond the billion mark.

Fifteenfold the population!

Two hundredfold the cost!

Quite a difference!

The yearly cost of government in Madison's time was \$8,000,000; in Monroe's \$11,000,000; in Jackson's, \$13,000,000; in Van Buren's, \$22,500,000; in Tyler's, \$25,000,000; in Polk's, \$27,500,000; in Fillmore's, \$47,000,000; in 1860, the last year of Buchanan, a splinter over \$55,000,000.

Then came the Civil War.

To-day, as I tell you, the annual cost of running the government is more than \$1,000,000,000. Until 1860 the national expense account matched the population, and kept step with it, on the principle of a dollar a head.

It is now nearly twelve dollars a head.

* * *

GOVERNMENT SHOULD BE LIKE a reaper or a rifle or a coat; the more one pays, the better the purchased article ought to prove. Every one can form his own opinion by what samples find exhibition nearest his own home. Speaking for New York, I should say that it—the government—is of an inferior quality, and has been for twenty years, to any offered of those homespun days of our forebears when every man could say a prayer and shoot a gun, and did—when we defended our shores, and kept ourselves in order, at a regular yearly charge of a dollar a head. The government can be run, and never miss a stitch—run, and continue as powerful at home and as formidable abroad as it now is—for one hundred and fifty annual millions.

* * *

IN 1904—the latest figures I could get—the whole valuation of property in this country, real, personal and mixed, was \$107,104,211,917. This was divided: real property, \$62,341,492,134; live stock, \$4,073,701,736; farm implements, \$3,297,794,180; gold and silver coin and bullion, \$1,998,603,303; railroads and rolling stock,

\$11,247,752,000; street railroads, shipping and water works, \$4,840,546,909; all other property, \$18,462,281,792.

In 1870 the over-all valuation of the national riches was but \$30,068,518,000—in the neighborhood of one third of the present situation.

The public debt in 1870 was \$2,331,160,956.

Now we owe only \$998,866,772. The public debt of the United States is \$11.91 a head for population. Great Britain's is \$92.59; France's \$15.00.

In 1870 the total value of our manufactured goods was \$4,232,325,442.

Last year, as nearly as the very wise can guess, the figures touched \$17,342,361,956.

In 1870 those working for wages in this land of the free earned an aggregate of \$775,584,343.

Now that noble army of wage earners earn a total of \$3,102,879,888.

There are 16,800,000 families in the country.

In 1870, 1,630,846 depositors had to their credit in the savings banks the round sum of \$549,874,357. Last year 7,896,229 depositors had placed in those same savings banks against a rainy day the royal treasure of \$3,093,077,357. Not National Banks and Trust Companies, but Savings Banks. The money spoken of belonged not to merchants and bankers and stock gamblers, but to wage workers.

In 1870 there were \$2,262,847,000 of life insurance.

Last year this form of saving had clambered to \$10,412,078,338. In 1870 the Stars and Stripes floated over 6,871,522 school children, and we paid the teachers who directed the shooting of their young ideas an annual \$37,832,566. Now we pay the teachers a yearly \$171,804,639, and they lead over seventeen million children in the bookish way they should go.

* * *

AT THE LAST NATIONAL NOSE COUNT, that of 1900, the whole number of those who earned money—men, women, children—was placed at 29,285,922. The figures must be crowding hard upon a huge round 30,000,000 by now.

Of these the farmers counted 10,436,219; to which should be added, for purposes of present argument, 250,000 more. The farmers, by the interesting way, own \$844,989,863 worth of farm implements and machinery, spend \$104,000,000 each year for more, and produce an annual \$5,146,000,000 worth of crops—meat, grain and grass—of which \$1,054,405,416 worth is sold abroad as exports, and preserves in our favor the balance of trade.

* * *

IN THE LATE CAMPAIGN the big parties made frantic efforts to corral the labor-union vote. Results would indicate that the workingman is not so easily nose led as party managers fondly supposed.

It is a healthful sign.

None the less, the subject is of interest to gifted ones, who, as a campaign wags on, delight to sit down with paper and pencil and prophesy who is to have victory, who defeat, and how much.

There is this of organized labor: Among the country's voters only one in seven belongs to a labor organization. Those who carry trade-union cards make a roll call of 3,259,000. The state of New York is as thoroughly organized from labor-union standpoints as any in the land, and the over-all New York labor union estimate is 387,450. The New York vote is about 1,600,000.

Of all classes of labor, the hard-coal miners, the building trades, the printers and the locomotive engineers are most organized. At that the 310,000 engineers, firemen, brakemen, switchmen and conductors working for the railroads show fewer than 200,000 belonging to brotherhoods and labor organizations. Of the other 1,911,355 railroad employees, made up of clerks and the like, not one fifth have membership in unions.

Twenty-five years ago the Knights of Labor was the big organization. Now it is the American Federation of Labor. The American Federation has a membership of 2,089,000. It supports two hundred and forty-five papers and a corps of organizers that numbers 926. There are 27,000 local unions, 570 city central unions, 117 national and international unions—all flying the Federation flag.

The Socialists fight the Federation and the Federation fights the Socialists. The Socialists are crowding in upon the American Federation and slowly carrying away its people by ones and twos and tens. The Western Federation of Miners, an organization alien to the American Federation, is socialistic.

Of the 5,470,326 men, women and children who work in factories, 3,987,000 vote and 990,000 have membership in labor unions.

The Soul of Honour

By Lady Troubridge

Synopsis of Previous Chapters

Chapters I. and II.—The story opens on Cup Day at Ascot. Among the fashionable throng are Lady Windermere and her daughter Hyacinth. The younger woman is advised by her mother to accept Marcus Quinten, who, on the death of his cousin, Lord Vannister, will be a rich man. Lady Windermere speaks disparagingly of Jack Taunton, Quinten's Australian friend, and Hyacinth demurs. Quinten asks Jack for a loan, telling him that he means to propose to Hyacinth that day. Taunton reproaches Quinten for posing as a wealthy man and representing him (Jack) as being poor. Taunton asks Hyacinth if she could care for him, but she tells him her parents wish her to marry Quinten. A woman at the gate of the paddock recognizes Quinten, and greeting him as her husband, upbraids him with attempting to desert her. He coolly tells her that their supposed marriage was a mockery, and leaves her, fainting. Taunton comes to her assistance, and her friend, Sarah Gibson, tells him the story of Honour Read and her marriage to Marcus Quinten. Returning to the Windermeres he is informed of Hyacinth's engagement to Quinten.

Chapters III. and IV.—Taunton is shocked to hear of Lady Hyacinth's engagement to this man, Quinten. They arrange to meet once more for a last talk. Then Taunton seeks out Marcus Quinten, and tells him that he knows Honour Read and her sad story. He demands that Quinten should break off his engagement to Hyacinth. Quinten refuses point blank, and Taunton threatens to tell Hyacinth everything and to help Honour Read to assert her rights. Quinten is still defiant, and only after his quondam friend had left him, does he realize that he is penniless and powerless. On returning to London Jack calls at the Windermeres, but is informed that my lady is not at home. He has, however, been invited to lunch by Marcia Kenyon, a mutual friend, where he hopes to meet Hyacinth.

CHAPTER V.

"WAKE up, Honour, old girl!" cried a high, strident voice, which in spite of its somewhat twangy accent, was instinct with some vigor of youthful joy and vitality, and the owner of the voice rushed like a whirlwind into the front room of a small flat looking on to one of the roads which lead from Shaftesbury Avenue. Yet after her noisy entrance, the room was so dim that the newcomer stopped and blinked for several seconds before she could accustom herself to its somberness. Then she turned a trifle indignantly to another girl who was lying stretched out flat upon a divan in the corner, with her head low and her hands crossed rather stiffly upon her breast.

There was indeed something almost uncanny in the way she was lying; a hint almost of faintness in the deathlike repose of her rigid figure, but Sarah Gibson, the intruder, when she had recovered herself, hastened to dissipate this vague unpleasant impression, and crossing the room, with a firm, light tread, she threw open the windows, pushing back the shutters and letting in a flood of spring sunshine.

"Do get up, Honour," she said. "You give me the creeps, lying in that extraordinary way." And in answer to her loud, imperious call, Honour Read sat up, drawing her hand wearily across her eyes, and then looking in front of her with a strange, fixed, absorbed gaze.

The two girls formed the greatest contrast, as do so many friends, whose very unlikeness draws them together, and holds them, as these two were held, in a real and true friendship; and as they sat side by side the contrast between them was brought into high relief, in spite of the fact that both were dressed very much alike in what may be almost termed the uniform of the London bachelor girl. Each wore a closely fitting dark blue skirt, a white blouse, and a leather belt, and neither dress was new, Honour's perhaps being the shabbier of the two. Yet she wore her clothes with a grace and a distinction which made them seem almost as if they had been fashioned in Bond Street. Her figure was superbly molded, with a nice combination of elegance and strength; each movement was instinct with a free, untamed grace. Her small head was set proudly on a long neck and a pair of sloping shoulders. Her face, pale and worn with a look of recent suffering, was exquisitely molded; a broad white brow, dark level eyebrows, denoting resolution of purpose, further confirmed by the firm, round chin; in fact, the face might almost have been hard, save for the large soft dark eyes, and the little tip-tilted nose.

Sarah Gibson, the one friend, who in spite of all her rich dower of beauty, Honour possessed, was one of those plain women whose friends grow to love their faces for some inner brightness quite independent of outward things. Her



"Springing lightly to her feet, she crossed the room and flung the door wide open, calling out as she did so, 'Oh, thank you, Mr. James; I'm sorry you had the trouble of bringing up the bread!'"

skin was sallow, her hair had an inveterate tendency to set in exactly the contrary fashion intended by its owner during the hasty ten minutes which she devoted to her toilet, and no dressmaker on earth could have made her figure good. But she herself cared so little for any of these things that they ended by being non-existent.

She leaned toward Honour, and put her shabbily gloved hand on the long white one lying at her side.

"What have you been doing, old girl?" she asked gently. "But there, I needn't ask; you've been fretting after that abominable wretch who ought to be broken on the wheel and then have his head fixed on to the top of the Tower."

Miss Gibson's ideas of punishment were so intensely medieval that they brought a smile to Honour's lips.

"Those kind of things don't happen nowadays, Sarah," she said. "He goes to Ascot, belongs to the best clubs, and will inherit all that old man's money, whose name I have forgotten, but whom he used to tell me about. That is how things are managed at the present moment. It seems to me that it's the women who've got to suffer all the time."

Sarah gave an indignant snort. "That's only because you sit there and do nothing," she said. "There must be laws in England to punish a man like that, and first and foremost there's the Press. What's the good of my being on the staff of four ladies' papers if I can't show him up? What's the good of my being Diana and Cleopatra and Boadicea and Maisie if I can do nothing for you? I've a good mind to write the story of your wrongs instead of the spring fashions. It would be far more interesting, and besides, it would be true, which my forecasts are not. Fancy me writing on fashion!" she ended with a disgusted gesture, "when my skirt never will hang the right way, and nothing can persuade my shirt to join it at the back."

"Never mind," said Honour earnestly; "you earn your own living, dear, and that is more than I do, Sarah," she went on, seizing the black, grimy gloves, and holding the hands within them tight, "you know I love you, so don't get offended; but really I can't go on like this, living on you, poor old girl, when you work so hard. It's more than flesh and blood can stand, and it's killing me, indeed it is. That other trouble you know of is nothing compared to this; it's a thing that's over and done with, and thank heaven we parted, as we did, at once, but this idleness is too awful." She covered her face with her hands and began to cry, while Sarah patted her encouragingly on the back.

"Of course you'll find work," she said. "You're going to, but you must just have a little patience. It is an astonishing thing to me that you, who are fifty thousand times cleverer than I am, shouldn't have found a berth, but you see you've been hidden away now, and you say you won't go back to the office which you left to marry Marcus."

"No, no, how could I do that!" cried Honour bitterly. "They all thought I was going to be married; they were so kind about it, and the manager gave me a present. No, I'd rather die than tell them how I've been deceived." And the soft lips shut themselves together in a firm red line, which showed how truly the words were spoken.

Sarah frowned. "Yes, yes, that's all very well," she said; "but all the same I think it's very morbid and silly of you. You did leave to be married; you thought you were going to be, and so far as you knew, you were. How could any of us believe that here in this twentieth century a man would dare to play such a vile trick on an innocent creature like you! I can't understand why you don't go to that manager and tell him the whole story. He'd give you references, and references are what you want in London—and anywhere else, for that matter."

"I won't," said Honour. "Not even to pay you back, and that's saying a great deal; but oh, Sarah, why can't I help you in your work? I'm not stupid, I know, but somehow it's no good. I can't write a paragraph to save my life."

Sarah took her hat off; it was only attached to her head by one pin, which held it somewhat rakishly on one side, and she cast it from her with an airy gesture.

"Journalists are born, not made," she said, "and I sometimes think it is a great pity that they ever were born. You could never be one of them; you're far too truthful to begin with, my child. Fancy your looking at some old hag walking down Bond Street in a new hat and wig, and then going home to say that Lady So-and-so looked charming in the elegant toque which crowned her dainty coiffure. No, no, Honour, you wait; something will be sure to turn up. Hello, what's that!" she added as a loud knock on the door of their little sitting room startled them both. "Oh, I suppose Mr. James has condescended to bring up those scones I ordered for your tea. Well, it's the first useful thing he's ever done in his life," she ended, for between her and their landlady's husband there raged a chronic feud.

Springing lightly to her feet, she crossed the room and flung the door wide open,

calling out as she did so, "Oh, thank you, Mr. James; I'm sorry you had the trouble of bringing up the bread!"

The words died on her lips as she was confronted by the tall, broad-shouldered man who had rescued them from their uncomfortable plight at Ascot. Social knowledge was not one of Sarah's gifts, in spite of the pages on etiquette which she weekly instructed a listening world, and this contretemps left her dumb-founded.

"I am not Mr. James," said the intruder, "and I have not brought up any bread, but I shall be happy to run down and get it for you if you think it is in the hall; and if not, I hope I may come in."

As Sarah still gasped he walked into the room, making inward comments as he did so: "The faithful friend and the nymph in distress," for Honour, rising at his entrance, crossed the room.

"You mustn't mind Sarah's nonsense," she said. "We have so few visitors that I don't wonder she made a mistake; but I'm glad that you've come to see us as you promised, so as to let us thank you again."

She offered him her hand, with the air and the bearing of a queen, and Taunton bent over it respectfully.

For a moment there was some stiffness, for the terrible story which she had told between them, and it was only Sarah's awkward apologies which dissipated it.

"I hope you won't mind our little diggings," she said. "We have only the two rooms, but we call them 'drawing room and dining room,' and we cook in the dining room on a gas stove. It's really not half bad, only Honour there has been grumbling and wanting to move to Marlborough House."

At this they all laughed, and then Honour, in the simple, sincere way which had made Taunton respect her from the first, cleared up the situation.

"I'm quite happy here," she said. "At least, as happy as I can be anywhere, only I can't bear being idle, and owing to the trouble I told you of, I have not been able to find work. Perhaps I'm not fit for any."

"That's all nonsense," broke in Sarah. "Honour's an expert typist and stenographer, and she's quite capable of auditing accounts. She was employed by a big firm until she met that miserable friend of yours, Mr. Taunton; but now her health and her nerves have broken down too much to stand office work."

Honour had winced at her friend's candid allusions to the past, and almost hoped that Jack Taunton would ignore it, but that was not his way.

"I should hardly have liked to begin the subject," he said, "but now that your friend has introduced it, I do hope you will allow me to talk to you for a moment."

He had drawn up a wicker chair, and was sitting in front of Honour, while Sarah moved restlessly about the room, now joining in the conversation, and now peering out of the window in search of the dilatory scones which showed no sign of making their belated appearance; and Honour and Jack Taunton looked at each other. There was something infinitely pathetic to the honest mind of the young fellow in the involuntary humiliation which circumstances had forced upon the girl opposite him, whom he saw with his bodily eyes to be most beautiful, and whom he felt in his inmost heart to be the soul of purity. And yet through a man's baseness, and that man his own familiar friend, she was left like this to fight an unequal battle with a cruel, unbelieving world. Somehow she made him think of a white lily torn up by the hand of a careless child, and thrown on the muddy road.

"Pray talk about it, Mr. Taunton," she said, "if it can do any good, but in my own mind I feel that it can't. I cared about a man who never existed; the whole thing was like a dream; I dreamed he was good and noble; I dreamed he loved me; I dreamed he married me; and now I am awake, and I know that none of it happened, or ever could happen."

"That's so," said Taunton. "I'm afraid you're right there. In fact, that is what

I was going to tell you. On the morning after I saw you I went to the house where Quinten was staying. I told him he wasn't a white man; I told him what I thought of him; I asked him what he was going to do, and he—well, he treated my remarks in that airy, flippant, cynical way which I used to think so charming, but which seemed to me then simply devilish. And I'm afraid, Miss Read, that he has no intention of making you the slightest reparation; in fact, confidence for confidence, he's trying to get hold of my girl—the one woman in the world for me. He's given her what he pleases to call his 'love,' and her people believe in him. It suits the game he's playing in many ways; he's got to get some money out of his cousin, and he can't get it unless he shows some signs of settling down. In that case, the other would settle up. Excuse the pun; it slipped out, but I'm in dead earnest, all the same, I assure you."

"I know all this, Mr. Taunton," said Honour. "Sarah here is obliged to find out what goes on in the fashionable world; it's her trade to do it, and in the way of business she heard that Marcus is trying to marry Lady Hyacinth Windermere. So then I thought I must see if he had really forgotten everything—and he has."

"Yes, but we must be practical over it," said Jack Taunton. "There is more that you've got to know, Miss Read. When I came over here from Australia I was fool enough to prop Quinten up with my money, and all the entertaining he's done in his own name, and which has wormed him into the good graces of the Windermeres, has been done with my money. That financial support I've now withdrawn from him, and he's on his beam ends in consequence; but what I have taken away I can give again, and I will do it on one condition; that instead of a sham marriage with you, there shall be a real one; that instead of leaving you at the church door, he shall spend his life on his knees before you trying to atone. How's that, Miss Read? It will take money to do it, and I've got money. There will be no scandal, no appeal to the law—only to a man's cupidity; but I give you my word that if you'll agree to it, the thing's as good as done, and the only reason I don't press it is that it's playing my game as well as yours."

It was the longest speech that Jack had ever made in his life, and the fervor of it almost took his own breath away. He took out his handkerchief and wiped his forehead, where below the thick, curly hair small beads of sweat had gathered.

Honour leaned forward, and looked him straight in the eye, with eyes as honest as his own, a pure limpid gaze which seemed to demand and to compel truth.

"Do you think Marcus loves me?" she asked.

He hesitated, for he saw Hyacinth slipping away from him; and then after an instant he answered her.

"No; but he's a fool."

"Never mind that. Don't you think he hates me and wants to be rid of me?"

"Those are strong words," said Jack, uneasily; "but in the main I suppose they're correct."

"Then, Mr. Taunton, do you imagine for one moment that I will have this man dragged back to my feet for the sake of money? Oh, you can't think that! Why, what I have been through would be nothing, nothing compared with what my life with him would be under those circumstances. I went down to Ascot myself so as to look into his face, the face that I have loved, the face that I knew so well, and to see if there was something left there out of all there had been; and I did see something, but what do you think it was—hatred. Marcus hates me now. If I were dead, he would be glad; if he were not afraid of the crime of murder he would kill me. I know it, I feel it in my inmost heart. I feel it so that I can hardly bear to tell you about it, and yet I must tell you something worse still. I feel something of the kind, too. Not that I would ever hurt him, ever wish him ill, but I simply can't bear to think of him. Thank you a thousand times for your kind, your noble offer, but it's no good. Luckily he has made it possible for me to pass out of his life; it might have been otherwise, and then I must have stood by him, but as it is, it is best."

She gave an extraordinary impression of candor and dignity as she spoke. The rich wine of life that had been offered to her had been poisoned at its source, and however gilded the cup, however inlaid with gold and gems, she would not touch it.

"Well, then, I must help you in some other way," said Taunton, relinquishing with a sigh his own dreams of Hyacinth's freedom. "Look here, I've got a brilliant idea! Nothing may come of it, but I give it to you for what it is worth."

He paused. Into his simple, straightforward mind had come a wish for mystery, a hint of cunning. She should know

the truth of this new offer, but not the whole truth. Her sensitive scruples should not be allowed to awake. He would do her good against her will.

"I have thought of a post for you," he said, "and I think it might be a good one, if I can only get it; but that, too, should not be impossible."

He stopped to enjoy the effect of his words this time, and he was not disappointed. The rich scarlet color rushed up into Honour's cheeks; the veiled eyes deepened and glowed with the flame of expectancy, and Sarah, too, drew near and hung upon his words.

"I have just come down from Yorkshire," he said, "where I've been staying with a certain Lord Vannister; at least 'staying' is hardly the word, for I scarcely saw my host the whole time of the visit. I was taken by a—a friend, a relation of his. It appears that Lord Vannister, who is enormously wealthy, is a strange man, almost a recluse, for he can hardly bear the sight of strangers; flies from them as though they were the plague, and yet when you do see him, he can make himself perfectly charming, and he has the reputation of being most liberal and considerate. Myself, I think he must be a bit touched in the upper story, and in fact I heard some yarn about his having had some trouble, some tremendous love affair which went all wrong, and affected his whole nervous system, and so on."

"A lunatic, in fact," said Sarah sharply. "Really, Mr. Taunton, you mean well, but you don't seem very happy in your offers." And she laughed her high, discordant laugh.

Honour put up her hand. "Go on, please," she said.

"Well, the only time I saw him he spent most of the time telling me of his hatred of domestic details, and of the quantity of letters which had accumulated during his illness. The topic of a secretary cropped up, and he told me that if he could find one without the difficulty of any bothering details, and one also who would be prepared to take a sort of beauty and the beast kind of life, carrying out her duties more from his written instructions than by word of mouth, he would only be too glad to engage her; but as for writing to agencies, that would be the sort of thing he couldn't do. So now, I think, we'll have a try for you."

"Oh, thank you, thank you!" cried Honour. The thought of independence had fired her blood already; the horrible past seemed slipping from her. In fancy she saw herself already making money, paying Sarah back, and loading that kind friend with every benefit she could induce her to take. "Oh, you will write tonight," she said. "Write him a long letter; tell him everything about my work, and Mr. Taunton, you must tell him my story, too. After all, as Sarah says, I needn't really be ashamed of it, and I won't go to his house on false pretenses."

"My dear Miss Read," said Jack, "if I wrote him that kind of long rigmarole, it would bore him to distraction. No, my idea is a telegram; quite terse, and to the point, and we will prepay the answer to this address. As regards your story, you can tell him when you see him. It is not a thing to be explained in a letter. No," as he saw her hesitate, "no, I must have my way about this. I know the man and you don't."

This was true, and Sarah lost no time in getting out a form, on which Jack inscribed his wire.

"Wait a moment!" cried Sarah, as he was beginning to write. "Why can't your old gentleman engage me as a chaperon? Honour is much too young and beautiful to go to this Gorgon's castle by herself."

"I'm afraid that won't do, Miss Gibson," answered Taunton smiling; "and you needn't worry about Mrs. Grundy, for there is a lady housekeeper on the premises already, and an old maiden aunt, or something of that kind. Everything will be quite correct, if only we can bring it off." But his hand trembled as he wrote his urgent recommendation, for, for the first time, he had not been quite open, and he knew that if she won this post he was trying to get for her, that far from casting her life story behind her, she would be walking perilously near to that fire which had burnt up all her sweet hopes and illusions already; yet it seemed to him that in some way he was bound to give Fate a job, bound to put into her hands a weapon with which to punish the man who had treated her so abominably. But he hardly felt comfortable in doing so, and when Sarah had run out with the telegram he sat watching Honour for an instant in silence, instead of getting up and leaving her, as he had meant to do.

"You have been very good to me," said Honour gently; "and I think it so wonderful of you, when you had never seen me before, to have helped me at Ascot. And do you know, I want to tell you something," she added sweetly. "As I was standing outside those dreadful enclosure gates, in all the heat and discomfort, feeling so wretched and ill, such a

[CONTINUED ON PAGE 25]

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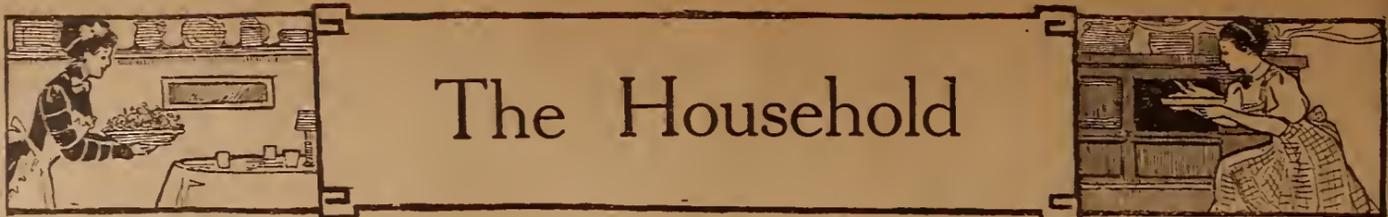
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The Household

Emergency Box

WHEN Johnny cuts his finger or the man of the house jams his thumb, every rag in the house has seemingly disappeared, and the demand is met by tearing up the first thing, sometimes a good article, that comes handy. To avoid this, keep a good-sized box, and put into it clean rolls of white cotton in strips an inch wide to as large as will do for a compress. Before putting the cotton away, boil it to make it perfectly aseptic. Put all salt bags in a corner together for poultices, etc. Add a box of mustard, some arnica, cold cream or vaseline, a little court plaster and a few simple remedies that have been tried and proved.



Soap Shredder

TO MAKE it, take a piece of strong tin, and pound small nail holes all over it, then tack firmly to the sides of two pieces of strong wood. Tack a loop of leather at the top, by which to hang it, and you will have a useful soap shredder. The soap not being in large chunks dissolves more quickly.

To Cleanse Blankets

IT is most necessary to have a fine day for washing blankets, in order that they may be hung in the air as soon as they are rinsed. It is a mistake to dry blankets indoors. They are best when dried in a gentle wind.

Blankets should not be rubbed, and soap should never be rubbed on them. The best way of dealing with them is to have a good tubful of warm water—just warm enough to feel pleasant to the hands—and make it into a good lather by melting in it one cupful of soap jelly made without soda.

Put the blanket in this, and let it soak a few minutes, while a second tub, exactly like the first, is prepared. Move the blanket up and down in the suds and squeeze and press it against the sides; then put it in the second tub and place another blanket to soak in the first tub.

Squeeze the blanket in the second water, and when it looks clean, rinse in clear warm water, being careful to get the soap well out. Each lather will probably serve for two or three blankets, but it is most important that the water should be clean.

The good color of blankets depends very much on the cleanliness of the water in which they are washed. On no account wring the blanket tightly; to do so would spoil the nap.

Shake well, then hang singly and quite straight on the line, and shake and pull the blankets several times while drying, to raise the nap. After being thoroughly dried out of doors, let them be turned about for some hours before a good fire indoors to air them.

The Housewife's Club

In the next issue of Farm and Fireside we are going to start a club, The Housewife's Club, just for housekeepers. Here is a chance for each of you to help one another. Possibly you have discovered some new and practical idea in keeping house, some labor-saving method, some delectable recipe, some new way of making home attractive, in general something to make the housework easier and life more enjoyable. Why not give the rest of our readers the benefit of your experience? Send in any ideas that have helped you. We will pay twenty-five cents for any contribution available. Contributions must be written in ink, on one side of the paper, and must contain not more than two hundred and fifty words. We would suggest that contributors retain copies of their manuscripts, as no contributions will be returned. Address THE HOUSEWIFE'S CLUB, care Farm and Fireside, Springfield, Ohio.

Good to Remember

WARM dish covers carefully or you will often chill and spoil a carefully prepared and dainty dish. An old-fashioned cook always warms her covers quite as carefully as her plates, and with very excellent results.

Hearthstones that should be white, but have been discolored with age, are greatly improved by the application of a thin paste made of whiting mixed with skim milk, to which a tiny bit of washing blue has been added. Put it on with a paint brush. This does not crack off, as paint does.

A small box of unslaked lime kept in the pantry will absorb all impurities and keep the air beautifully dry and sweet. The lime must be changed every two or three weeks.

The application of a red-hot iron to the head of a rusty screw will enable one to remove it easily if the screw driver is used before the screw has had time to cool.

A slice of bread boiled in pea soup will prevent the peas from sinking to the bottom.

Canned peas should be heated in the water they are preserved in, then drained and set in a stew pan with a piece of butter, salt, pepper, nutmeg, a pinch of sugar and, if liked, a little thickening of yolk of egg and milk.

Uses of Sour Milk

IT is never necessary for a particle of sour milk to be wasted. Here are some delicious things that can be made from it.

Sour-Milk Corn Cake

SIFT together one cupful of flour, one half cupful of Indian meal, two tablespoonfuls of sugar and one half teaspoonful each of soda and salt. Pour in one cupful of sour milk and one tablespoonful of melted butter; beat well; fold in at the last one beaten egg, and bake in gem tins or a round shallow pan.

Pot Cheese

IF THE milk has soured rapidly into a thick clabber, it may be put at once into a cheese-cloth bag and hung to drip until every bit of whey has run out. If not so thick, turn boiling water from the tea kettle into the pantful of sour milk, and let it stand for a few moments for the curds and whey to separate. As soon as this is accomplished, put into the bag to drip. When the whey has been disposed of, turn the curd into a basin, and add butter, salt and cream (sweet or sour), to make rather moist and of good flavor. Add paprika, black pepper, minced sweet green pepper or fine cut pepper-grass, as you prefer, then mound on crisp green lettuce leaves or make into tiny soft balls no larger than English walnuts. Never fall into the mistake of making these balls big, round and hard, like the pot cheese of commerce, which is dry, crumbly and suggestive of too much handling.

Home-Made Cream Cheese

TAKE two quarts of thickly lapped milk and pour into it a quart of boiling water. Let it stand ten minutes or longer, then put into a perfectly fresh cheese-cloth bag and drain over night. The next morning rub this cheese to a

Braided Rugs

BRAIDED rugs are now the fashion. Formerly one saw them only in the country, but now they are seen in city bedrooms and living rooms. Any country housewife might make money by braiding strips of rags during the long winter evenings and making them into rugs to sell. If city boarders come to town during the summer, they will buy, but a surer way of selling them is to make arrangements with some of the numerous women's exchanges or women's industrial unions that are found in large cities and where handiwork of women is sold at a good figure. Hooked rugs are equally in demand, and some very beautiful ones may be made by the country housewife.

Sensible House Dress

THERE is nothing warmer or more serviceable for winter wear for the farmer's wife than a blue denim princess dress made very simply. It washes perfectly, is not heavy, and is warm, and wears like iron. Such a dress will outwear five or six of calico. It looks attractive and may be easily made at home after a good plain princess pattern.

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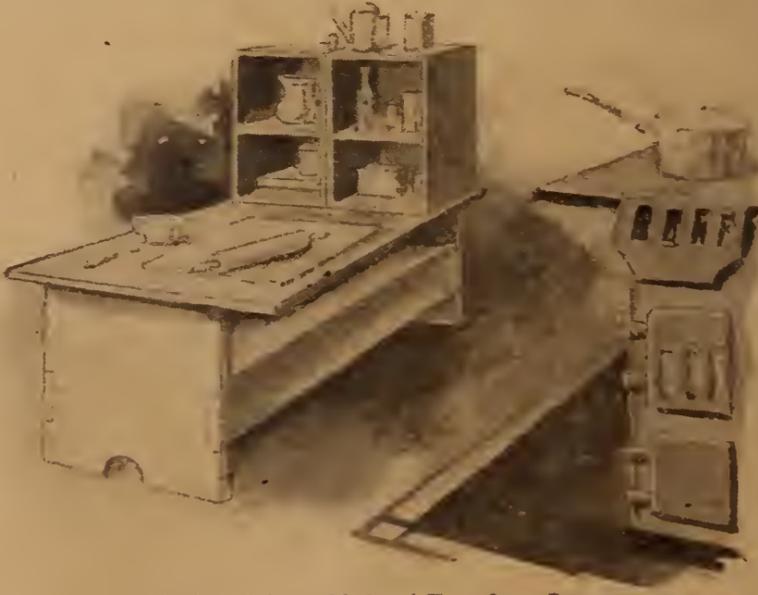
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Kitchen Cabinet Made of Two Soap Boxes

smooth pulp and press through a rather coarse sieve. Salt to taste, add gradually one half tablespoonful of butter or one tablespoonful of thick cream, pack into small jars or cups, and stand away in a cool place for two weeks. At the end of that time scrape off the top and turn from the cups for use.

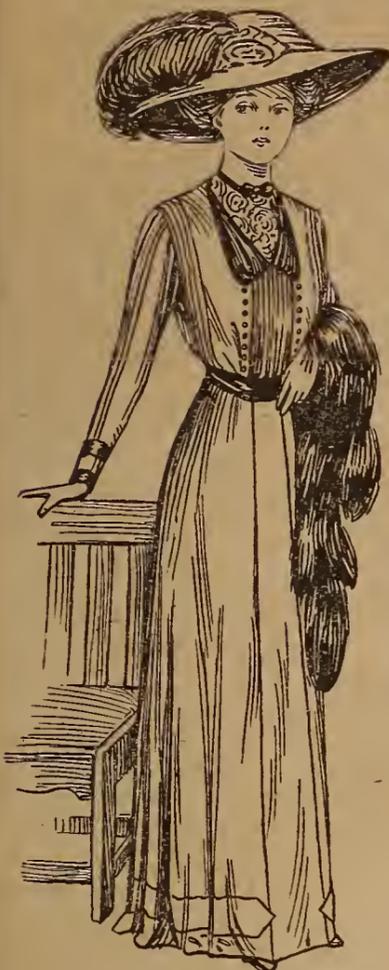
To Bleach Muslin

PLACE a boilerful of deep blue water on the stove, and unrolling the muslin, put it in and let come to a steady boil. Remove from boiler without wringing, and hang on line to drip dry in full sunlight. When dry, iron and depend on the first washing to make it a clear white, or wash again in usual way before using.

IN A small kitchen it is almost impossible to find room for a regular kitchen cabinet, and such a cabinet is a dire necessity. A very comfortable cabinet and one that will take up but little space can be made from two common soap boxes as shown in the above illustration. Fasten them together, one above the other, lengthwise, then put in two partitions and stain with cherry stain or a stain that will match the woodwork in your kitchen. When finished, set the cabinet on the kitchen table and push against the wall. It is a wise plan to have your table near the kitchen range, for it will save you a great many steps when preparing a meal, as all the condiments, tea, coffee, small knives and spoons, etc., will be right at hand.

Miss Gould's Fashion Page

Glimpses of Fashion



No. 1258—Tucked Waist With Revers

Sizes 34, 36, 38 and 40 inch bust measures.

No. 1259—Skirt With Empire Back

Sizes 24, 26, 28 and 30 inch waist measures.

IF YOU are planning to make a new gown before long, be sure to select a material in a dark or neutral shade. The darker tints are pronounced in to-day's fashions. Black is a leader, and the new tones along the wine shades which are called catawba and wistaria are both dark. Grays are very much the fashion, especially the shade called taupe, which has rather a brownish green cast.

Luster fabrics are the fashion and smooth materials are more in vogue than rough. Hats are still large and broad, but the small hat is coming. Many of the best-dressed women in New York are wearing toques and turbans—not very small ones, to be sure, but still called close fitting.



No. 1170—Tucked Dressing Sacque

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and three fourths yards of twenty-seven-inch material, or two and one fourth yards of forty-four-inch material, with one and one fourth yards of forty-four-inch material additional for cape collar and pointed frill.

THE pattern for this dainty dressing sacque with its pointed cape collar is a very adaptable one. It can also be used for a plainer dressing sacque finished with turndown collar and plain armbands. Challie is a pretty material to use for the dressing sacque pictured above, with little ruffles of silk or lace as an edging for the deep collar.

If one prefers something heavier, the dressing sacque may be made of French flannel, outing flannel, cashmere, Henrietta or nun's veiling. Instead of trimming the edge with a frill of lace, it would be most effective to finish them in scallops, buttonholed in heavy washable silk floss. If the material used for the dressing sacque happens to be French flannel showing a dainty flower design, trim the edge of the collar with a band of silk to match the predominating color in the flannel.



No. 1231—Combination Petticoat and Guimpe

Pattern cut for 2, 4 and 6 year sizes. Quantity of material required for medium size, or four years, three yards of twenty-two-inch material, or two yards of thirty-six-inch material, with one fourth of a yard of embroidery for the yoke.



No. 1125—Princess Guimpe Dress Buttoned in Front

Sizes 34, 36, 38 and 40 inch bust measures. The pattern of the guimpe is included.



No. 1037—Box-Plaited One-Piece Dress (With Separate Guimpe)

Sizes 4, 6 and 8 years.

EVERY woman now knows that the costume idea is the prevailing fashion in dress, but just because of this fact every woman cannot order or make for herself a one-piece dress. Because of this many ideas are being introduced to keep the effect of the cut-in-one dress. The gored skirt with the shoulder straps here pictured is an especially good model for this purpose. It is cut in nine gores, having the front gore a princess panel which extends above the waistline in shoulder straps. Such a skirt can be worn with any waist, but it is best to have the waist match the skirt in color.



No. 1232—Waist With Long Fitted Sleeves

Sizes 34, 36, 38 and 40 inch bust measures.

No. 1233—Gored Skirt With Shoulder Straps

Sizes 24, 26, 28 and 30 inch waist measures.



No. 1040—Box-Plaited Dressing Sacque With Fitted Back

Sizes 34, 36, 38, 40 and 42 inch bust measures.

NEW YORK's fashionable women are looking with great favor on the new Directoire girdle. This novel girdle is designed especially to give the Empire effect which is so much in evidence. It fastens at the sides with large buttons and has two sash ends. These ends are trimmed with an inset of striped silk or satin and are finished with silk fringe.

Fashions in Hats

THE Charlotte Corday hat is shown in many pleasing variations. This style of hat is becoming to almost any young woman. The ones made of black velvet with sometimes a plaited frill of black satin are much worn trimmed merely with a wreath of pink roses.

Then there is the hat with the tremendously large crown, which is so well suited to the tall woman. Some of these hats are trimmed very simply, merely having a draped crown, and trimmed with one large rose and a little foliage.

The Vogue for Feathers

FEATHERS are more the fashion than ever this winter. Ostrich tips are just now preferred to long plumes, and a smart way in which to arrange them is to group them in pompon effect. Fancy feather bands trim many of the new hats, so that they accentuate the high crown. In all the French hats there is no suggestion of a bandeau, the hat resting flat on the head. Large shapes are the most fashionable, and huge crowns. Sometimes the crown is flat and large, and then again it has height as well as breadth. A brim with the mushroom dip is still good style, though a number of the new hats turn up gracefully at one side. Black is much used in the new millinery. Scarf trimmings on hats for every-day wear are good style. Rumor has it that the small hat is coming.

Fashions in Furs

FURS are more fashionable than ever this season. Separate coats of fur are the height of fashion, and the fur sets consisting of neck piece and muff are seen in an endless variety, while, in addition, fur is to be lavishly used as a trimming. All kinds of furs will be worn, although of course some will be vastly more fashionable than others.

Lynx and fox are just as popular as they were last winter, and chinchilla holds firmly to favor. The fur that Paris is delighted over at present is skunk. It is regarded by the Parisians as very smart, as it is stylishly coarse and yet fluffy. Huge muffs of it accompanied by short big ruffs tied with a bow are all the rage in Paris, and the set is frequently completed by a turban of fur with an aigrette at one side.

Styles in Hair Dressing

THE psyche knot is still favored by the woman of fashion. It was much in evidence at the Horse Show held in New York City in the fall. A great many of the women wore their hair parted in the middle or at the side. A few of these parted effects showed a large mass of hair built up along one side of the head, extending from the front to the rear of the crown. The most graceful psyche form is arranged quite loosely and somewhat scattered instead of being shaped in the bulging-round effect.

Ruffs and Ruches

FETCHING as the new fashions are this winter, they bring with them many a pitfall and many a snare to the woman who is fond of following each new mode as it appears.

Fashion says: Ruffs and ruches; the higher, the better. And the short-necked, fat-faced girl is just as enthusiastic over the new ruches as the girl with delicate features and a long, slender throat. It is such a pity, but Fashion has a subtle way of her own when it comes to influencing, which makes her hard to resist. There is no doubt that the new ruffs are irresistible. They are all close fitting—tight up around the neck—and the wider and fluffier they are, the better. They are made of soft silk, chiffon, maline and fur. Many of them consist of two wide plaitings of maline—one standing up and the other drooping in a shallow yoke effect. They are joined by an embroidered or satin ribbon band, and fasten at the side with either a big rosette or a bow with short loops and long ends. Invariably the ruff matches in color the gown.

As to ruchings, which are sold by the yard, there is no end to their popularity. They are worn with lingerie waists. They add to the height of the already high Gibson collar, and they give a soft, up-to-date look to the yokes of satin, which are now so much the fashion. These satin yokes are really more stock than yoke, and are finished both at the top and bottom with a ruching.

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Our new catalogue cannot help but be invaluable to the woman who makes her own clothes. We will send it to your address for four cents in stamps. Order patterns and catalogue from the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Full descriptions and directions are sent with the pattern as to the number of yards of material required, the number and the names of the different pieces in the pattern, how to cut and fit and put the garment together, and also a picture of the garment as a model to go by.

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When ordering be sure to comply with the following directions: For ladies' waists, give bust measure in inches; for skirt pattern, give waist measure in inches; for misses and children, give age. To get bust and breast measures, put a tape measure all the way around the body, over the dress, close under the arms. Order patterns by their numbers. Satisfaction guaranteed or money refunded.

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We will give any two of these patterns for sending two yearly subscriptions to FARM AND FIRESIDE at the regular price of 25 cents each. Your own subscription may be one of the two. When ordering, write your name and address distinctly. We will send FARM AND FIRESIDE one year, new or renewal, and any one pattern, for only 30 cents.

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Cupid's Christmas

By Izola Forrester



LOVE did not even know that he was a passenger until the "Caradoc's" third day out. Grandmother Brewster had succumbed, after a valiant struggle, to seasickness almost as soon as Gibraltar had been left behind, and after the first qualms, had flatly refused to take any further chances.

"It's foolhardy enough taking our lives in our hands by crossing at this time of the year, anyway," she said placidly. "But I don't mind the risk. It's worth it if we can sit down to a real, New England Christmas dinner once again after three years of futile turkey attempts all through Italy and France. What did you say, Love?"

"Nothing, grandma," returned Love dreamily.

"You're glad to be going home, aren't you, dear?"

"Oh, yes," sighed Love, "I suppose so. It will be fun seeing home and everybody."

It was that last little touch of hesitation that made Mary Brewster sit up and take notice, so to speak, in spite of her fifty-eight years. But those fifty-eight years counted for very little, even Love had to admit. Never was there such a stately, handsome, tireless grande dame as Mary Brewster, of Melrose, Massachusetts, and it had been her pride for motherless Love that had carried them triumphantly through a European finishing course. Pride, and something more, something that neither the girl nor the woman admitted to each other, yet which each knew in her heart was the true cause for that foreign trip. Three years three thousand miles apart, and now, Christmas Eve, she met him face to face, as she turned a corner on deck.

Even then all might have been well. An ocean liner is large enough for two to live apart. He had failed to recognize her, as he passed with his head down, his hands deep in his pockets, and cap pulled low. But Fate and Circumstance sent a vagrant bluster of wind careening down upon them, and just at the instant of passing, Love's long lace scarf, which she had thrown hastily about her head, fluttered forth a streaming pennon. It caught him fairly across the eyes and wound itself waywardly about his head.

"Just a moment," gasped Love. "Get back out of the wind," he said, and they shrank to one side for shelter. Then, disentangled safely, he looked at her with utter astonishment.

"You!" he exclaimed under his breath. Before she could escape, he had seized her hands in his, and crushed them.

"You mustn't," she cried, her head back, the tears blinding her eyes traitorously. "Let me go!"

"I won't let you go!" came back the quick, masterful answer. "Do you think I've chased you back and forth all over the map of Europe for two and a half years, to let you go? Two and a half years, Love."

"I've been there three," she flashed back.

"I know you have. I came as soon as I could. And now, after all that, here we bump into each other on the deck of an ocean liner. Love, it's simply great."

"Mr. Wayne." She tried to speak quietly and naturally, tried to keep back the tears, and tremor in her voice that told so much, tried to be loyal to the old lady who loved her, and to whom she felt she owed all fealty. "Grandmother is with me. You—you must let me absolutely alone."

"Let you alone, when I know as well as you do how much—"

"What?" Her glance dared him to go on, and on he went, for there was good, fearless Puritan blood in Gilbert Wayne.

"How much you care," he finished boldly, and her lashes fell. "It isn't fair

that the prejudice and stubbornness of one old lady, no matter how dear and charming she may be, should let that part you and me—"

"While she lives—" began Love.

"While she lives," he repeated. "That's a nice, affectionate remark to make. Waiting for somebody's demise to bring you happiness. Love, your logic's all wrong. It never was right."

"I will not listen. You must not speak to me again."

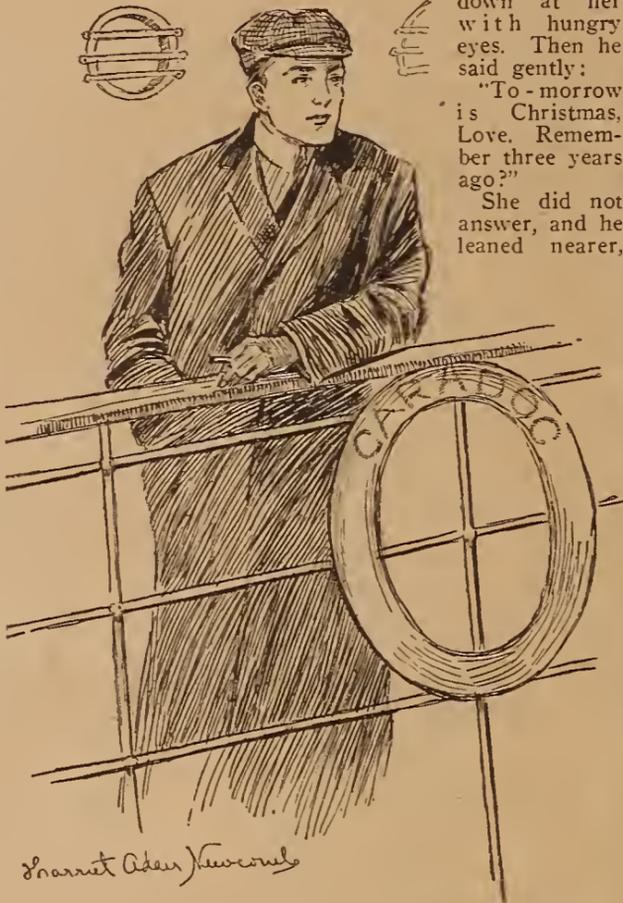
"I'll speak every time I see you," he replied emphatically.

"Then I shall remain in my stateroom until we reach New York."

He waited a minute in silence, looking down at her with hungry eyes. Then he said gently:

"To-morrow is Christmas, Love. Remember three years ago?"

She did not answer, and he leaned nearer,



Gilbert Wayne carried on his wooing against all odds, and considered not time, place nor any barrier that lay between himself and Love Brewster

partly to shelter her from the cutting wind, partly from general principles.

"You had told me I could not see you again, and I rode twenty miles out to Brewster Hall in a driving blizzard just to wish my love a glad Christmas tide. Remember? Not knowing whether the Judge would slam the door in my face—"

"Grandfather does not treat a guest that way," she interrupted quickly.

"Ah, but I was not a guest. I was an invader, an enemy." He laughed. "Love, dear heart, they cannot part you and me, not for all the lawsuits and tangles of family feuds that ever existed. What do I care whether your grandfather thrashed my dad through the courts, or not. Dad won, and I admire his nerve in hanging to his point, but am I to be done out of the wife I want, just because of that?"

She hesitated, looked up into his eyes, and put her hands out to his impulsively.

"Be good," she whispered. "They're both old, and I wouldn't hurt them for—not even for you. Let me go now, please."

That night, as soon as the full force of the storm caught the "Caradoc," and swung her off her course, it became positive that she was bound for a sea-girt Christmas. It was a dismal prospect. Old Mrs. Brewster turned her face to the wall when Love brought her the tidings, and refused to even discuss the situation.

"There isn't any danger, grandma," Love assured her.

"Danger," retorted Mrs. Brewster. "Danger. Love Brewster, how dare you talk of danger to me when your forefathers and mine braved the dangers of the deep without a murmur nearly three hundred years ago."

"Maybe some of the Pilgrim foremothers murmured," laughed Love; then, repenting even of this levity, she knelt beside the berth, and folded the old lady

in her young arms tenderly. "But you do feel badly, all the same, grandma. Anyway, it's worse for those on shore waiting for us to come. They're the ones who will be disappointed and worried. Really, I don't mind it so much. Christmas never seems the same any more."

"Since when hasn't it been the same, Love Brewster?"

"Since—" Love faltered. "You know when, grandma, as well as I do."

"That's a forbidden subject," declared the old lady vigorously. "Don't you mention his name to me."

"I won't," Love said wearily. "I won't."

But she ventured no more out on deck, partly because of the rough weather, partly because of the possibility of running into the forbidden subject again. Christmas Day dawned grayly. It was snowing, the great swirling, feathery masses driven before the gale like frightened birds or wind-blown apple blossoms. Doggedly the long shape of the liner nosed its way ahead through the lurching high seas, but there was no prospect of its reaching even Sandy Hook before the storm abated.

"I wouldn't care so much if we could even celebrate," said Mrs. Brewster vigorously. "Even the sight of an ear of red corn would be a relief, or just one good pumpkin pie for dinner. Are they going to hold any service, Love?"

"I believe so, grandma," she answered. "Well, why on earth didn't you tell me so long ago, Love?"

"I didn't think you were well enough to attend it, and you might feel badly."

Oh, Love, Love, no wonder the color deepens in your cheeks, and steals clear to the little fair curls that cling about your temples. You didn't tell, because of one pilgrim who would most certainly attend that service in the salon of the boat.

"I am going to it," announced Mrs. Brewster firmly. "It will be the only touch of real Christmas to the day. After all, it is the spirit that we should regard, not the mere form, Love, my dear."

"Not the turkeys, and the pies, nor the ears of red corn," Love suggested mischievously, as she assisted the old lady to dress.

Service was at half-past ten in the first-cabin salon. It was a strange Christmas assemblage. Passengers from the second and third cabins filled the deep settees and lounging chairs, and beyond them Love caught glimpses of members of the crew standing, and even a few from the steerage. There was no line of distinction drawn in this sea-bound Christmas.

"Well," murmured Mrs. Brewster, glancing about through her eye glasses, "it isn't much like the gathering of praise and good cheer at the old white church at home, Love, but it's certainly a mighty reminder of the first Christmas, isn't it?"

Love did not answer. She had suddenly caught a glimpse of a figure standing near by, and a pair of gray eyes that regarded her intently. The service started, and she joined in the old familiar words of hymn and prayer, but only with her lips.

Once, as she held one side of the hymnal, two tear drops fell, splashing unmistakably on the smooth, thin leaves. Mrs. Brewster looked at them, then up, and met the glance of Gilbert Wayne.

There was unmistakable purpose and determination in that gaze, and the voice of the captain, as he read the prayer for those in peril on the sea, seemed to lose itself in a far-off murmur, so far as Mrs. Brewster was concerned. Every phase of the old feud passed through her mind. Certainly it had been between Gilbert's father and the Judge, but the ban had fallen on all Waynes from any friendly or social viewpoint ever since the winning of the lawsuit by them. What neither the Judge nor herself had foreseen was the amazing audacity and pertinacity of this Wayne, who carried on his wooing against all odds and considered not time, place nor any barrier that lay between himself and Love Brewster.

At the first movement of dispersal Mrs. Brewster laid her hand on Love's arm and said she would go to her stateroom at once. To do so they must pass the tall, watching figure, and Love's face was white as she neared it. Yet was she loyal, for even while the gray head, that overtopped her own, was turned majestically away from the pursuer, still Love met his eyes bravely, and bowed her head in greeting. Mr. Wayne returned the bow with suspicious eagerness, and there was a glint of suppressed humor and mischief in his eyes, as he deliberately approached the two.

"A merry Christmas to you, Mrs. Brewster," he said. "I can guarantee you turkey and plum pudding with all the trimmings if you and Love will honor me by being my guests at dinner."

Mrs. Brewster hesitated. Love's eyes were bright, and a smile trembled on her half-parted lips. She gloried in a fearless wooer who could not be deterred from his purpose even by the lifted eye glasses of Grandmother Brewster.

"It is by courtesy of the captain," added Wayne. "He is from Nantucket, and never misses his Christmas Day dinner, no matter how the storms blow. We four are the only New-Englanders on board ship, and the captain insists that we celebrate as his guests."

"Gil Wayne," began Mrs. Brewster firmly, "I've known you ever since you were brought to church to be christened, and I never did see such a persistent boy as you are for getting around a point. I don't know what the Judge would say."

"Let me tell him," said Wayne.

At the small private table, decorated with the ship's colors and evergreen and holly, old Mrs. Brewster's smile of peace deepened. The Nantucket captain came to greet them, and Wayne did the honors of the table. And as she watched the joy shine from Love's dark eyes, the moisture dimmed the old lady's eye glasses, and she removed them.

Later, the two stood alone on deck in the same sheltered corner they had found before.

"I didn't know how to break the ice until the captain mentioned he was from Nantucket, and always sailed before Christmas Day with live turkeys and pumpkin on board for an emergency. Heaven bless Nantucket."

"Me, too," whispered Love.

"Love," called a voice from the cabin, "it's too cold out there for you with nothing around you."

"Tell her," prompted Gilbert in a low tone, as he drew her toward him, "tell her you've got something around you."



"I will not listen. You must not speak to me again"

Neckwear Novelties

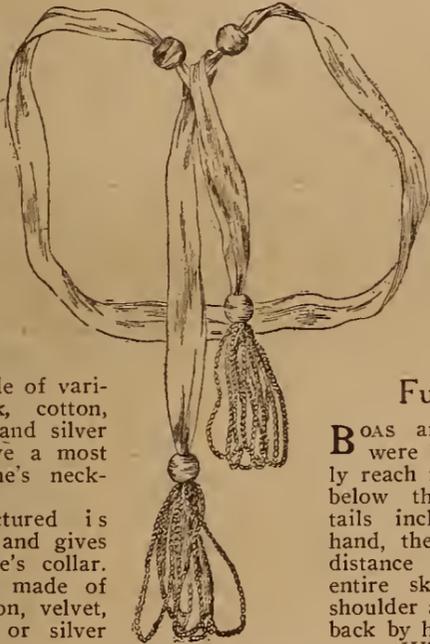
THE craze for dainty neckwear was never so pronounced as it is today; the neckwear display in the big New York shops was never more elaborate. The fashionable woman pays particular attention to her neckwear, because she has come to realize what an important part it plays in giving her costume a smart and distinctive touch. However, there is no reason why the woman with but little money cannot have dainty neck accessories as well as the woman with a full purse. The three neckwear designs illustrated on this page are very charming and very simple to make, and their best feature is that they are so very inexpensive.

The dainty stock here shown is sure to attract the eye of the young girl with a fondness for new and novel neckwear. All that is needed to make it is a straight piece of embroidery insertion of the desired width and length and a bit of soft ribbon, satin, or even fine lawn, in any color preferred. Make the colored material into a three-eighths-inch fold and arrange at the top as shown, being careful to hold the lace in a little, to give the slight curved effect. Next make a similar fold one inch in width for the lower edge, stretch the lace as much as possible and run it on, facing the ends of the collar. Cut a strip twenty-two inches long and two and one half inches wide; stitch together so as to form a tube, and turn. Run it through the band and tie in a four-in-hand. The ends are finished with a tassel, which may be purchased for a few cents; or, if desired, one can easily be made from silk. Tassels, by the way, were never as fashionable as to-day. They are made of various materials — silk, cotton, beads and even gold and silver threads—and they give a most effective finish to one's neck-band or tie.

The neckband pictured is equally easy to make and gives a smart touch to one's collar. These neckbands are made of black or colored ribbon, velvet, and sometimes gold or silver braid, and are about one yard long and from one half to one inch wide. They are worn at the base of the collar and tied loosely as shown, above the bust line leaving the ends free. The ribbon is run through four large beads or silk-covered balls, and the ends are finished with a half bunch of beads of the same color. The neckband illustrated was particularly pretty, being made of gold braid and gold balls with glass beads of the same tone. If one knows how to make the little crochet balls, they would be even better than the



Fancy Stock Made of Lace Insertion, With the Ends and Folds of Pale Pink Silk. The Tassels Are Made of Pink Silk Thread



Neckband of Gold Braid. The Balls Are of Gold and the Tassels Consist of Beads of the Same Tone

The Ruche and the Jabot

THE ruche and the jabot seem to be with us to stay. It is very likely that the average woman, regardless of the length of her neck, will adopt the high standing ruche and inevitable jabot. If your heart is set on the full high ruche and the frilled jabot, do strive to

introduce in them some touch of originality. Here are a few suggestions for the woman who cares for exclusiveness in dress:

To give an original touch to a plaited net collar and jabot, wear about the base of the collar a very narrow cravat of black satin. Let the satin continue down to the very end of the jabot, knotting it loosely here and there. The effect will be found particularly smart. Another idea is to finish the narrow cravat with a tiny satin bow having long ends.

Plaitings of black point d'esprit are a very new touch of the moment. They are used in connection with white collars and cuffs. For instance, a white silk waist which has a collar laid in fine tucks will be finished with a little upstanding frill of black point d'esprit at the top, and a wider black frill, which is almost yolk-like in depth, at the bottom. The white tucked cuffs will also be edged at the top with the black point d'esprit plaiting.

To give an original look to a net ruche to be worn with a tailored suit, have it heavily corded with satin, either in black or exactly matching the color of the costume. The ruche should encircle the neck closely and fasten at the left side with a bow of satin ribbon.

Fur Neckbands

BOAS are shorter than they were last winter. They rarely reach more than half a yard below the ordinary waistline, tails included. On the other hand, they often descend some distance down the back, an entire skin passing over each shoulder and being united in the back by heads and tails.

What is also extremely fashionable is the fur cravat. This is, in all, about one yard long, not more than four or five inches broad, and is tied at the throat in front. They are shown in the entire range of furs, including ermine.

The fur neckband, of about the same breadth as the cravat, but fitting closely around the throat without ends, and being fastened at the side beneath a bow of satin ribbon, is a popular style. Some are entirely of fur, while others consist of a velvet or satin quilling, edged with fur or marabout.

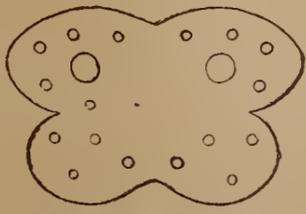
The One-Piece Tunic

AMONG the prettiest of the new fashions is the one-piece tunic that looks like a long coat. It is tight fitting, fastened double breasted with two large buttons, and cut away sharply from the lower one to the hem.

It differs from a coat, in that it has no collar or revers, and is placed over a yoke of lace or net. This is quite elaborate. It is trimmed with gold lace, embroidered filet bands and sometimes bullion thread.

A few of these tunics show bretelles over the shoulder of heavy embroidery done on the fabric.

The skirt under such a tunic is usually of net or chiffon cloth.



Showing the Bow All Ready to Be Worked. The Pattern is Very Simple to Follow

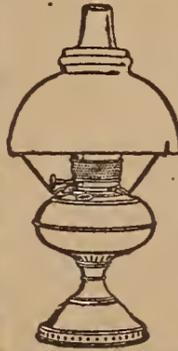
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WORLD'S POST-CARD SCENES

WHAT YOU GET

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List of Cards You Will Get

- | | | |
|--|----------------------------------|--------------------------------|
| Palm Beach, Florida | Paris, France | Moscow, Russia |
| Street in Old Mexico | Pekin, China | London, England, No. 2 |
| Yosemite | Noulin Rouge, Paris | Germany (Rural Scene) |
| Colorado | Lune Island, Niagara Falls | St. Thomas Harbor, West Indies |
| Pisa (Italy) Leaning Tower | Queenstown, Ireland | Cathedral of Notre Dame, Paris |
| Salt Lake City, Utah | Sea Wall, Queenstown, Ireland | American Falls, Niagara Falls |
| Rotterdam, Holland | Niagara Falls | Yokohama, Japan |
| Rotterdam's Famous Cathedral | Holiday in Havana, Cuba | Interlaken, Switzerland |
| Bunial Place of General Custer, Wyoming | Quebec, Canada | Stock Yards, Chicago |
| Ice Cave, Niagara Falls | Palace in Moscow | Victory Monument, Leipsic |
| London, England | David's Judgment Seat, Jerusalem | Public Well, Pekin, China |
| Randolph St. Bridge, Chicago | City Hall, New York, N. Y. | Lake at Kinkakuji, Japan |
| Pantheon, Rome | Stockholm, Sweden | Berlin, Germany |
| Famous Tunnel Tree and Coach, California | Chapultepec Park, City of Mexico | Florida Highway |
| The Stadium, Rome | Havana, Cuba | New York, N. Y. |
| Canadian Parliament Building, Ottawa | St. Petersburg | Sahara Desert, Africa |
| | West Indies | Scene in Mexico |

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All you have to do to obtain the complete set is to get two of your friends or neighbors to each hand you 25 cents for a full year's subscription to FARM AND FIRESIDE. Your own subscription can count. Send the entire amount to us and we will send you by return mail, postpaid, the entire series of fifty cards complete, in a special case, and enter both of the subscriptions for a full year to FARM AND FIRESIDE.

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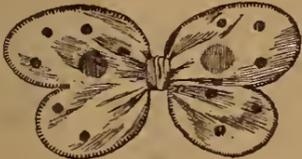
And as soon as we get your two subscriptions we have a big surprise for you. Send all orders to

Farm and Fireside
Springfield, Ohio



large beads, as crocheted trimming is so very much the vogue just now, and many of the prettiest are made in this way.

For the girl who wears stiff white linen collars nothing could be more attractive than the dainty butterfly bow, which is so very simple to make. Use a rather fine piece of white lawn, so that it will keep its shape, and buttonhole the edges with colored cotton, working the dots solid. Sew a small nickel safety pin on the back of the bow, and also a narrow fold of lawn. Draw up the bow as illustrated and bring the fold around it firmly and over the back of the pin. Fasten with a tiny button and loop. This will leave the pin part free to fasten to your collar and will be found very satisfactory, as the pin will not rust in laundering if it is dried quickly.



Butterfly Neck Bow, Made of White Linen, With the Edges and Dots Worked in Blue Cotton

OUR YOUNG FOLKS' DEPARTMENT



"Mister"

By Mary Minor Lewis

Cousin Sally's Christmas Letter

DEAR BOYS AND GIRLS:—

If a beautiful fairy should suddenly appear before me and softly say, "Cousin Sally, it is Christmas Eve. Wish for anything that your heart desireth, and it shall be granted," I am sure I would wish for a magic traveling cloak, just like the one the Little Gray Godmother gave to the Little Lame Prince. (You remember the charming story of the Little Lame Prince, don't you, and how he would go sailing from his prison tower over land and sea on his fairy traveling cloak?) Then if the kind fairy granted my wish, I would visit your homes on Christmas Eve and leave a "Merry Christmas" in each of your stockings for you to find when you awake in the morning. Or wouldn't it be splendid if I were the Little Gray Godmother and could cast some magic spell so that we could all meet around some bright, cozy fireplace and tell and listen to little Christmas stories; then when we grew tired and sleepy the Little Gray Godmother would simply wave her magic wand, and—whisk! away we would fly, back to our own dear homes again!

But even though we can't meet in reality, I am sure that our first Christmas is going to be a happy one. Our first Christmas! Why, dear me, it seems as though I had known you all ever so much longer. You make me very happy by showing so great an interest in our "little corner." I have received such encouraging and sweet letters from you that I must tell you how grateful I am for them. I'm very fortunate to have so many dear little friends.

My space is growing shorter and shorter, but I must try and squeeze in a word of praise for the work you did in our last drawing contest. There were so many splendid drawings of Captain Betty that I sent some of the boys and girls a beautiful picture for their efforts, even though I didn't promise to do so. I just couldn't help it.

I sincerely trust that Old Santa Claus will fill your stockings to overflowing, and may your Christmas be so full of happiness and good cheer that in later years it will always be a pleasant memory to you.

Hoping for a letter from you all very soon, and again wishing you a Merry Christmas and a Happy New Year,
Always lovingly and faithfully,
COUSIN SALLY.

Prize Winners in Drawing Contest

L. D. Crossman, age sixteen, Vineland, New Jersey. Kirk Hill, age twelve, Springdale, Arkansas. Paul R. Loomis, age twelve, Salamanca, New York. Mabel Lundgren, age eleven, Orlando, Florida. Ralph W. Snyder, age eight, Ubee, Indiana.

The Honor Roll

Ethel Kane, Johnstown, Pennsylvania. Zhester Brooks, Kansas City, Missouri. Grace Thompson, Bogart, Georgia. Dorothy Kuchner, Prospect, Ohio. Aline Rogers, Wakeman, Ohio. Lillian Drury, Washington, Indiana. Stewart Wasson, Watkins, New York. Grace E. Dorsey, West Liberty, Ohio. Royal Fidler, Salem, Ohio. Caryl Ellis Leeka, Marion, Ohio. D. Mildred Ganger, Shelby, Michigan. Edna Virginia Wisslor, Lancaster, Pennsylvania. Alice Connell, age twelve, Grove City, Pennsylvania. Creekmore D. Ingram, age fourteen, Weatherford, Texas.



"MISTER" was the ugliest dog I ever saw; and yet he was Tom's best friend. Whenever I looked at his rough black-and-tan coat, short-cropped ears, bobtail and half-blind eyes, I used always to think of what the copy book says about not judging by outward appearances, for "Mister" was a noble dog, and a hero, and this is the story of what he did for those he loved best.

Mr. Braxton and his two boys lived on a small farm in the mountains of Virginia. Out in the garden, under the lilac and box bushes, was their mother's grave, and it was because of this grave that they were such a lonely little family—just Mr. Braxton, Tom, Max and "Mister."

It was just about a week before Christmas. Tom and his brother had been planning for a long time to go into town, see the pretty shop windows and the gay, jostling crowd, and spend the money which they had saved for Christmas presents. They were poor and their father could not afford to give them beautiful presents and Christmas money, so they worked hard and earned money for themselves. Sometimes they would spend whole days in the woods chestnut hunting; and when their father drove into town in the little spring wagon, the two boys would often go with him and sell their nice brown nuts to some confectioner.

The week before Christmas came at last, and this was the day that their father had promised to take them in to town. Jane, the old white mare, was standing at the door hitched to the little spring wagon. Everything was ready, and the boys were just climbing upon the back seat, and Mr. Braxton had taken up the reins, when Susan, their only servant, came up and said she had just received a message telling her that her mother, who lived four miles away, was very sick, and that she must go to her at once. Then somebody must stay at home. How the boys' faces fell! Tom looked at Max and his eyes filled with tears. "I am very sorry, boys," said their father, "but one of you will have to stay at home to look after the stock."

Max saw the tears in Tom's eyes and hesitated no longer. "I'll stay, father," said he, and he jumped down from the wagon and tried to look as if he didn't mind much. Tom wouldn't agree to it at first, and said he would stay, too, but at last he gave in, and he and his father drove off.

Max was always unselfish; but somehow it had never seemed so hard as now. He was so disappointed.

He turned into the house and two big tears rolled down his cheeks. But he tried very hard to be brave, and whistled loud when he felt the tears coming.

The day passed, drearily enough, and Max was very lonely. As night came on he put his bread and butter in a plate down on the hearth to warm; and "Mister" sat in the corner and looked at it with hungry eyes. So Max took out some more from the safe and put it down by his for "Mister's" supper.

Then Max started down to the barn to feed the stock, and on his way he thought what fine fun it would be to let "Mister" sit up to the table and eat like folks; and he made up his mind to try it when he went back to supper.

The horses must have hay put in their racks next; so Max and "Mister" went around to the side of the barn, where a ladder was placed up to the window of the hay loft. It was a very high window, and Max looked doubtfully at the steep ladder, each round of which was covered with ice. But the horses must be fed; so he climbed bravely up, and had almost reached the top. Perhaps it was the great height that made him dizzy, or maybe the little hands were too cold to hold on any longer; but all at once he staggered and clutched wildly at the bars. A dreadful scream rent the air, and then the little body was hurled down to the frozen ground.

"Mister" rushed forward with a sharp, quick bark; but his little master lay very white and still, and made no sign. He licked his hands, then his face and hair; but there was no answering caress. He darted back to the house and ran through all the rooms looking for help; but there was no one near. He returned to the spot where the little boy lay, and pulled at his clothes; but he did not stir and his face was whiter still. The moon rose from over the mountains and shone fitfully through gathering snow clouds. A cutting wind blew from the north and made the faithful dog shiver with the cold. He nestled close to the prostrate form, and with now and then a piteous howl, he thus watched and waited and listened for help. Darkness came and found him still at his post. A fine snow began to fall, and the air cut like a knife. He cuddled close to his little master's side and tried to keep him warm. Still no help came. The poor dog was almost famished. Up at the house was a warm fire, and on the hearth was food; but the faithful dog would not leave one moment.

About twelve o'clock that night "Mister" bristled and sat up barking. The sound of wheels! He ran to the field gate and barked and barked. He was almost exhausted now, and crept back to where the boy lay, whining pitifully and wagging his tail. Little Max struggled and tried to cry out, but no sound came. The wheels turned in at the lane. Tom and his father with the Christmas things! They had been delayed in town to have the wagon repaired, and knew that Max would not be afraid to stay alone, in case Susan did not return.

The sound of wheels came nearer and turned the bend in the road. There was no light at the window and the door stood open. They drove up to the gate and stopped. No Max came out to welcome them. Tom looked at his father. His face was pale with a nameless fear. They rushed into the house. In the fireplace nothing but ashes; the little white bed undisturbed; on the hearth an untouched supper. No Max, no "Mister," but from down toward the barn there came a very faint bark, and Tom thought that he recognized it. Without speaking, but with a horrible sense of calamity upon them, father and son ran toward the place from whence the sounds came. Oh, the sight that met their eyes! Lying just as he had fallen was dear little Max; close to him was a half-frozen dog—"Mister" the Faithful. He tried to walk, but could only crawl to meet them with piteous whines, begging them to do something for the dark heap lying at the foot of the ladder. Tenderly they lifted the little unconscious boy and carried him to the house. They chafed the cold hands and poured brandy between his lips; and

by and by the eyes opened and he smiled faintly.

When the doctor came and examined Max he said, "It is a miracle, for there are no bones broken. He is suffering chiefly from shock and from the cold. Keep him in bed, and I feel sure he will be all right in a day or two."

What a relief to the anxious father and brother. Tom had kept up bravely until now, but the tears that came were tears of joy. "Mister," the hero of the hour, had all this time been lying under the bed, watching all that was going on. He now came out and went over to the hearth and ate both of the suppers he found there!

CHAPTER II.

IN FAR-AWAY New York a small boy sat on the top step of the richly carpeted stairway of his home, waiting to hear his father's step and his latch key in the door. He waited thus every afternoon—for Dick Harding and his father were great chums.

Presently there was the familiar chouchou of the automobile at the door, and Dick bounded down the stairs, crying, "Hello, daddy dear; it's just three days till Christmas."

Mr. Harding, a man of about forty, took his son's hand, and together they went into the library. "I have something I want to read to you, son," said Mr. Harding. "Listen to this." Sitting on the arm of his father's chair, Dick listened with rapt attention to the following clipping in the New York "Herald," headed "A Dog's Heroism."

"Kingston, Virginia, December 20th.—The life of the ten-year-old son of Mr. Thomas Braxton of this place was saved to-day by the heroism and faithfulness of a dog. The boy had been left alone on the farm, while his father and brother drove to a district town to shop. In climbing up to the hayloft to feed the cattle, the boy fell from the slippery ladder to the ground below, a distance of about twenty feet. He sustained painful bruises, but will recover. The noble dog kept watch by him, barking continually and never leaving until help came. When the boy was found, the dog was curled up close to him trying to keep him warm. We congratulate the Braxton family on their faithful friend 'Mister,' and we would like to shake his paw."

Dick loved all animals, and so this story delighted him. They sat in the firelight and talked it over for a long time and Dick wished he could see "Mister" and that he knew the boys and what their home was like. And he hoped Santa Claus would not forget them.

After some minutes Dick's father slapped young Dick on the back and said, "I'll tell you what we will do, son. We will give those Braxton boys and 'Mister' a rousing Christmas, the best and the merriest they ever had!"

"Oh, splendid!" cried Dick. "Let's begin now!"

So they put on their warm wraps and went down to the shops.

First, Mr. Harding had the clerk haul out a big wooden box. Into this went package after package: Toys and candies, games, books, horns, whistles, balls. Beautiful yellow oranges filled in the cracks; boxes of raisins, nuts and figs went in on top! Dick fairly danced with delight, choosing most of the things himself. At last, when the big box was full, a sudden thought struck Dick, and his face fell. "Oh, daddy, we've forgotten 'Mister.' There's nothing in the box for him."

[CONCLUDED ON PAGE 25]

The Letter Box

DEAR COUSIN SALLY:—I received the album all right, and think it a beauty. I am so pleased with it. Many thanks for it and the card you sent with it. I have about fifty cards at present, but expect to get more. I am so interested in our little corner.

Again thanking you for the album, dear Cousin Sally, I am

Always lovingly,
LEAH B. SHAFFER.

DEAR COUSIN SALLY:—I thought I would write you a few lines this evening, as I am alone. Papa and mama have gone out for a walk and I want to write to you to let you know you have a cousin that you haven't heard from yet. I live in the country fifteen miles from Oregon City, Oregon, and after this I intend to take part in the prize contests.

My! What a lot of cousins there are! I have a book in which I keep their addresses and names.

I think our "Young Folks' Department" just fine, and it grows better and better.

Oh, I haven't told you my age. I am fourteen years old, and I go to school in the country, and my! what a time I have. I am in the eighth grade.

I would like to hear from some of the cousins. I am sure I would enjoy their letters.

Well, I will say good-night, Cousin Sally, for I am tired and sleepy. Next time I'll send some verses.

Your little cousin,
BERNICE SHUTE,
Oregon City, Oregon.

Jack Frost

Dear old Jack Frost is good to me,
For he opened the burs on the chestnut tree,
And now the nuts come pattering down,
The best and sweetest in all the town.

He painted the leaves on the maples, too,
The loveliest, lovely crimson hue,
And touched the oaks with golden brown,
And opened the milkweeds' pods of down.

Dear old Jack Frost is good, you see,
For he does so many things for me,
And treats me kindly, as he treats you,
Who have, perhaps, a farm or two.

DESSIE R. DEWEY.

DEAR COUSIN SALLY:—I am a little girl nine years old, and live way out on the plains of western Kansas, sixty miles from any railroad. We do not have so many pretty birds and trees as you have in the Eastern states. During the summer the prairies are covered with many wild flowers. I live quite a distance from school, but I love to go. I have a little sister Beth one year old, and I love to play with her.

Good-by, Cousin Sally. I do so enjoy our little corner.

MAURINE BAY.

DEAR COUSIN SALLY:—I have been reading the letters from your cousins, and it made me feel as if I wanted to write, also. I am ten years old, and live in the country. I have a dear dog, and his name is Dash, and I have a pet horse and two cats. I just love to ride horseback, and horsey and I have some jolly times together.

I like our little "corner," and I would so like to see this letter in print. I think the monthly contests are fine. I am going to take part in every one of them.

Your cousin,
VIVIAN BOWER.

DEAR COUSIN SALLY:—Thank you so much for the nice book that you sent me. It was well worth trying for. I know it is a good story, because I have read several books by the same author, and they were splendid. You cannot imagine how surprised I was to know I had won a prize.

With much love to you,
Your affectionate cousin,
LELAN STEWART,
Lilly Chapel, Ohio.

"Mister"

[CONTINUED FROM PAGE 24]

So Mr. Harding led the way across the street to a restaurant, and there he had a waiter put up a box of delicious sandwiches. The box was marked "For 'Mister's' Christmas Dinner," and tucked in among the boys' presents.

Then Mr. Harding and Dick went into a store and bought a lovely leather collar studded with brass nails. On the glistening plate the clerk was told to have these words cut: "Mister Braxton, from admiring friends."

On his first rounds the expressman shouldered it into his big wagon and the

Christmas box started on its long journey to Virginia.

Dick was so excited that night that he could hardly get to sleep. The next morning there was a beautiful deep snow, and his father took him for a wonderful sleigh ride in the park. On the way home he said, "Daddy, do you know this is already the best Christmas I have ever had, and Christmas isn't here till the day after to-morrow."

A little of the snow that covered New York in a soft white blanket found its way down to the mountains of Virginia on Christmas Eve, and tapped at the window pane of the room where little Max lay propped up with pillows.

Snows don't come often in Virginia, and when they do come they stay only a short time, so the Braxton boys were eagerly watching the whirling flakes.

Presently Tom, who was standing at the window, cried out, "Hello! There's Uncle Dan's cart turning in at our gate with a big box up behind!"

"Uncle Dan" was the old colored man who did all of the hauling from the depot.

"Whar's yo' pa?" asked he, as Tom appeared at the door. "I's got a monstros big box here I s'pec' ole Kris done sen' you."

Amid wild excitement the box was brought in and opened, and the treasures these country boys had longed for all their lives were spread out before them! Where did they come from? Who could have sent this wonderful box? Only "Mister" Braxton looked wise, as he strutted around in his handsome collar; and he has never told the names of his "admiring friends."

The Soul of Honour

[CONTINUED FROM PAGE 19]

poor outsider amongst all those smart people, I saw her, the girl you love. She was coming in with Marcus and he seemed to have eyes for no one but her, but she, although she was going in to enjoy herself, and although she was exquisitely dressed and looked just like a dream, she had time to notice me. She stopped, and then she spoke to you, and I felt so grateful to her, just for the one look she gave me, even although I must have passed out of her mind an instant later.

"You did not," said Jack eagerly. "For you say you noticed that she spoke to me. Well, I'll tell you what she said; she asked me to go back and see if I could help you. She's the dearest little girl in the world, full of heart and feeling, and everything adorable; only, unfortunately, she's been brought up in a particular kind of atmosphere and to measure a man only by his worldly goods. The Windermeres think I am poor, and that's why they won't have anything to say to me."

"Then why don't you tell them you're rich!" cried Honour, for she had taken a real liking to this straightforward man, with his open kindness, and his hidden strength. He was the exact opposite of the man who had crossed her own path, and there was no fear that the woman who trusted in him would ever be in such a predicament as her own. "Tell them that you're rich, and if they are the kind of people that you say, surely that will have an enormous effect upon them. You must prevent this marriage of hers with Marcus somehow," she added, as a look of suffering crossed her face.

"I wanted to do so," answered Taunton, "but you've knocked all the weapons away from my hand. You won't let me tell them the sort of man he is, and that is the only thing which could prevent it."

Honour put her hands before her eyes. "I don't know what to say," she murmured. "I can't face the thought of his being ruined, and, of course, he is free to marry; there is no legal bar, and yet it cannot be right that he should do it."

Taunton laughed a little grimly. "Perhaps, after all, Miss Read," he said, "you may find a way of stopping it which your pride can take. This is a funny world, you know; a topsy-turvy affair. He is upper dog now, but you may be upper dog one day. Well, good-by, I'm talking in riddles. May I call this evening and hear the answer to the telegram?"

"Please," said Honour.

In three hours the reply arrived, and they kept it till he called, unopened, in spite of their curiosity. It was laconic, but to the point:

"Engage young lady. Pay fare; will refund cash. Let her start in twenty-four hours' time."

Taunton smiled as he picked up the missive. Fate had begun to work.

[TO BE CONTINUED]

Careless of Life

ONE of New York City's most experienced physicians, Dr. Philip F. O'Hanlon, says that we are careless of life; that one third of the deaths of the city, if not of the country, barring violence, could be averted and life indefinitely prolonged, if the doctor had been called in time.

Doctor O'Hanlon has been for over fourteen years coroner's physician of the city of New York, in which time he has passed on nearly thirty thousand cases as to cause of death. This very exceptional experience most certainly places Doctor O'Hanlon in a position that enables him to speak knowingly and with a degree of authority not to be idly disputed. And the statement is not alone based on observation, but upon statistics and the record.

"In about one case out of three," said Doctor O'Hanlon, "if the doctor had been called in time, there would have been no present need of the undertaker; and," the doctor added with an expressive smile, "people would certainly find more real, live satisfaction in paying the doctor than to settle with the undertaker—besides being much cheaper."

"We, as a people, seem to think that we are too rushed and hurried with the management of our affairs to bother with the doctor."

"We get a cold. It does not amount to much. A cold never does. It is annoying; but who has time to trouble going to a doctor with a cold? It will soon wear itself out. All colds do. But sometimes they wear out the patient's life before the cold lets up; so they, the patient and the cold, die together."

"The cold continues. All colds do. They always get worse before they get better. The cold must 'run its course.' It will be better in a day or two. All colds are; sometimes. So, being only a silly little cold, we let it continue."

"Surely this cold is just like the last one we had. They are all alike; some of them. But this seems a little different. It is so persistent; the cough is different, an unfamiliar twang. It is annoying past our patience. We go to the drug store and get a bottle of the world-famed Doctor Dope's Cough Balm and proceed to get our system soaked full of it. Still the cold hangs on; in fact, it seems to wax fat and grow strong on this particular concoction of honied drugs. It has 'cured millions' of other sufferers, but it didn't seem to just touch the spot with us. We get another brand; with the same results. The cold gains rapid headway the while. Nothing discouraged, we draw on the druggist for all the other of the '57 varieties,' at the end of which we are snugly tucked in bed. Then we send a reluctant call for the doctor."

"But we didn't send for the doctor in time. He finds that you have an active case of galloping consumption, or, mayhap, a well-developed case of pneumonia. He applies all the remedies known to science. You let disease get your system in such a grip as the octopus throws around its helpless victim; you let it gnaw into and fasten its vicious claws on your vitals before you called for help—the kind of help that could have saved. Help came too late."

"Yes, most certainly tuberculosis can be cured," Doctor O'Hanlon replied to a question. "In fact, it is as easy to cure as a cold; and sometimes easier—if taken in time. A rugged, healthy system will cure an attack of tuberculosis without the aid of any doctor. I believe that my experience justifies me in saying that nearly every human being has, or has had, the germs of tuberculosis in his system. Where the constitution is strong and the tissues perfect the germ is arrested, but where the nervous system and the tissues are broken down the germs spread and multiply in proportion to the degree of weakness."

"Get the system healthy; and keep it that way. Drown yourself internally with water; any kind but the fire brand. Drink only as much whisky in a lifetime as you can drop with comfort on the eyeball in one minute. Let it alone. It eats the tissues as rust eats iron. But water! Keep the tissues of the system saturated with it. Eat salt liberally, then drink enough water to make it run out the pores of the skin; for by this process of elimination you cleanse and purge the system of the effete matter and germs of disease. The more water you drink, the less need you will have for a doctor."

"Unless you know to a certainty and beyond the shadow of a doubt just what ails you—and nine hundred and ninety-nine times out of a thousand you don't

—then avoid the specialist. Go to the general practitioner, the old family doctor; he will locate your trouble correctly and advise you as to the need of a specialist. First, help Nature to help herself; she will ward off more disease than drugs can cure. But if you fail, then call on the doctor."

Simple Remedies for Emergencies

WHEN one has difficulty in retaining food on the stomach, put one teaspoonful of lime water in a glassful of milk and sip slowly.

For a sore mouth try a wash of one teaspoonful of peroxide in half a glassful of water. A few drops of listerine in a glassful of water is also helpful.

For a nervous headache a flannel cloth dipped in hot water and placed first on the temples and then on the back of the head at the base of the brain is sure to give relief.

Hold a bruised finger in a cupful of hot water for a few minutes and it will prevent further trouble. The water should be as hot as it is possible to stand it. Gatherings and run-arounds may be treated in the same way.

To clean a wound and its surrounding skin, wash with warm soapy water. Besides this, an antiseptic solution should be used. A weak solution of carbolic acid and water is an easily prepared wash, a teaspoonful of the acid to a tumblerful of water.

Certain kinds of toothache may be relieved by painting the gums with a solution of one half iodine and one half glycerine. If there is a cavity in the tooth, saturate a small piece of absorbent cotton in the oil of cloves, tincture of myrrh or laudanum, and place in cavity.

One of the best and simplest application for burns is a mixture of equal parts of linseed oil and lime water. Lint or strips of linen soaked in this mixture should be laid on the burns and renewed as often as necessary. Another simple remedy for burns is carbolic oil, made by adding one teaspoonful of carbolic acid to one cupful of olive oil. This should be applied to the wound and retained by a firmly applied bandage, which will greatly assist the healing process.

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This is the Last Issue of This Paper at the Low Price!

Christmas Money the Emigrants Send Home

By Richard Maxwell Winans

THE hosts of emigrants who have for nearly three centuries followed in the footsteps, or, rather, the wake, of the Pilgrim Fathers, to this broad land of brighter promise, have added power and energy to further the processes of development of its resources, have furnished the sinews of progress in the industries and have provided the muscle and brawn, and not infrequently, the genius and skill, to keep them in operation.

The emigrant came, primarily, for his own good, and he stayed for our ultimate benefit. He has come, especially in later years, to absorb what he could of our money, through the winning force of labor; he has remained to become an integral part of our social and industrial structure.

He has benefited by the change in conditions as compared to the Old World, but his greatest gain from the venture has been in a financial way; but our own gain in this respect has been greater than his.

For every dollar of his hard-earned money that he sends or takes home to the mother country we have gained two or more, by increased consumption of products, by advanced development and growth of industries, made possible by his presence. In fact, the statistics show that the increase in the potential value of American labor, as against the money taken out of the country by the emigrant, stands to our credit in the ratio of four to one.

There is nothing disconcerting, then, in the knowledge that he annually sends across the seas the tidy sum of over a quarter of a billion dollars for investment, for the support of relatives and other purposes; the balance in the ledger of trade is still substantially on our side of the page.

We should not, therefore, begrudge him the goodly sum of money that he sends in remembrance to the parents, the old mother, mayhap, the sister and brother at home as a Christmas greeting, but rather be glad in our hearts that he is able to do so, and that we are so big and rich and prosperous that we do not miss it.

Last Christmas time the emigrants in this country sent over fifty million dollars as a holiday gift to their friends and relatives in the Fatherland.

This liberal contribution for Christmas gifts and holiday feasting and cheer made by the common laborers of this country to the folks at home does not seem very convincing evidence of the depressing effects of the manufactured panic of 1907.

In fact, the "hard times" of last year, felt more in the East than the West, had, apparently, no effect on foreign holiday remittances, for it was larger than ever in history.

The figures for this year are not yet available, but it is believed by those in touch with the situation that the individual remittances may be somewhat less than last, but that, considering the increased number of remitters, the total will be as large, if not in excess of that of last Christmas.

However, if work has been "slack" and the earnings have been less, the foreign laborer has somewhat counterbalanced the deficit in his hoardings by greater frugality in his living expenses, and he will this year, as always, send all that he can save and spare to the expectant ones at home. In this respect the poor laborer deserves more credit for liberality in his holiday remembrances to the indigent and helpless than either the rich or the moderately well to do of this country.

While there are not so many of them, the individual remittances of the Greek are greater than any other nationality of emigrants. And of them all he is the most confirmed bird of passage. Of all the strangers who come to our shores, the Greek has the least intention of making this country his future home. He works and saves and plans and dreams always of returning some day to his native sun-kissed hills and vales of Greece. With this end in view he sends the last penny of his saved earnings for investment in real estate or other property in the mother country. And when he has made his "stake," he passes on, giving way to others that come to fill his place a while before they, too, return home

to enjoy the fruit of their harvest in America.

Not so the Irish. Oh, no! One migratory flight is enough for Patsey and Jamesey and Mike. When they leave the "ould sod" they have generally turned their back for good and all upon the bogs and fens of the Emerald Isle. And when they land here they land a-running—for anything in sight. Evidence! Read the names of the list of aldermen of the cities; also the municipal boards, the politicians, great and small, the contractors, the policemen—well, read the whole pay roll. You'll find them there. Yes, Pat came to make his home with us; and he has personally looked well to the making of it.

"Who beats der Irish?"

"Id vos der ———"

Yes, we all know the Dutch have made tuneful claim to the distinction. However, we are all from Missouri; all but the Irish—they don't need to be shown.

These two nationalities, the Greek and the Irish, are the extremes in their immigrating intentions and purposes—one to stay, the other to go. The Italians, probably, of those immigrants of any considerable number, form the medium between the two. They come with the first breath of spring and go in thousands at the approach of the holidays, like the migration of birds between North and South with the change of the seasons.

The sturdy Swede, the Dane and the German, whose rough pioneer labor and unyielding perseverance have made the untilled wilds of the great Northwest a garden spot and a mighty commonwealth, came in their quiet, unassuming way to make their home in America—homes on the land, without thought of politics or graft. And while the money they earn is put back into the land, toward the making of a home, yet the records show that the greatest increase in remittances at Christmas time come from these people. They are loyal in their loving regard and thoughtful care for those left behind in the Fatherland.

Most of the Christmas-sent money is transferred through the banks, but Uncle Sam handles nearly or fully a third of it through the mails. Rarely do the mails fail of delivery to person and destination. The same may be said of the express companies, and, with only an occasional exception, of the banks. It was not always so. Many of the dozens of little native banks down in the foreign quarters of the great cities did not use to be so dependable. The proprietors had, some of them, no scruples against taking advantage of the trust or ignorance, or both, of their native countrymen who confided their little hoardings into their care to be transferred by draft to their home town overseas. But the day of the dishonest little "wildcat" native bank is done.

A little story was told me of the days when they flourished; a story of one man's perfidy and of another's saddened Christmas Eve.

Some years ago a young Italian came to New York to earn enough money to make a home and send for his old mother. He was steady, sober, ambitious. His kind may always find work in plenty. He labored hard and faithfully, living on meager fare and a scant allowance for clothes, saving every possible penny for the home—and the old mother. Sometimes the cross grew heavy, but he straightened manfully under the burden and his eyes turned toward the little cottage nestling under the warm Italian skies, and over the drawn lines of the tired face there was wreathed a smile.

Some time, somewhere, you and I have known that smile.

The day came at last when the home was assured, and there was enough and more to send for the mother, and it was near the glad holiday season. He had made good; the happiest time of his life was at hand. Mother and son would be glad and merry together this Christmas.

Upon inquiry he was referred to a native banker down in the Italian quarter. It would be the quickest and safest way to get the money to his mother. It must go quickly to reach her in time to sail for the holiday arrival.

He gave the money, his all, to the

Italian "banker" to send home. Yes, it would go; in ten days it would be there. The banker was sympathetic; it was so nice to have a mother to send for. He wished him much joy of her companionship.

The young Italian went home relieved, light hearted. This Christmas time would mean so much to him. The smile came again, and this time it made his face radiant with the sunshine that beamed from his soul.

We know that smile now. It is born of mother love.

And the day came, and the ship, but not the mother. A cable through his consul disclosed the fact that the money had never been sent.

Fast as he could go he went to the office of the banker. Reaching the door of the place wherein had been the desk, the railing, the little window latticed over, the typical furniture of the native banker, he stood confused. In place of the gaudy sign of the "Bank" across the window there hung instead a soiled paste-board placard, on which he read these words, "This Store for Rent."

So far he had toiled in vain; love's labor had been lost. Between him and his vision of happiness the final curtain came down with a crash. He was very much alone, and desolate. And with the full realization of his compatriot's deception the iron entered his soul. The smile he had worn as he left there before was replaced by the look of a great disappointment. But the sadness and grief in his heart, the yearning for the sight of the dear old face waiting far overseas, was greater than the pain of his money loss.

But he started all over again, and we may hope for him that his remittance went home this time, and that he may greet the loved face he longs for this Christmas time.

Charities of Millionaires

WILLIAM WALDORF ASTOR provides the Newsboys' Lodging with a Thanksgiving or a Christmas dinner. E. H. Harriman, that figure of the financial world upon whom so much vituperation and praise is alternately hurled, is found to be the mainstay of the Boys' Club, and furnishes eight hundred dinners every Christmas Day. Mrs. William Sloane and Mrs. William E. Dodge are both women with whom the reading world is familiar through the newspapers as leaders of society and fashion. Mrs. Sloane is known among the poor as the fairy godmother who erected the handsome Sixth Street Industrial School and who supplies over a thousand children each Christmas with a Christmas dinner, a tree, clothing, toys and candy. Mrs. Dodge is the patron saint of the Boys' Lodge, on Second Avenue, to the members of which she gives a Christmas dinner and warm clothing and blankets for the winter.

The West Side Lodging House has a membership of some nine hundred and eighty boys. Last Christmas each received the present of a handsome shirt, besides the usual Christmas trinkets, the donors in this instance being Mr. and Mrs. Douglas Robinson. The Rhinelander School is the special interest of Miss Rhinelander, who is one of its founders, and of Mrs. Andrew Carnegie. Mrs. Carnegie is a woman of wide philanthropy. We find her connected with many homes, schools and institutes, and always willing to lend a listening ear and ready sympathy and aid to the unfortunate. An evidence that she possesses one of the family characteristics was shown in her gift last Christmas to the Rhinelander School of a library of some two hundred books. Mrs. Beverly Robinson has her special interest in the West Side School, to which she presented two hundred flannel shirts at Christmas, and to which, during the past winter, she has given fifteen hundred other garments. Among other social leaders we find Mrs. Osborn, Mrs. Anson Phelps Stokes and Mrs. Philip Sands, looking out for the Phelps Industrial School; Mr. and Mrs. Temple Bowdoin for the East River School, and Mrs. Richard Irvin, Mrs. R. E. Shirmer and Mrs. Frank Browne Keech prominent among the managers of the Virginia Day Nursery.—The Designer.

Christmas in Brazil

THE children in Brazil do not know what it is to have a Christmas tree like ours. Instead they have a "presepe," or "crèche," as it is called in France. It is usually arranged in one corner like a grotto, the infant in a manger occupying the center, surrounded by images of the holy family, kneeling shepherds and domestic animals. Figures of angels and much tinsel usually adorn the "presepe," which is left standing until after the Epiphany. Presents and sweets are exchanged during the holidays, after which the "presepe" is taken down and put away until the next Christmas.

All who can conveniently do so attend the Missa do Gallo, or cock's mass, as the midnight mass of the nativity is called in that country; and a strange and interesting sight the smiling, chattering groups of hatless women present to the eye of the unaccustomed foreigner as the crowds enter and leave the churches.

On the coffee plantations the children also have their "presepe," and the old people tell that on Christmas night the animals have the gift of speech, and that if a child only has courage sufficient to go out alone in the darkness and silence it will hear on the first stroke of twelve the cock crow, in a loud voice, from its highest perch, "Christo nasceu." (Christ is born.)

The bull, in a deep, sonorous bass, inquires from a distant field, "Onde?" (Where?)

The sheep then answer in chorus, "Em Belem de Judá." (In Bethlehem of Judea.)

And so in turn all the domestic animals give to the world the glad tidings of the nativity.

Many a child wishes it had the courage to face the darkness alone, but as a passing breeze stirs the palm leaves outside, and wafts the fragrance of orange flowers through the latticed window, the little one shuddering creeps closer to the grandmother, and takes her word for it. Grandmother has lived long and seen much; she surely must know.

Christmas

By the beautiful road our Christmas comes,

A road full twelve months long,
And every mile is as warm as a smile,
And every hour is a song.
Flower and flake and cloud and sun,
And the winds that riot and sigh,
Have their work to do ere the dreams
Come true,
And Christmas glows in the sky.

The holly and cedar and mistletoe,
They thrilled when the nights were
chill,

For the maiden's glance and the quadruped
dance

And the lover's foot on the sill.
For the Christmas mirth the brave pine
grew,

Serene and straight and tall,
The deep woods knew in their hush and
dew

When the dearest of days would fall.

To the beautiful home our Christmas
comes,

To the home that is safe and sweet,
With its door ajar for the beams of the
star,

And its corner for love's retreat.
There the mark on the wall for the
golden head

Is higher a bit, for lo!
Between Christmas coming and Christ-
mas sped

There's time for the bairn to grow.
—Margaret E. Sangster.

Longfellow Up to Date

He stood beside the hotel bed
He'd paid two dollars for, and said,
"It's pretty hard to have to sleep
Upon a mattress stuffed with cheap
Excelsior!"

The Five Trips to Florida are not the only prizes offered in our Florida Contest. There are five pianos, one hundred Grand Prizes and lots of other prizes, too, and a cash commission for every subscription, besides!

The Meaning of Christmas

Do you ever try to analyze the feeling of joy which comes over you at the very mention of Christmas? It is a good deal like trying to analyze a fragrance or a memory or a strain of sweet music. When Christmas comes we are glad. We may be tired, or ill, perplexed, distressed, or, worse than all, pessimistic and cynical, but Christmas with its triumphant note will always somehow get the better of our lower moods and raise us to the universal plane of sympathy and good fellowship. Of course it is preeminently the children's day, and the thought at the very heart of it is the thought of the Child who came to Bethlehem long ago. Our Christmas trees, our Christmas gifts and our Christmas anthems alike celebrate the reign of the Child. On one bright day in the twelvemonth, old or young, rich or poor, learned or illiterate, native or foreign born, we are subjects in the happy kingdom of the Child. No other festival is so purely altruistic. No other, not even Thanksgiving, so elevates and ennobles the home. The whole of December is delightful, notwithstanding snow and sleet and storm, because December has the honor to number Christmas among its marching days. Long before the day itself comes around, its premonitions can be detected in the glittering shops, the gay throngs upon the streets, and in the innocent and sweet mysteries which pervade every household, while the general air of anticipation makes prosaic circumstances and conditions quite other than commonplace. Christmas is coming!

The Christmas markets in a great city are in themselves a study. Every stall is garlanded, and from forest and mountain have come by the earload the shining holly, the aromatic fir, the trailing ground pine, the white-berried mistletoe, the pungent cedar, that speak so eloquently of cheer and strength amid winter storms. The deciduous trees cast their leaves in the autumn and stand stark and bare to meet the wintry blasts, but the evergreens are brighter than ever when skies are gray, and in the Yule tide they are to be found everywhere. In the churches, where joyous groups meet to tie wreaths and twine them over rail and pillar; in the home, where the Christmas tree is loaded with the gifts of love, and in the shops, where for once a golden stream flows into the merchant's till—not merely for the purposes of commerce, but hallowed by impulses of friendship—in all these we feel the Christmas greeting.

Christmas is almost a synonym for charity. A grudging, selfish, close-fisted keeping of the day would limit its bestowals to those who could either return them in kind, or who were of one's own peculiar kith and kin. But that is a very partial and unworthy Christmas, in which there is no consideration for those who are strangers or sorrowful or outcasts. The Christmas spirit embraces every one, from the king on his throne to the prisoner in his cell. The lonelier, the more hopeless, the more disconsolate a person is at Christmas, the greater reason there is for doing something to make him forget the miseries of his lot. When the whole world is in the midst of joy at its flood, and kindness for once reaches its high-water mark, we are unable to resist the current; few of us wish to do so. The multitude are filled with one mind and one soul, and we all are glad together.—Margaret E. Sangster.

True Religion

What cares the child when the mother rocks it, though all storms beat without? So we, if God doth shield and tend us, shall be heedless of the tempests and blasts of life, blow they ever so rudely.

A week filled up with selfishness and the Sabbath stuffed full of religious exercises will make a good Pharisee, but a poor Christian. There are many persons who think Sunday is a sponge with which to wipe out the sins of the week. Now, God's altar stands from Sunday to Sunday, and the Sabbath day is no more for religion than any other. It is for rest. The whole seven of them are for religion and one of them for rest.

He who is forced to present duty breaks a thread in the loom and will find the flaw when he may have forgotten its cause.

The call to religion is not a call to be better than your fellows, but to be better than yourself. Religion is relative to the individual.—Henry Ward Beecher in "Life Thoughts."



Sunday Reading

Kinship in Kindness

KINDNESS is recognizing another's kinship. It is first kinnedness to our own, and then kinnedness to every one. When we recognize God's relation to us, we all become relatives, and must be kindred to each other, even as God in Christ is revealed kinned to us. The kind man does not say merely what he feels like saying; that would be adaptation to his own moods, and only self-love. He says what he thinks another needs to hear. Kindness relates you not to your own mood, but to the mood of the other man. To say a pleasant thing because you feel pleasant may be an accidental kindness, for it may meet another's need; but, though good, it is not highly virtuous. Genuine kindness oftenest comes from self-repression—a cheerful message from a sad soul, a brave word from a trembling heart, a generous gift from a slender purse, a helping hand from a tired man. It is not your mood, but the other man's need, that determines kindness.

And the world's great need to-day is kindness. We crowd into our lives so many things that most of us find little time to think of our neighbors' heart needs. Be generous with your sympathy. A cheery, sympathetic word counts for a good deal to the man who is downhearted.

God's Flower

THE editor with whom our President is soon to be associated in literary work wrote a story once about the flowers.

A number of the flowers tried to find out which one was the Flower of God, and the rose said, "Why, I am the Flower of God. I have a great variety of colors, I have beautiful fragrance and I just make every person happy in June." Then the crocus said, "No, you are not the Flower of God. I was blooming long before you began to bloom. I am the Flower of God." Then the little lily of the valley spoke up, "I am the Flower of God, because I am pure and white and sweet." The arbutus which had been listening all the while then spoke, "I was blooming when all of the other flowers were sleeping, covered with leaves; when the snow was still on the ground. I come between winter and spring. I am the Flower of God."

And so the flowers could not decide to which belonged the honor of being called the Flower of God. But I am going to tell you. It is the flower that you smile on and ask God's blessing upon and give to some person who does not often receive a flower. It does not make any difference which flower it is. The one that is given with a smile and a good wish is God's Flower.—J. F.



The Nativity

This most famous and beautiful picture was painted by Correggio. Correggio's treatment of the subject of the Nativity was suggested by a passage in one of the apocryphal gospels, which tells how Saint Joseph entering the stable at Bethlehem saw the new-born Child shining with a supernatural radiance which lighted up the figure of the mother. The Madonna, in a soft blue underdress, crimson robe and a deep blue mantle, is bending tenderly over the infant Jesus lying in the manger, while on the left shepherds draw near, and in the background Saint Joseph is seen tethering an ass. A brilliant light streams from the body of the Child, illuminating the group, and dazzling one of the figures, a woman, who shades her face with her hand. The painting of the Nativity hangs in the Royal Gallery at Dresden.

The Christmas Spirit

THE Christmas spirit! We all experience it at this time of the year, and we all have the desire to give, bounteously and lavishly, to make our friends happy. But prosperity has not knocked at my door, you say, and I cannot give as I would like. Listen: A gift is not always a material, tangible present. A gift may be a word of cheer and courage to

a disheartened man; it may be a little deed of kindness, graciously performed; it may be a smile of sweet understanding for some child; it may be the charity that you show in refusing to stand in judgment against your neighbor; it may be your word of faith in a friend's motives. Cheer, kindness, faith, hope, charity, encouragement—the bestowing of such gifts as these upon our friends is far greater than the giving of the most sumptuous present, where the heart is not.

God's gifts to us do not come at any particular time of the year. They are given day by day, month by month and year by year. So let us give of the good things in our lives and hearts, whenever a cheerful word is needed or a helpful hand may assist. Do not be afraid to speak kindly to the stranger. The gift of a hearty handclasp and a smile is long remembered, when greater things may have been forgotten.

The Christmas spirit, the Christ kindness of heart, may always be with us if we wish it to be, and our storehouse of gifts will never be vacant, for that storehouse is your heart and my heart.

"To him that hath shall be given." It has always seemed to me that this verse in the Bible meant, "To him that hath noble purposes, high ideals, goodness and kindness of heart shall be given more grace and strength." Give, give, give of your bounty of kindness, and be sure that the spring will never grow dry.

There is a legend which runs like this: A little girl was wont to go every day to a certain spring for water. The way was long and the little girl was obliged to go very slowly and carefully in order to bring the dipper home full. One day, when she had filled the dipper and was starting for home, she met a little old lady, who asked her for a drink of the clear, sparkling water. The child sweetly invited her to drink, and on looking at the dipper, was surprised to find that it had been turned to silver. She walked on a little further, wondering why such good fortune had come to her, when she saw a poor little dog, panting with thirst. She stopped and gave him to drink of the water that remained in the dipper, when lo! it had turned to gold. Skipping and tripping along, she had almost reached her home, when she met an old man, footsore and weary from much traveling. "Give me to drink," he said, and she stopped and gave him the last drop in the golden dipper. To her utter astonishment, seven diamonds appeared in the dipper, and as she gazed, they gradually, slowly rose higher and higher, until they reached the sky, and there they stayed—the Great Dipper in the sky, a testimony to a little girl's goodness of heart.—B. V. A.

God's Care

The sorrow that nobody mentions,
The sorrow that no one may share,
Is the sorrow the dear Lord giveth
His sweetest, tenderest care.

Merry Christmas

A merry, merry Christmas
To all who tread to-day
The age-long road to Bethlehem
Where once our Savior lay—
A little child in swaddling clothes,
While cattle near him lowed;
And in the sky above his head
The Star of centuries glowed.

A merry, merry Christmas
To every weary heart
That brings its load of care to One
Who in our grief has part;
A merry Christmas to the soul
That lowly bows to him,
Before whose face the seraphim
Grow in their whiteness dim.

A merry, merry Christmas
To every little child,
Who clasps the hand of Jesus,
And loves the undefiled;
And may the light of Christmas
From heaven's fair palace stream
And all the year be brighter in
Its radiant living gleam.
—Margaret E. Sangster in "The Joyful Life."

Away With Dull Care



An Exception

GUNBUSTA—"My boy, to be successful in life you must get in on the ground floor."

WILFRED—"Santa is successful, and he never gets in on the ground floor. He always comes through the chimney."—F. P. Pitzer.

A Substitute for Flat Dwellers

Though we ain't got a chimneypiece, Pa has a stovepipe hat; Now don't you think that Santa Claus Would like to come down that?

Her Christmas Wreath

"I would not wear the laurel," said the dear, coquettish maid, "For of the pathway leading unto fame I am afraid; The cedar is too somber, and the holly is too gay;



The Christmas Table

"Two—four—six—eight—ten—Gracious! Ten people at dinner, and I get helped last!"

I will not wear the willow, and I cannot wear the bay; The rose is out of season, and the lily, too, and so, I think, on Christmas Eve I'll wear a wreath of mistletoe!"—Harriet Whitney Durbin.

News From a Seat of Learning

SISTER ANN—"Did yer get any marks at school ter-day, Bill?"
BILL—"Yes; but they're where they don't show."—The Sketch.

The Christmas Dinner

AUNT JANE—"What is the trouble, Nellie, little girl?"
NELLIE (in tears)—"The turkey is so selfish that it won't make any room for the plum pudding."

The Reason

MOTHER—"I hear you were at the foot of the class last week, Tommy."

TOMMY—"Twasn't my fault. Johnny Smith was sick at home."—The Circle.

Didn't Know Much

"How do you like your teacher, dear?" little Mary was asked, after her first day at school.

"I like her real well," said Mary, "but I don't think she knows much, for she just keeps asking questions all the time."—Delineator.

The Difference

O Christmas bells, O Christmas bells, What gladness now my bosom swells. My joyous heart with rapture sings, As far and wide your music rings.

The scent of pine is in the air And happiness there is to spare. A tale of peace your cadence tells, O Christmas bells, O Christmas bells.

O Christmas bills, O Christmas bills, What anxious fear my bosom fills. I owe for candy, toys and rings, For books and many other things. Alas! my purse—no coin is there! I've spent far more than I could spare. What dread the sight of you instills, O Christmas bills, O Christmas bills! —Elsie Duncan Yale.

Too Much Comp'ny

Little Jack Horner sat in a corner Eating a Christmas pie; For Jack wasn't able to get to the table Along with the rest; that's why.

Couldn't Tell a Lie

FARMER—"See here, boy, what yer doin' up there?"
BOY—"One of your pears fell off the tree an' I'm tryin' to put it back."—Brooklyn Eagle.

Early History

WAKEFUL WILL—"Mama!"
TIRED MAMA—"Well?"
WAKEFUL WILL—"When Santa Claus was a little boy who filled his stocking?"

Her Santa Claus Letter

She wrote a note to Santa Claus, The queerest note that ever was; 'Twas naught but scrawls and dots and rings, But, oh, it meant so many things! For little girls, strange to believe, Want many things on Christmas Eve.

She asked for dolls all dressed in blue, And red and pink and purple, too; She asked for dogs and cats and toys, And instruments that make a noise; She asked for candies, cakes and things, And popcorn strung in lengthy strings.

She sent her note to Santa Claus, The queerest note that ever was. Her papa mailed it early, so 'Twould surely off to Santa go. 'Twas naught but scrawls and dots and rings, But, oh, it meant so many things. —Joe Cone.

WAITER—"Did you order beef à la mode, sir?"
GROUCH (impatiently)—"Yes. What's the matter? Are you waiting for the styles to change?"—Philadelphia Press.



The Day Before Christmas

Uncle Rastus—"Fo' de land's sake! Heben sure done gib me dis heah roomatiz fo' a trial!"

FLORIDA!

The Trip of a Lifetime

Two Weeks Without Cost to You

We offer five of these wonderful trips to five of our readers who are willing to hustle a little for **FARM AND FIRESIDE** in their spare hours or evenings. Not one trip, but five! If you win any one of the first five places in this great contest, you will win a trip to Florida next March, **absolutely without cost** to you.

Thousands of people go to Florida every winter at enormous expense, and see no more—many of them less—than you will see on this wonderful "Trip of a Lifetime" at no expense whatsoever. Our manager will personally conduct the entire party. He will pay all the bills and see that you have a far better time than you could possibly have if you went by yourself and spend hundreds of dollars.

A Tour of the Sunny South

This will not only be a trip to beautiful Florida, with its orange groves, palms, ocean bathing and June weather, but practically a Tour of the Sunny South as well. Our party will visit many places in Florida, among them Jacksonville and St. Augustine, including a trip down the beautiful St. John's River—all at our expense—and in the trip to Florida and back we will pass through many of the most picturesque Southern states.



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Avenue of Palms in Florida

Every Day is June in Florida

To tell you of the joy of being in that delightful country is simply impossible. No one can fully describe the beauty and charm of Florida. It is the Flower Garden of America. The weather there in March will be like the prettiest June day you ever saw—not hot, but warm enough for bathing in the "deep blue sea," and living in God's out-of-doors to your heart's content. You may never have another chance to get to Florida—at least not without paying hundreds of dollars—so make sure of this great chance to go without expense to

The Land of Blue Skies and Eternal Sunshine



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"The Beautiful Hotel Cordova, St. Augustine"
Where Our Party Will Stop

In All Your Life No Trip Like This

has ever been offered you. No trip in America is so popular or so beautiful. No trip is usually so expensive. But you can go with our party **without cost**, and as long as you live you will have something to talk about with pride and look back upon with pleasure. Leave the ice and snow of winter behind and come with us on this wonderful trip to the most beautiful spot in America. Our party will stop at the finest hotels in Florida—the world-famous Ponce de Leon and Cordova. And on the way to Florida and back we will pass through the

Most Beautiful Mountain Scenery in America

—the famous Blue Ridge Mountains. This trip cannot be surpassed by any in America.

I can't tell you here one tenth of the things I want to, but if you will write me or send me the coupon below, I'll tell you all about everything in detail—just what cities we will visit, how long we will be in each place, all the wonderful sights we will see, and many other things. I will also send you many pictures of Florida and the places we will visit. And I will tell you of the five pianos and all the hundreds of other prizes we offer in this great contest. **Absolutely every contestant gets a prize—we guarantee that.**

Write Me Now—To-day

Cut out the coupon below, sign your name and address (or a postal card will do) and send it to me right away. You will hear from me immediately. And if you want to save time and make sure of a prize the very first thing, just get ten of your relatives or friends to hand you 25 cents each for a year's subscription to **FARM AND FIRESIDE**. Then you will be a prize winner sure. Keep 5 cents from each subscription as your cash commission and send me the rest. You have lots of time to win, and you can win if you hustle. Write me to-day. I'll answer immediately.

The Florida Man

FARM AND FIRESIDE
Springfield, Ohio

CUT THIS COUPON OUT AND MAIL TO-DAY TO THE FLORIDA MAN

Name.....
Street or R. R.....
Town.....
Date..... State.....

Dec. 25

Dear Florida Man: Please tell me all about how I can take the wonderful trip to Florida free of all cost. Also send me your Florida pictures and all the other things. I will send in ten subscriptions as soon as possible. Please save a place for me in the contest.

Back Office Talk

With Our Readers

Merry Christmas to you all! It is a pleasure to send you a word of Christmas greeting from the editors of FARM AND FIRESIDE. You have shown your appreciation of our efforts to make FARM AND FIRESIDE the best farm paper in the world by sending us an overwhelming number of subscriptions this fall and winter. We editors, in return, are concentrating all our efforts on giving you more for your money during 1909 than any paper in the country has ever given. Please accept our best wishes for an unusually joyful Christmas, and a happy and prosperous New Year.

Three More Pictures

As a special Christmas surprise, we have just arranged to give with FARM AND FIRESIDE this winter *three more* beautiful pictures—each one more beautiful than the one before—making in all a gallery of artistic paintings of which any home may well be proud.

For Paid-in-Advance Subscribers Only

These pictures have cost us a big pile of money—but they will not cost you a cent. You will get them all *free* if you just see that your subscription is paid in advance. Only paid-in-advance subscribers will get these pictures. Every one seems to have been delighted with our Thanksgiving picture, and the picture in this number is sure to please, too, but these other three are really far more interesting than anything ever before attempted by FARM AND FIRESIDE. Be sure to subscribe or renew *promptly* if you want to get these three pictures with FARM AND FIRESIDE, as the price goes up *January 10th*. This is your last chance. Send in your renewal now, no matter when your subscription expires. Be sure to get in while the low price lasts.

Special Lincoln Anniversary Number

This is Lincoln year, celebrating the one hundredth anniversary of Lincoln's birth. To commemorate it, we are preparing a special Lincoln Anniversary Number for January 25th. Among the many attractive Lincoln features of this number will be a superb full-page portrait of Lincoln, lithographed in six colors at great expense. It is eleven by fourteen inches and is the most perfect likeness of this great character that has ever been produced. You will surely want this beautiful portrait in your home, so make sure that you are paid up *now*, before the price goes up. Only paid-in-advance subscribers will get this portrait—and no American family should be without a Lincoln portrait this year.

Our Mid-Winter Special

—the number we always try to make the biggest and best of the whole year—will come with our next issue—

January 10th

We have planned to make it the most helpful and most attractive number of FARM AND FIRESIDE ever printed. With this number begins even stronger and better farm matter—matter vitally helpful to farmers—than in the past. In this January 10th number will be the first of three articles on the investment of surplus earnings by that able writer, Prof. Fred W. Card. It will contain thirty-two pages, beautifully illustrated, an unusually exciting instalment of "The Soul of Honour," and fashion and embroidery pages that will simply fascinate the women folks.

A BLUE MARK

in the square below indicates that your subscription expires next month. Renew it now.



This is the Last Number at the Old Price. See Page 26.

Practical Farm Notes

The Business Problems of Farming

There is a growing impression that the business problems of the farm, as well as those of crop production, are worthy of investigation and study. This was apparent in a resolution just passed by the American Association of Agricultural Colleges and Experiment Stations in session at Washington, D. C. This resolution reads as follows: "Investigation into the business, economic, social and governmental conditions affecting agriculture should be undertaken and should be maintained on a permanent basis."

This forms one of the points in the summary of a report of the Commission on Agricultural Research appointed by this association in 1906. This commission consists of President David Starr Jordan of Leland Stanford University, President Carroll D. Wright of Clark University, Dr. Henry P. Armsby of Pennsylvania, Director W. H. Jordan of New York and Gifford Pinchot, United States Forester. The adoption of such a recommendation indicates a change of attitude

toward problems of this kind. Only a very few years ago the writer proposed to the director of the experiment station at which he was engaged that he be allowed to take up investigations of just this sort in the state in which their work lay. The director expressed himself as very favorable to the proposed line of investigation, but deemed it best to first confer with the authorities at Washington, since it was a line not thus far undertaken in connection with experiment-station work. Later he reported that such work would not be considered a proper way in which to expend experiment-station money, and so the investigation came to an end before it had begun.

It is an encouraging sign that such lines of work are being looked upon with more favor. The experiment stations were founded to carry on investigations for the good of agriculture, and there are no more important problems concerning the success of the farm enterprise and the comfort and progress of the farm home than these very problems. Thus far stress has been laid on methods of increasing the yield of farm products,

which is well; but the success of the enterprise depends still more upon the proper adjustment of the business factors involved. A wise division of the capital invested, good management in the executive affairs of the enterprise, which shall enable things to be done at the right time and in the most economical manner, together with a wise adaptation of the lines of effort undertaken to the conditions prevailing, are prime essentials to success. Such problems can scarcely receive too much attention.

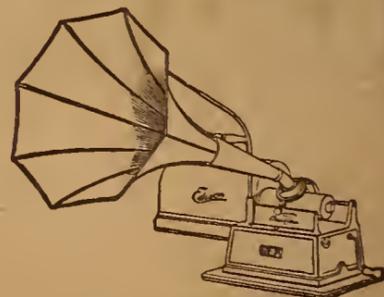
Just at the present time the investigations being made by the Commission on Country Life appointed by President Roosevelt are giving a strong impetus to this class of work, an impetus which it is to be hoped will not be lost as time goes on. FRED W. CARD.

The rapid growth of our manufacturing industries is an indication that the demand for food products will be largely increased in the near future. In order to meet this condition the average yield of farm crops an acre should be doubled. The judicious use of commercial fertilizers will hasten this result. *

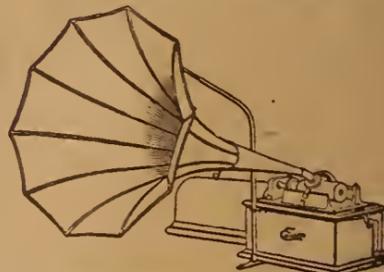
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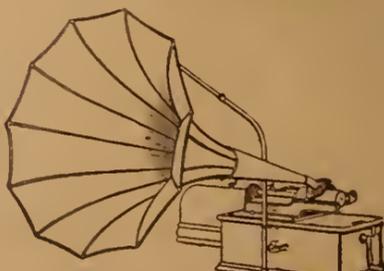
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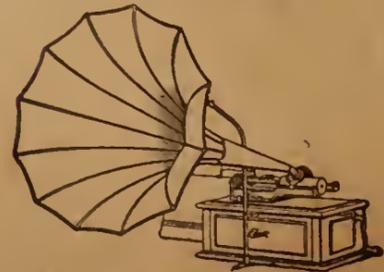
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who will be glad to show you the Edison Phonograph and let you hear the new records. He has an assortment of both Edison and Amberol Records, and he has Phonographs in various sizes and styles, at different prices—all low. You can arrange with him for putting an Edison Phonograph in your own home. Some dealers sell on the installment plan.

Edison Amberol Records

The New Phonograph Records that play twice as long as the regular Edison Records

These are the new Records which have just been made to play on the Edison Phonograph. They play twice as long as the old ones and play far better.

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An Edison Phonograph with the Amberol attachment plays both Records, the old two-minute Records and the new four-minute Records.

There are thousands of selections already made up in the old Records which you can enjoy, and there will be many new ones every month in both the old Records and the Amberol Records.

Edison Records are made in Bohemian, Cuban, Danish, French, German, Hebrew, Hungarian, Italian, Norwegian, Polish, Spanish, Swedish, etc.
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Edison Grand Opera Records, 75c.

If you are not ready to buy at once, ask your dealer for a catalogue of Phonographs and a catalogue of selections. You will be surprised that so much music is available to the owner of a Phonograph. Do not be misled by any other sound-reproducing instrument. The Edison Phonograph is the best for the home.



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