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## Corn, the Great Cereal Crop of America

By Prof. R. A. Moore of the Wisconsin Experiment Station

WELL may we sing the praises of King Corn, the great American cereal, for it is the foundation upon which our live stock industry rests, and the welfare of our nation depends largely on the success of the corn grower. We need but to ponder a brief moment to realize its importance when we but remember that in money value it far exceeds all other cereal crops of the United States combined. No plants can be caused to vary so widely or breed so true to type in the hands of the plant breeder as corn, and no plant offers so great inducements for systematic study.

Through the corn work of the Illinois Experiment Station hundreds of millions of dollars have been added to the state's wealth, and yet corn breeding is still in its infancy. Iowa has also come forth as a pioneer, and not only preached the gospel of corn truth to her farmers, but has sent the good message on to sister states to aid them in the good work.

The great International Corn Exposition now being held at Chicago should bring about a closer relationship between states, and much good will be brought about by the intermingling of the corn-growing leaders of the different states.

No one crop in Wisconsin has sprung into prominence in so short a time as corn, and this has been brought about to a large degree by the co-operation of the Wisconsin Experiment Association and the College of Agriculture. The Wisconsin Experiment Association restricts its membership to former students of the college, those who have been trained in the work of corn production. At the present time the membership numbers approximately one thousand, nearly all of whom are carrying on corn experiments.

For many years the farmers of Wisconsin were dependent upon other states for their seed corn. They purchased in accordance with the scoop-shovel method, and consequently had no established variety of their own. This method of growing corn led to a wide-spread variation of breeds and types. The college felt that it was far better to throw the energy of the state on two or three well-bred, acclimated varieties than to let it branch out after a hundred or more.

Corn has been bred largely in accordance with the selective-row method, or what is sometimes called one-ear-to-the-row method. After the type becomes firmly fixed, and a variety has been bred for leafiness of stalk as well as for yield, a large quantity is grown and stored for dissemination. Sufficient corn is supplied each member of the Wisconsin Experiment Association to plant two acres, half of which should go into the one-ear-to-a-row test. This corn grower follows a definite plan of procedure, as do all others. All members

are furnished with like outlines, so consequently work in the same manner with the same common purpose in view.

Members of the association become the corn growers for their respective communities, and furnish seed to neighbors at reasonable rates. Thus several hundred corn centers have been established annually, until whole communities are now growing the same variety of corn. The effect of this system, introduced six years ago, has been the means of bringing about a great change in the Wisconsin corn crop.

By noting the following figures as to yield, taken from the United States Yearbook and the Crop Reporter, we can readily note that something has taken place to bring about these results.

In the year 1901, one acre yielded 27.4 bushels of shelled corn; in 1902, 28.2; in 1903, 29.3; in 1904, 29.7; in 1905, 37.6; in 1906, 41.2.

In other words, the Wisconsin yield has been raised from twenty-seven bushels an acre in 1901 to 41.2 bushels an acre in 1906. In total output the amount grown has been raised from forty million bushels in 1901 to sixty million bushels in 1906, and the corn raised on practically the same area.

The corn gospel has gone forth to others, spread

from stalks that have two or more thereon. The leafiness, vitality, position of ear on the stalk and shank development should be taken into consideration when deciding upon the ear. The stalk can be marked with string or clasp, so as to be recognized after fully ripe. When we consider that fifteen ears of corn will plant approximately one acre of land, it is not a long job to make selection for at least sufficient to plant in our breeding field. The bulk of the seed corn will be selected from the choicest corn immediately before general harvesting or after husking. Where one is skilled in corn characteristics, much improvement may be brought about by general selection, although the more rigid selection is that one that commends itself to the corn breeder.

### CURING SEED CORN

Corn should not be dumped upon barn floors or left in sacks for several days after selecting, but be husked and hung on wires in the upper part of the corn crib, or in some well-ventilated room where there is a free circulation of air.

Kiln-dried seed corn is the only safe seed corn for Wisconsin. Our latitude is such that Nature cannot grow the corn and guarantee its safe carriage through our long, cold winters without loss of vitality.

When corn is harvested it usually contains from twenty to thirty per cent of moisture, and our seasons are too short to get this amount sufficiently reduced without artificial heat, for protection against mold, rot or cold weather.

The man who merely desires to cure sufficient seed for the planting of thirty or forty acres finds no difficulty in securing some room in the house which is sufficiently ventilated and which can be heated so as to cure the corn. The furnace room in the basement of a house, if well ventilated, is a good place to cure corn. The good seed ears can be tied together by means of binder twine

and strung on wires. Do not use a laundry room or any room that is not perfectly dry.

The corn grower who desires to produce seed corn for the market should have ample accommodations, and it would be well worth his while to have a seed-corn curing house. This need not be an expensive structure, and often some little building already on the farm, by a little alteration, can be made to serve the purpose. If no building is at hand, one can be erected of sufficient size to hold several hundred bushels at no great cost. This building should be put on posts, which are properly tinned, with inverted pans on top, so as to prevent the entrance of mice, rats, etc. Corn racks can be made by setting up pieces of two-by-sixes at intervals as uprights, to which can be nailed strips, upon which the corn can be piled in tiers. Sufficient space should be left between the



A CHARACTERISTIC FIELD OF SILVER KING CORN. YIELD ON THE WISCONSIN STATION FARM, SEASON OF 1906, SEVENTY-FIVE BUSHELS OF SHELLED CORN TO THE ACRE

broadcast by the college and members of the experiment association, quite largely by practical demonstrations.

Some of the advice given to the Wisconsin corn growers may be referred to in this article and be of assistance to those seeking corn truth and to farmers growing corn under similar environments.

### SEED SELECTION

Care should be exercised in the selection of seed. By going to the field before the corn is fully ripened one has a decided advantage in making choice selections. We cannot only select for early maturity, but we can also note the character of the stalk and leaf development to better advantage. For all practical purposes it is best to select from a stalk that has one good ear, rather than



corn racks so that a man can pass through with a basket. Between the center racks should be sufficient space to place a shielded stove. The building should have good ventilation and conveniences to admit free circulation of air. If fires are made at intervals during the day, and this continued for a period of two weeks, the moisture content should be reduced to such a degree that safekeeping would be assured.

If proper attention is paid to curing seed corn, we will be rewarded for our efforts by high vitality and good germination tests.

#### SEED TESTING

If seed corn is properly cured, a general test, which is made by using simple tin plates, will indicate in a fair degree the average vitality of our corn. This test is made by picking out at random twenty-five or fifty ears, and selecting two kernels from each ear. By placing the kernels between moistened pads in tin plates, and placing where the temperature is seventy-five degrees or somewhat above, germination should take place in from three to six days. If the corn gives a germinating test of from ninety-six to one hundred, as it will if cured rightly, we can safely sell seed corn without great injury to our reputation.

The farmers are now being taught to make the ear test for the season's crop at least, which is the safe and sure guide for good seed. This test should be made regardless as to whether we cure our own seed or purchase it from others. When we consider that each ear of corn has from eight to ten hundred kernels we have no right to guess at its vitality. For making the ear test we can use most any shallow box—eighteen by twenty-four inches is a convenient size. Put sawdust in the bottom, and moisten the same. Lay on the sawdust a cloth that has been ruled with checks and numbered consecutively. Select the ears of corn that approach the ideals you are working for, and place them on a table or board, and number consecutively to correspond with the ruled cloth. Remove six kernels from each ear and place in a square until all the squares are filled, or as many as you desire to test ears. Place a cloth the size of the tester on top of the corn, and on top of this put a large cloth that will hold a peck or more of sawdust and cover. The sawdust should be moistened and folded in the cloth, and packed down firmly. Put a cover on the box, which aids in withholding moisture, and set at room temperature. If warmer, the germination will be hastened. It usually takes five or six days to make the test sufficient to study the character of the same and detect the energy of the seed.

When the cover is removed, examine closely the kernels of corn in the separate squares, and cast out all the ears from which the seed has not shown a satisfactory test. By this way we are able to secure the best seed ears, which repays us a hundredfold for the time expended.

#### SELECTING SEED FOR UNIFORMITY

It is desirable to have a uniform stand of corn. Lack of uniformity has been the means of reducing the yields from ten to thirty per cent. By placing the seed ears upon tables where comparison can be made, those ears having kernels of the same approximate size can be selected. Where the tips and butts are rejected in shelling, the work of grading can be done quite as closely and more satisfactorily than by screening. The corn may be divided into two grades, in accordance with the size of the kernel, and two different sets of planter plates, which have been determined by actual test, used for planting.

#### TESTING THE PLANTER

It will amply repay any corn grower, to thoroughly test his planter before the time of planting, and select those plates that will drop the desired number of kernels from eighty to ninety times out of a possible one hundred. Many bushels may be added to the yield an acre by due care in testing the planter.

#### ROTATION OF CROPS

A good rotation of crops should be established on every farm, in order to keep up the fertility of the land without the purchase of expensive fertilizers. The four and five-year rotation is used quite extensively in Wisconsin. We aim to plant the bulk of our corn on sod land which has been plowed the previous fall. Corn is followed by oats or rye and the land seeded to clover. Usually timothy, redtop or blue grass is mixed with the clover, especially if the desire is to have pasture in the rotation. The third year, as a rule, two cuttings of clover may be obtained, which is mixed somewhat with timothy or blue grass. The winter following, the grass land is manured, and dragged with a fine-tooth harrow in the spring. The fourth season the hay crop is quite largely blue grass and timothy, with a mixture of clover. After taking off a cutting of hay, the field is used for pasture. If we desire a five-year rotation

we may continue to pasture the following year. With the four-year rotation, after pasturing through September the field is plowed and the fifth season put into corn. We find this an excellent rotation, and it gives us an opportunity to put the manure upon grass land, which is much preferred to putting it upon stubble land, where we lose a large portion of the nitrogen by leaching.

#### HARVESTING THE CORN CROP FOR SILAGE OR FODDER PURPOSES

Experiments carried on by several stations in regard to the best time to cut the corn crop seem conclusive that for all practical purposes the corn should be pretty well matured before cutting. The most rapid gain in pounds of dry matter to the acre occurs between the roasting ear and the glazing stages. The yield of fodder is nearly doubled from the roasting-ear stage to the full glazed stage.

While at the early stage the plant seems to have acquired nearly all its protein, yet it should be remembered that it is deficient in starch, sugar, gum, etc., and has a large water content.

When corn is harvested for the silo, which is done quite largely in Wisconsin, it should be cut at the glazing stage, as it seems that the best returns are received at that time. The leaves drop off rapidly from that period to the ripening stage, and the corn if too ripe seems to be less palatable.

#### HARVESTING FOR THE GRAIN

In some sections of the corn-growing states little regard is paid to the stalks. When the corn is fully matured the ears are husked from the standing stalks in the field and taken direct to the crib or sold on the market. Cattle and hogs are usually turned into the field after husking, to secure the missing ears, nubbins, etc., and to trample down the stalks, in order to make it more convenient for plowing or disking. With the advent of the corn harvester and shredder combined, with a more wide-spread knowledge of the value of corn stalks as an animal food, the careless methods formerly in vogue are rapidly being replaced by a more economical practise.

So little corn is marketed by Wisconsin farmers, that in few places do grain dealers purchase for shipment. Notwithstanding this fact, Wisconsin has annually one and one half million acres planted to corn, nearly all of which is retained on the farm and converted into pork, beef, mutton, butter, eggs, etc. As a rule the corn crop is well taken care of, the farmers wisely harvesting both grain and stalks in a careful manner. The corn harvester is used



CHARACTERISTIC TIPS AND BUTTS OF SILVER KING CORN

extensively, and the bundles cut are loaded on wagons and taken direct to the silos and cut into silage, or are placed into medium-sized shocks in the field, where later the corn is husked and the stover taken to the barns for winter feed.

Many farmers after shocking do not husk the corn, but use the crop as fodder corn. Where this system is practised the shocks of corn are hauled to the barn at intervals and run through the feed cutter or fed to dairy cows and other stock without cutting. Many farmers are now practising shredding, which seems to be a satisfactory and economical way of handling the corn crop.

Whenever you need a new buggy, farm wagon, plow, fanning mill, shovel or anything else, look over the advertisements in FARM AND FIRESIDE before you buy. We use the utmost care in seeing that only advertisements that can be trusted are put in FARM AND FIRESIDE. We guarantee every one of them.

#### NEW FERTILIZER NITRATES

The "Atmospheric Products Company" some years ago put up a factory in Niagara Falls for the commercial manufacture of calcium nitrate, or nitrate of lime, the nitrogen of the compound to be taken from the air. Great things were expected from this, as the Chilean nitrate supply was reported to be running short, and nitrate of lime had been found even more effective as a nitrogenous fertilizer than nitrate of soda. But the scheme did not "pan out." The process proved to be too expensive for profit. The building originally erected for this enterprise is now occupied by another company and is used for another industry.

But there is now another scheme on foot for the manufacture on a very large scale of calcium cyanamide, to be used as a nitrogenous fertilizer. No need of getting scared by the name nor by the somewhat complicated character of the compound. It is sufficient for us to know that its nitrogen is in the useful form of nitrate of lime, and if we can get the new product cheap enough, we will probably use it, wholly or to some extent, in place of nitrate of soda. In the meantime, and probably ever after, we shall continue to depend on clovers and other legumes to catch the atmospheric nitrogen and bring it down to the soil for supplying our crops with additional nitrogen.

#### THE "FLOATS" QUESTION

I found Dr. Van Slyke, the station chemist, in his office at the Geneva Station, and knowing of nothing in his line that seemed to me of greater interest to farmers just at this time than the subject of using fine-ground raw phosphate rock, I asked him about it. He believes, with me, that there is a place for this material in our farm practises. An especially good use may be found for it in direct application to muck lands, as these are usually more or less acid, and consist mostly of decaying organic matter, thus giving just the right conditions for the gradual conversion of insoluble into soluble phosphoric acid. "Floats" will also have a tendency to sweeten the soil, and therefore may in this case be much preferable to acid phosphate, in which all the phosphoric acid is already soluble. I am told that Tennessee floats may be had at about nine or nine dollars and a half a ton, delivered at most railroad stations in the North, while acid phosphate will cost about sixteen dollars. As there is about twice as much phosphoric acid, although insoluble, in floats as soluble in acid phosphate, it will be seen that we can buy about four times as much in the for-

the soil is perfectly neutral or of an alkaline character, the transformation of the insoluble phosphoric acid into an available form will be very slow unless hastened by the acid fermentation of the clover and clover roots that were plowed under. But this "fertilizer" is cheap, and very likely it will give good results, if not the first year, perhaps the second or third. Probably the clay loam is well provided with potash; clover will furnish the nitrogen, and floats will help to add phosphoric acid, that is so essential a factor in grain farming.

#### ALFALFA AND OTHER TREFOILS

A number of readers have sent me specimens of clover-like plants for identification. One of these, found in a meadow among other grasses, and having a whitish or yellowish blossom, is *Trifolium procumbens*, the low hop clover, so called on account of the shape of the blossom. I believe it is also known as yellow trefoil. It has been brought from Europe, probably as an admixture and adulteration of grass seeds. It seems to possess very little economic value. Another of the plants was the black medic, *Medicago en-pulina*, a close relative of alfalfa, or *Medicago sativa*, and resembling it quite closely in leaf. It is sometimes called hop clover. It has been grown in England as a pasture grass, and undoubtedly, as an addition to pasture grass mixtures, has some value. The seed is quite often found in alfalfa seed, as it is very commonly used for adulterating alfalfa seed, as also is that of sweet clover.

A few days ago I was on the grounds of the New York State Experiment Station at Geneva. One of the big crops there is alfalfa. It is used there both for green feeding and for hay, and most excellent, useful and profitable for both purposes. It is good for many years when once established. Some years ago I saw a good crop of hay being taken off from the same big field which I still found in alfalfa this year. A hay crop had been taken off about two weeks before, but the plants looked yellowish and sickly this time, probably owing to the long-continued dry weather, although alfalfa is known to be well able to resist the effects of drought.

Professor Stuart, the bacteriologist of the station, showed me an experimental patch of alfalfa which had given a crop of hay about two weeks before. The new growth was badly afflicted with rust. The treatment usually recommended for rust consists of clipping; but evidently there was not much to clip, as the plants then were only a few inches high, having made but little growth during the abnormally dry weather of those two weeks past. Professor Stuart told me that of the various plots the one which had given the heaviest growth and yield in the first crop gave the poorest growth and yield in the second crop. This is one of the frequent occurrences in the farmer's life and occupation which are hard to account for. No reason for it was apparent.

In one or more of the plots the seed sown had been mixed with dodder, about one hundred and fifty seeds to the pound of seed. The dodder seed grew when tested under greenhouse conditions, but not a single plant of it had come up. This dodder is a most interesting plant. Professor Stuart had one on an alfalfa plant caged up in the greenhouse. The seed germinates on the ground, but soon fastens itself on the host plant, such as clover or alfalfa, and then becomes detached from the ground, depending for its sustenance entirely on the host. It is a plant which the alfalfa grower must try to keep out of his fields. I saw many other alfalfa fields in that and other localities, but none as thrifty and healthy and promising as I have found them in other years.

T. GREINER.

#### AGRICULTURAL NEWS-NOTES

General Picquart, Minister of War of France, has just given an order for Chicago canned meats which is said to be the largest ever issued in times of peace. This is a strong endorsement of the purity of the Chicago output under the new regulations.

Assuming that the statistics of the Department of Agriculture are reasonably correct, tobacco culture in Wisconsin is very profitable. The 1906 crop yielded 1,275 pounds to the acre, which sold at ten to thirteen cents a pound. The actual cost of production was estimated at thirty to forty dollars an acre.

The need of accurate crop news is evidenced by the fact that owing to the widely published statement that there was an oversupply of apples, millions of bushels were allowed to go to waste last year. Many growers were unable to sell their crops and neglected to barrel and put them in cold storage. Last spring apples were higher than for years.



## THE FRUIT AND VEGETABLE CROPS

The apple crop in my locality is a failure. The late frosts of last spring so injured the fruit and foliage that the former fell off before half grown, and the latter now looks like it had been scalded. We shall have to go back to dried prunes next winter for our dessert fruit. Prunes are not bad eating, but many people like good apples.

Though the fruit crop has not been abundant, the vegetable crop has been immense. We have cabbages so large that the cook objects to carrying them in from the garden, and tomatoes that are real wonders. I tried a new one this season that was sent me by a seedsman in Iowa, and it is extra fine. The vines are about six feet long, and well loaded with fruit. The fruit comes the nearest to being seedless of any tomato I ever saw. It is nearly all meat, and tastes as good as any of the old Livingston varieties.

One cannot expect to have all the good things in one season, but if he plants right he can have some of them every season. We have no plums or pears this year, and but very few apples, but we have peaches, watermelons, and the finest of vegetables. And we also have fine grapes.

While we shall miss the things that we have not, we can solace ourselves with those we have. And this reminds me that it is time to decide what trees and plants we are going to set out next spring. Autumn is the better time to do this. We gain at least half a year's growth by planting such trees and shrubs as are real hardy in the fall, and having the others on hand ready to plant as early in spring as the job can be done. Trees and shrubs that are moved in the fall seem to stand the shock vastly better than those moved in the spring, especially if they have to be shipped some distance.

I would set apple, cherry and plum as soon as received, putting them down about two inches deeper than I expected them to stand, and hilling up around them about a foot high. Frost will very likely raise them a couple of inches before spring. The more tender things, like peaches, I would cover with soil to about a foot of their tips, and set them as early in spring as the job could be done.

## PLANTING THE WOOD LOT

If one is going to plant a grove, thicket or windbreak, the seedlings should be secured now, and most kinds can be planted at once. Every farmer knows that he will have more time to attend to this work now than in the spring, when there are a thousand things to be done.

I want to remind farmers who have rough spots and deep ravines or gullies on their farms that our timber supply is rapidly diminishing, and that for many purposes there is no substitute for wood, and they will be acting wisely in planting such rough land to trees that will make lumber. Only a few years ago the cottonwood was considered next to worthless for any purpose. Now many of the boxes used in shipping goods are made of cottonwood, and a great deal of the "rock maple" used in making fine furniture, store fixtures and inside work in houses is simply cottonwood. Not long ago a wholesale dealer in furniture was showing me some of the prettiest sideboards I ever saw. He described them as "oak," "mahogany," "cherry," "walnut," etc., and finally added, "Every blessed one of them made of cottonwood!" It was a fact. The wood of this tree is cut into thin sheets, which are glued together under great pressure, and it becomes almost as hard and tough as iron.

A farmer who was planting ten acres to catalpa and locust said, "I cannot farm successfully without stock, and stock must have pasture, and the pasture must be fenced, and fence calls for posts. I am planting this grove for posts. I can buy wire fencing cheap enough, but posts cost money, and a wire fence is not worth much unless it has plenty of posts in it. When I can get all the posts I want from my own farm I will put fences where I want them, and can then farm to much better advantage, and keep up the fertility of my soil much easier."

It will pay every farmer to plant a small grove for posts. I know farmers who have "wood lots" of five to ten acres from which they could not obtain a hundred good fence posts. These are not wood lots, but brush patches. Now is the time to plant a few thousand catalpa, locust or other good post trees in them, and make the "lot" one of the most valuable parts of the farm. A farmer who converted a brush patch into a real post grove and wood lot tells me that he first planted his seedlings in the open spaces, then where the thick brush was in large patches he cut swaths through them and planted in the middle of the swaths. He used a sharp spade and made a "clearing" at least two feet square where he set the tree, and in such places he always planted strong seedlings, at least four feet in

height. Ten years after planting, the overhead shade had become so dense that almost all of the brush had been smothered out. Thickets of crabs he cut down. He says he did all the cutting he had time to do, but as he was very much in debt, and was working the farm without assistance, he had very little time to cut brush. He now has a fine grove of hardy catalpa, locust, white ash, walnut and hard maple. Many of the catalpa and locust now make two good posts each, and besides having all he needs for his own use, he has sold enough to pay all cost of planting, and taxes on the tract. Two years after planting the tract he got it fenced, and has used it for a pig pasture ever since, keeping the pigs put in it carefully rung, to prevent their rooting it up.

## RIDDING THE PREMISES OF RATS

A farmer's wife writes me that she has been very much troubled with rats this season. They have taken the greater part of her chickens and young ducks, and done much other damage. She says she does not know how to get rid of them, because she cannot use poisons, from fear of her fowls finding some of it.

The farmer who raises and keeps a horde of rats ought to be compelled to feed them his choicest products. They generally get them anyway, so he feeds them, whether he likes to or not. Some of my neighbors are nicely fixed for raising rats, and some of their choicest vintage are constantly trying to take up their residence on my premises. As soon as I discover their presence I set two or three steel traps where they seem to have located, carefully covering the traps with chaff, and I rarely fail to have the pleasure of burying them the following morning.

I have a few places they can hide where it is difficult to effectively place a trap. In case they locate there, I partly fill a small box with bran, and bury the trap in it. Sometimes I mix a little cornmeal with the bran, and I have never failed to get them. To keep one's premises clear of the pests it is necessary to go after them as soon as indications show that they have arrived. In places where they are numerous it is necessary to use half a dozen traps, and to set them with considerable care. Chaff is the best material for covering the traps, and next to that is bran. When one gets two or three a night they soon begin to get shy, and one must be careful to cover every part of the trap, or they will avoid it. I have not lost a chick by rats in years. I noticed that they were very fond of my chick feed, and when I see they have



A LESSON IN GRAFTING

been feeding on it I place a trap in it, covering it with bran, and never fail to get them.

One should have the trigger of the trap arranged so that about an ounce pressure will spring it. Sometimes it is necessary to file them down a little. One cannot catch an old gray sharper with bait. He may like the bait well enough, but he fears the contrivance it is on. He will avoid a baited trap, and walk right into one that is concealed under chaff or bran. One should have as few places as possible where rats can hide away and start colonies.

If the corn-crib floor is too close to the ground, draw enough earth from under it to make a hollow that water will run into during rains. Do the same with all buildings under which the earth may be honeycombed with holes and tunnels. But above all, keep your traps set whenever you have reason to think there is a rat on the premises. FRED GRUNDY.

## EDUCATION FOR THE FARM BOY

The soil is the great "firm and never-failing foundation of Mother Nature," to which we are all bound by the bonds of necessity; to the soil all men must look for the requisites and for the luxuries of life.

The plant is the only medium through which man and all animals may receive the elements that sustain life; vegetation is the great key that unlocks the limitless storehouse of the soil. How important it should be that men study the capacities of this great "foundation" and the intelligent use of this key that opens to all earnest students the profound possibilities of the rustic life!

The law student is required to spend years in making himself acquainted with the essential and fundamental principles of legal science; in addition he must study the common law and cases of the past until he becomes acquainted with the intricate practises of his prospective profession. The medical aspirant studies physiology, anatomy, chemistry, toxicology, bacteriology, etc., before he is allowed to assume the practise of a physician. The architectural student masters the higher works on mathematics, physics and mechanics; such study and knowledge is considered indispensable to his future life work.

If these vocations and many others require previous study of foundation principles, may it not be supposed that the prospective farmer and the future fruit raiser could become more intelligent and successful husbandmen by employing boyhood and young manhood in specific study of the scientific principles that govern soil and plants? The world is paying higher prices than ever before for specific preparation in every line of business. Intelligence is pitted against intelligence, and competition awards the prize to the man who has learned "how to do things."

Colleges now offer long courses in agriculture, horticulture and other rural sciences, but it is to a possibility nearer home that the attention of the great mass of farmers and of farmers' sons should be called. Within the last few years the farmer has been asking why the rural high school may not teach farm boys the scientific principles that underlie farming? Physics and chemistry are being taught, but why not study their particular application to farming? Human physiology is studied, why not teach plant physiology and the anatomy of the vegetable kingdom?

In a few high schools these branches are being taught. At Waterford, Pennsylvania, a four-year course in agriculture

insight into the problems that may be expected to present themselves in the actual work of a farmer; he has a trained intelligence and observation that need never be handicapped by obstacles that appear vague and mysterious to the groping rustic; he has a fund of terms and scientific observations, in the light of which he may interpret and apply the new facts and principles that will come to his attention through life.

The photograph on this page represents the plant-culture class of Waterford High School engaged in a practical grafting lesson. These boys also set grafts at home. Many other phases of farm and orchard work are treated in a similarly practical manner. Excursions away from the school are sometimes made, but the pupils are oftener encouraged to make their own practical application at home, where each feels the greater and more personal interest.

In addition to the formal course in agriculture, the attitude and resources of the school are turned at all times to a practical solution of the many specific questions and experiences that confront farm boys. They are encouraged to pursue their studies in both a formal and informal way, and to make the high school a "clearing house" for farm facts and theories. The methods and policy pursued at this high school seem to constitute a normal process; that method would appear most rational which is concerned in making somewhat better farmers out of the ordinary mass of farm boys, rather than in making fine college-bred farmers out of a few.

GEO. P. WILLIAMS.

## POINTED PARAGRAPHS FOR FARMERS

- Despatch is the life of the truck patch.
- The clock is a good hand at making time.
- You may drive those hogs in haste, but never in a hurry.
- The way to happiness is no farther than the way to the farm.
- The music of the barn yard hath charms to soothe the tired farmer.
- He who runs a farm should read a farm paper. It is good feed.
- You cannot make old eggs look like fresh ones—nor taste like them.
- The farmer needs to be a man of many ideas, with few words to each idea.
- Happy is the man who whistles while he works—for whistling lightens labor.
- A dollar spent in time as a prevention saves the spending of nine as a cure.
- A well-dressed man is a pleasing sight to the eye. So is a well-groomed horse.
- It will soon be time to look after your woodpile. Do not let it go down between ax.
- The mission of some trees seems to be twofold—they bear fruit, and give shade besides.
- Conceit often lies in thinking our stock worth more than the man who wants to buy thinks it is.
- Stick to the old way until somebody introduces a new and better one—or, better still, until you introduce one yourself.
- You can always fill those "castles in the air"
- By letting chickens do their roosting there. WILLIAM J. BURTSCHER.

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## HOW TO CARE FOR APPLES

THE early apples are ready for harvesting and must be shipped promptly. They may be sent to market in one third, one half or one-bushel boxes or baskets; but a little later these small packages are not wanted and the three-bushel barrel is the proper thing.

Prices are most always good at the beginning of the apple season, even for green cookers, and this induces some to pick and ship half-grown Ben Davis and other varieties. But experience has proven that this is folly, as the market is soon overloaded with poor, green apples and the returns are next to nothing.

This glut is apt to continue as long as the warm weather lasts; because there are so many neglected orchards, neither sprayed nor cultivated, in which the apples begin falling from the trees early; and they are picked and rushed to market to avoid loss from this cause.

In picking apples some prefer the use of baskets while others prefer sacks. However, they both have their advantages and disadvantages. The advantage of using a basket lies largely in the fact that if the apples are carefully placed in the same they are not bruised and the blooms if there be any will not be rubbed off.

The objections to the baskets are that they are not so handy as the sacks and that careless pickers are disposed to toss apples into them as they hang on a limb or set upon the ground several feet away.

The advantage of using the sack is that it can be slung over the shoulder with a strap and the mouth kept open with a part of a barrel hoop sewed into the edge of the mouth and partly around the opening, allowing the picker to easily carry it and use both hands.

The objections are that the blooms are likely to be rubbed from the fruit and the shifting of the sack puts many small bruises on the apples where they rub against each other, which, with light-colored or delicate-skinned varieties is quickly noticed.

I prefer the baskets. My baskets are the round half-bushel kind with drop handles. I had an iron hoop made for each one, which is attached to the handle to suspend the basket from the limbs, thus enabling the picker to use both hands.

In picking apples every specimen should be handled as carefully as if it were an egg. I usually have my apples picked and piled under the trees in the shade and take the barrels to the apples in the orchard and pack as fast as possible. When the barrels are filled and headed I haul to the shed and stow away in as cool a place as possible, until I get enough to fill a car.

I always make two grades, one a strictly No. 1, or fancy grade, and another which will take the apples that are slightly defective but good for immediate use, usually termed No. 2 in the market. I seldom ship any No. 2's, as I can realize a greater profit by selling them in bulk to the cider mill at 20 cents a bushel than to put them on the market in an expensive barrel, adding on the freight and commission charges. I have the packing done by experienced men as this is of great importance and is always the danger point. A layer of uniform apples even in size and color is placed on the inside of the barrel and another layer of similar fruit put on top of the facers and the barrel filled with fruit free from defects of any kind. The barrel is well shaken each time a basketful of fruit is put in, which makes the fruit tight in the barrel and less pressing of the head is required and consequently less bruising of the fruit.

After the barrel is full and the fruit well shaken down the apples are adjusted on the top so that they are as nearly level as it is possible to have them. Then the press is applied, first seeing that the barrel is on a level and the head gently pressed in. The head liners are put in their proper place and with a light use of the hammer the head is nailed secure. I then stamp the number or grade and also name of apples on the faced end of the barrel.

The marketing problem is one that we must solve ourselves. A shoe cobbler can bring about as good results in selling the fruit as an expert apple salesman, provided he is furnished with first-class fruit and not a dozen kinds of inferior stuff.

The markets are not killed with an overproduction of good fruit. It is the overproduction of poor fruit that knocks down the price of good fruit.

There is never a time that a large, well-colored and well-matured apple will not bring a fancy price in any market. And when nothing but this class is put into a barrel a handsome profit is realized. Retailers buy fruit from its outward appearance and when they purchase a package of seemingly nice fruit and find on opening that inferior stuff is packed between, that does the grower as far as that man is concerned.—Wm. H. Underwood in The Indiana Farmer.

## Review of the Farm Press

## WEAN THE LAMBS

Lambs should not run with the ewes after November if the ewes are desired to lamb early in the year. And this is very desirable, as it makes it possible to wean the lambs in time to give the ewes a rest to make up their growth; and puts them through the winter in good condition; and brings the next season again a little earlier. When the lambs are separated from the ewes it will be necessary to give them a little grain, which is best in the form of finely ground meal. This is wholly used by the lambs, and none of it is lost for want of full digestion. There is no more satisfactory way to push the lambs forward for the next year than to put the ewes on good feed, and so supply the lambs with plenty of milk of the best quality. To feed the ewes well when nursing the lambs adds fully a month to their growth, and thus puts them forward for a repetition of the same advance the year following. What is gained is worth twice as much as any gain afterward. No one who has not tried this constant pushing on of the lambs will be disappointed with the results. It easily adds a dollar to the value of each lamb, and this is of itself a very considerable bonus on the year's income from a flock. Some farmers especially dislike early lambs, for the reason that they begin to eat too soon, making it necessary to feed before the early spring grass is ready. But one ounce of meal or bran is worth more than a full pound of grass, and the constant practise of all sheep keepers should be to push ahead all the lambs, and keep this larger growth increasing naturally as the animal grows older. The last pound of increase in any animal will cost more than twice as much as the first. This rule will apply to all kinds and conditions of animals, but most of all to lambs, and sheep after them. Feeding is an art that must be learned by practise; it may be studied very profitably by reading the experience of others, and so one will know what to do and what to avoid in his own practise. It is a great mistake to think reading of this sort of experience is not worth the time spent. Quite otherwise. It is of the greatest value, because one learns what to avoid and what to follow. And in all our experience we find at the end that our greatest successes have been due to the avoiding of mistakes by the careful study of the experience of others, who honestly tell us of these things. What we learn through our own mistakes is very costly wisdom, but what we learn from others costs us nothing.—American Sheep Breeder.

## HOG COTS

There are various kinds of cots to correspond to various needs. All are movable and built for one or two brood sows and their litters.

Fig. 1 shows the simplest kind. It is triangular in shape, six by eight feet in size, has no floor and the door is made

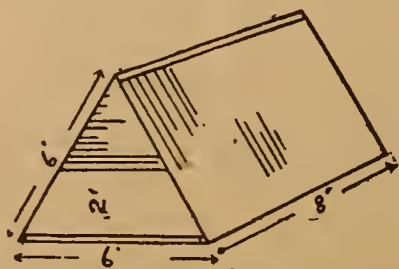


FIG. 1

by not completely boarding up the front end. There are no windows. This is excellent for summer, and will answer in winter when plenty of straw is provided. Having no floor it is better fitted for well-drained or sandy than for heavy,

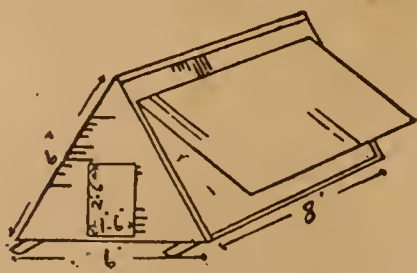


FIG. 2

poorly drained districts. The cost for lumber at \$30 a thousand is \$5.78. The house is light and easily handled.

Fig. 2 is of nearly the same construction, but floored with two-inch material, and with a door at one side where manure may be removed. This door may

be raised to let in the sunlight in spring and to produce shade in summer, which is made possible by changing the position of the house.

Fig. 3 is six by six feet in size. The ridge of the roof is over a point two and one half feet from one side and three and one half feet from the other. The plate is three and one half feet high on the back side and two and one half feet on the front. The larger roof is hinged so that it may be raised for letting in sunlight and throwing out manure. The door is two and one sixth by one and one half feet in size and hung by double link

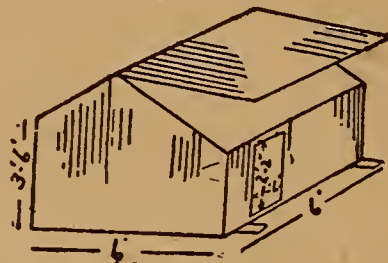


FIG. 3

hinges, provided with runners. Such houses have the advantage of letting in sunlight and keeping out wind in spring. In winter they may be placed end to end in a feed yard, banked up, and made warm and comfortable for brood sows.

Fig. 4 is a building which combines features of Figs. 2 and 3. It has a large door for letting in sunlight on the side as well as a large one on top for ventilating. It is somewhat easier to build than Fig. 3.

In pastures where many houses are

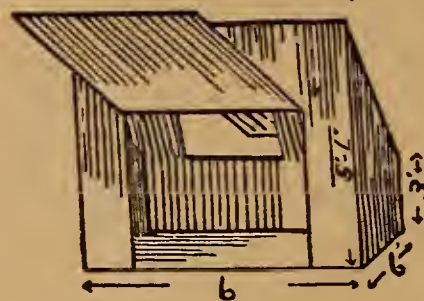


FIG. 4

placed, hurdles that are hinged and may be fastened to the corners of the cots are often used to enclose and protect sows that are farrowing.—Farm, Stock and Home.

## THE MISTAKES OF DAIRYMEN

By "dairymen" in this article we mean any man who keeps cows, whether for his own use or for the sale of their products in the market, either as the main or a minor part of his business. We have had a good deal to say on this subject in times past, because we realize that the farmer has not kept up this end of his business as he should. The average Western farmer expects to get his main revenue from corn, small grain, cattle, hogs and horses, and has not given the attention to the dairy department that its importance requires. Hence he is continually making mistakes, some of them very serious ones.

The first mistake that farmers make is in being satisfied with any old thing in the shape of a cow. The farmer who is satisfied with a cow that yields only three thousand pounds of milk a year does not understand the very first principle of dairying. Three thousand pounds of milk with four per cent butter fat, which is a little above the average, means one hundred and twenty pounds of butter fat a year, and that will not pay the expense of keeping a cow a year even on the farm. It is therefore a very serious mistake to begin doing business at what every man must see is a loss. It is for this reason that we have insisted on the farmer testing his cows and finding out what they actually yield, both in pounds of milk and per cent of butter fat.

Another great mistake that farmers make is in feeding their cows the wrong kind of feed. Many farmers feed them on timothy hay and corn. They did so last winter, and will do so next winter, unless we succeed in waking them up. You might as well not feed a dairy cow at all as to feed her timothy hay and corn alone. You might as well feed her straw as timothy hay; and if you feed her no grain but whole corn, she will not give you a profit, no matter what her milking capacity may be.

Even if a cow has a milking capacity

of six, eight, or ten thousand pounds a year, if you don't give her the materials to make milk out of you can't get the milk. Timothy and corn are not milk-making materials. Timothy hay is high now, and it will be high all winter. Inasmuch as it is not fit feed for the cow, give her straw or corn fodder in its place, and sell your hay to the man who is willing to pay a good price for it and can use it for feeding his horses, or his cows, if he don't know any better. Take the money you get for the timothy and buy clover hay or bran.

Another mistake that farmers make is in not feeding their cows enough. It would be poor policy enough to run a thrashing machine with simply sufficient horsepower to make it go without thrashing any grain. It would be foolish to run it without sufficient power to handle all the grain that you can feed it. In the case of the cow the feed is the power, and no matter how big the machine is, if you don't give it enough feed you cannot make any money. Isn't that as plain and simple as anything possibly can be?

Another mistake farmers make, and especially those who directly or indirectly sell milk on the market, is in not having the quality above suspicion. Every now and then there is considerable talk about tuberculosis among cows. There is a good deal of that kind of talk just now, and citizens will begin to get suspicious of milk. The only way, then, is to get your milk above suspicion by knowing yourself and giving other people to understand that there is no possible danger in using milk from your farm; that it is from clean cows and clean stables, and handled by clean men.—Wallaces' Farmer.

## BENEFITS OF A SILO

The silo, in my opinion, stands in the same relation to stock feeding in the winter, as canned fruit and goods do to the family use. It gives an appetizing food to be eaten at a time of the year when everything of a green nature is dead or dried up, and either where it can not be used at all, or else in that shriveled, weather-beaten state that only tempts a person or an animal to eat it to sustain life.

The silo preserves corn fodder in such a condition that it is palatable and stock are eager for it at all times. This, in itself, signifies its quality and profits, for stock cannot help doing well if properly fed a feed that they relish. One can raise a large amount of feed of this kind upon an acre of normal land, located in a section of country where corn can be raised. It seems to me, that a farmer who keeps, say ten or twelve cows and upward, cannot make a better or safer investment than to build a silo, and he had better pay a high rate of interest, if necessary, than do without one. I think my silo will pay for itself in two years' time.

I built my first silo in 1889—my second in 1895. I used both until this year, then tore down barn and both silos and built a large barn and new silo. Outside it is stave, eighteen feet in diameter, forty feet high, rated to hold 220 tons. Others have built different shapes and sizes since my first one was built. I have kept track of them, and while they are all good from all standpoints, I prefer the wood to anything else. Progression of times causes some to change their minds, and I will promise to change mine when it seems that something else is better. But, as said before, I am well pleased with the results of mine, so far.—E. D. Jones in The Northwestern Agriculturist.

## DUAL-PURPOSE COWS

The dual-purpose cattle man demands an animal that combines in a very liberal way the ability to convert food into milk and butter fat when used in the dairy, and to fatten rapidly when placed in the feed lot, and whose calves will develop into very acceptable fat bullocks. The fact that an animal does not meet the demands of the beef-cattle man is no criterion that it is a dual-purpose animal. In the great majority of instances it is unmistakable evidence that it does not belong to any profitable class of animals. Just because some good milking animals are rather high set and do not possess all those characteristics essential in the make-up of the ideal beef bullock is no guarantee that every animal which does not possess the approved beef type must be profitable from the standpoint of milk production. That there is a dual-purpose animal cannot be successfully contradicted. That these animals are far too few in numbers for the best interests of the farmers of the Middle West is to be regretted. That the breeder who attempts to perpetuate both beef and milk in the same animal has a most difficult task to perform cannot be denied, but it can be done, and the man who does it will be well repaid for his trouble.—The Kansas Farmer.



## Review of the Farm Press

### ALFALFA AS A FERTILIZER

Few farmers know what a fine effect alfalfa has on soil, especially if it is a stiff clay. It has the same effect also in the matter of increasing the fertility that clover does. Some writers have erroneously stated that it is not as good in rotation as clover. In our own experience we have found it much superior to clover as a rotation crop. The only objection that can possibly be urged against it is the fact that it is hard to plow under, requiring three strong horses owing to the great strength of the roots. But this is an advantage when we come to think of the increased amount of humus thus added to the land. Another objection urged is that it is too valuable a money-making crop to turn under until the farmer is obliged to. It is true that quite frequently five tons of fine hay can be taken from an acre. This is easily worth \$50. It would be a bumper crop of wheat, corn, oats or barley that would equal that sum per acre. But the first consideration with a very true farmer is the fertility of his land. He must not let that lessen under any circumstances, and so we advise the turning under of alfalfa when it has been down three years.

An alfalfa sod should be plowed in the fall. It is a good idea to cut the fourth crop, give the land a dressing of barnyard manure and about 400 pounds of ground phosphate rock to the acre and turn it under. Plant the next spring with corn or potatoes. Alfalfa soil is a wonderful thing for potatoes. Then sow with barley the spring following and seed with alfalfa again, using three pecks of barley for the nurse crop. Run the alfalfa three years more and turn under. This practise followed will give handsome returns in a cash crop and still increase the fertility of the land. It needs an occasional dressing with potash and lime as the plant is a very good consumer of both.

Most Western farmers have not yet come to an understanding of the use of commercial fertilizers, but it is time they gave the subject thought and consideration.

In an experiment conducted some years ago at the Wyoming Experiment Station it was found that the increase in yield in various crops by reason of alfalfa having previously occupied the land was as follows: Wheat, 718 pounds an acre; oats, 1,219 pounds; potatoes, 1,738 pounds.

This is a pretty good increase and shows plainly the high fertilizing value of alfalfa roots. The possibilities of alfalfa in making meat, milk and wool and in the consequent enrichment of the land are appreciated by few people.—Hoard's Dairyman.

### PURE-BRED CATTLE

It has been estimated that there are between four and five hundred thousand head of pure-bred beef cattle living in the United States to-day. According to the herd books, there must be around two hundred and fifty thousand head of Short-horns in existence, one hundred and twenty thousand Herefords, sixty-two thousand Aberdeen-Angus and about seven thousand Polled Durhams and sixteen thousand Galloways. With such a large number of pure-bred cattle it would seem that our native stock should show more quality. It is certainly true that the improvement of our stock over that of twenty-five years ago is wholly due to the use of pure blood, but when a person stops to consider how many scrub bulls there are in every community it is easy to understand why improvement has not been more rapid. We hope the time will come when the scrub bull will be a rarity. It is certainly true that the man who uses one is short-sighted. With the use of the scrub bull we are standing still, if not absolutely decreasing the quality of our stock.—The Farmer.

### FRUIT TREES EXHAUST THE SOIL

In considering the reasons why apple and other fruit trees do not bear as many or as fine apples as they did in the early days, writes Professor H. Garman, of Kentucky Experiment Station, I have been impressed with the importance of supplying the trees with fertilizers as the soil becomes exhausted, and am satisfied that the greater relative difficulty experienced nowadays in keeping fruit trees in good condition is in part due to an exhaustion of the soil.

Trees forage more widely than smaller plants, and may not show the effects of starvation as suddenly or as soon, but they must show it in time if grown long on the same land without anything being returned to the soil to replace materials

removed by the trees. In this relation I was struck recently by a statement which I encountered in Professor Voorhees' interesting little book on fertilizers. He says that twenty crops of apples of fifteen bushels to a tree, and thirty-five trees to the acre, equal 1,337 pounds of nitrogen, 310 pounds of phosphoric acid and 1,805 pounds of potash.

Twenty crops of wheat, of fifteen bushels an acre, equal 660 pounds of nitrogen, 211 pounds of phosphoric acid, and 324 pounds of potash.

Therefore, according to Professor Voorhees, twenty crops of apples remove more than twice as much nitrogen, half as much again phosphoric acid, and nearly three times as much potash, as twenty crops of wheat.

A good farmer would hardly think of growing twenty successive crops of wheat on the same land; no matter how good it might be, and it would seem to be still greater folly, according to the figures given, to attempt to grow twenty successive crops of apples without returning anything to the soil.—Green's Fruit Grower.

### SHEEP BETTER THAN CATTLE?

It requires about the same amount of feed to produce a pound of flesh on a steer as on a sheep. The investigators show that to be true as a rule. But sheep will thrive on weeds and grass that cattle will not touch, and when the fact is remembered that sheep produce a clip of wool every year in addition to mutton the balance is in favor of sheep.

It is often said that it does not pay to raise sheep on high-priced land. If that is true then it does not pay to raise cattle or hogs on the same land. It costs no more, pound for pound, for one than the other.

Fat lambs always find ready sale at good prices, and choice lambs are generally scarce at high prices. If lambs are kept till they grow a fleece, the price of the wool is generally the profit of the sheep over the fat cow or the fat steer. Of course sheep will not fatten on weeds or brush, nor thrive in cold, wet lots upon neglect. But they will show up in the sales pens favorably with steers or cows if they are given the same feed and the same care, or even less.

Sheep can be fattened in less time than cattle. It is generally found that the steer is not finished in one hundred days, but must be topped off with about two weeks' extra feeding. The sheep can be ready and prime for the market in one hundred days.

Sheep return more fertility to the soil than any other animal. The cattlemen on the big western farms are just beginning to find that out, and many of them, particularly in Texas, have sold their cattle and gone into the sheep business. These same men were shooting up the sheepmen on the ranges only a few years ago at that.—Colman's Rural World.

### CORN SMUT

Smut in corn is not reproduced from year to year by spores which adhere to the corn kernels, as is the case with wheat and other small grains. The corn plant is infected with smut above the ground by means of spores or sporidia, which are brought in contact with the young growing parts of the plant by the aid of the wind, rain and dew. These sporidia are developed upon decaying organic matter in the soil of the field, growing somewhat after the manner of the yeast fungus. The infection with smut may take place quite early in the season; the fungus develops quickly, soon forming a mass of spores which appear as the smut balls on the cornstalks and leaves. These quickly dry and the spores, blowing about, produce new infections, causing a second growth and fruitage of the fungus. It appears that bruises on the stalks, such as occur by detasseling, favor the infection of the smut.

You will thus see that it is useless to treat the seed. There is practically no remedy for this disease other than to pick the smut balls and burn them, and this will not prevent the occurrence of smut in any field, since the spores may be carried by the wind from surrounding fields. However, it may be possible to reduce the attacks of smut to some extent by picking and burning the smut balls, since if little smut is present in the soil where the corn is planted the opportunity for infection is lessened. It is stated, also, that manure favors the development of smut, since it offers an abundance of favorable material upon which the smut may grow and develop the sporidia which cause the first infection of the corn plants.—The Kansas Farmer.

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## Gardening

BY T. GREINER

### ABOUT POTATOES

**T**HE potato crop this year is in a bad way. I have seen but few promising fields around here or in other parts of the state where potato growing is a big feature of farm operations. The fields look blighted. In fact, however (as Professor Stuart of the Geneva station assured me), there is no early blight, and of course as yet no late blight anywhere in the state except in one locality on Long Island.

The premature dying down of the foliage, known as "tip burn," resembles the early blight in general appearance. Professors and laymen alike usually put the blame on hot, dry weather. The roots do not find the necessary moisture, and the tops wilt and burn up before their full normal development.

The consequences are serious. We cannot expect the normal growth of tuber or of fruit in any plant or tree, or the highest quality in these products, without the help and support of thrifty and healthy foliage. The potato vines show the injury from "tip burn" about the time that the tubers are only half or two thirds grown. The progress of the trouble may be slow, usually is slow in cool and wet weather, but it is hastened by hot and dry weather and other causes, and at times a whole field goes down in a very short time. Late potatoes planted by the side of earlier ones usually or always remain green and growing for a time after the earlier ones have been nearly killed down by the "tip burn." If wet weather sets in, the progress of the "tip burn" will be greatly retarded, and the field, even where there are already signs of the trouble, may remain green and in good growing condition for a long time. But where the vines die down prematurely, the one result is sure—namely, a material reduction of the yield. The tubers remain undersized and the yield may be cut down to one half or two thirds of the normal crop.

### THE FLEA BEETLE

In my mind there is not a particle of doubt that the prime cause of "tip burn" is the flea beetle. In most of the potato fields this year, as also on the Geneva Experiment Station grounds, I found both the large and the small flea beetle. The latter is only a "speck," so small that it easily escapes observation except for the numerous punctures, like pin pricks, it makes in the leaves. The large species, at a rough estimate, is about one eighth of an inch long, and its glossy black color makes it an object rather prominent on the green or yellowish foliage. Its "punctures" are larger and usually of irregular outline. The small species is by far the most numerous, however, and both together unquestionably do more damage than is dreamed of by the average potato grower.

I have vainly looked through many potato fields in the state, even patches the foliage of which appeared to be from a short distance green and in perfect health, in order to find a plant with perfectly sound leaves. Every leaf examined was riddled with the telltale punctures or perforations, denoting the probability of the premature destruction of the plant by "tip burn" and of a material reduction of the yield. The potato beetle has given us but little trouble this year; and no matter in what numbers it may appear, we can easily get rid of it. The flea beetle is by far the more troublesome and most destructive pest of the two. How can we control it and save our potato crops?

### STATION EXPERIMENTS

Professor Stuart's experiments at the Geneva station are highly interesting and instructive. He fully realizes the full injury done by the flea-beetle punctures, which open the way to increased evaporation of the leaf juices and debilitate the whole plant to such an extent that in its weakened condition it falls an easy prey to "tip burn," and perhaps to the true early or late blight.

Spraying with Bordeaux mixture is believed to be a preventive of flea-beetle attacks. It may not kill the beetles, but the latter do not seem to stay long on leaves well covered with the mixture.

The potato patch at the station was divided into plats of four or five rows each, one row in each plat being left without treatment, one being sprayed with Paris green only, one with Bordeaux mixture and Paris green five times, one with the same combination three times, etc. The rows that had been sprayed five times appeared to be well covered, as every leaf seemed to have a good coat of the bluish-white stains. On these rows hardly a puncture made by the fleas could be found. There

were a goodly number, however, on the rows that had been sprayed three times, while the leaves of the other rows were riddled with them and beginning to die down with the "tip burn." The ordinary poisons without Bordeaux mixture evidently had not protected the leaves against this enemy.

There seems to be no reason to doubt that thorough spraying with Bordeaux mixture will drive the flea beetles away. From my own experience, however, I have also every reason to believe that the addition of arsenate of lead or disparene in strong doses, say six to ten pounds of the paste to one hundred gallons of mixture, greatly increases the efficacy of the spray. I have seldom had much trouble from flea-beetle injury when keeping my plants well sprayed with the poisonous mixture.

### BLOOM AND FRUIT

This is said to be a year of fruit failure. For the first time in many years our standard fruit, the fruit for money, the Bartlett pear, gives but a very light yield. The big orchards, where this variety stands in solid blocks, are about bare of fruit. Niagara County growers imagined they had a sure thing, and almost a monopoly so far as regular large annual yields of this fruit are concerned.

Some years ago Professor Waite of the Department of Agriculture told us that the Bartlett is one of the pear varieties which is self-sterile—in other words, which requires pollen from some other variety to make the fruit "set." Niagara County growers did not take much stock in this official pronouncement. They had planted largely in solid blocks, and the local conditions were so favorable for the production of the Bartlett that full crops were obtained year after year, even on solitary trees and in the big solid Bartlett blocks. This year the conditions were to all appearances less favorable for the success of the Bartlett. Single trees, away from other pear trees, or trees planted solidly to Bartletts, without other varieties near, were either entirely bare of fruit or bore only scattering specimens, amounting to only a very small fraction of the usual and normal crop.

I find, however, that wherever a Bartlett stands near an Angouleme, or a Clapp's Favorite, or an Anjou, or certain other varieties, or in a block of mixed sorts, the Bartlett even this year has borne a good crop. The effect of the intermixture was striking. We had in this neighborhood blocks of Bartletts standing alongside rows or blocks of Angouleme or Anjou. In every case of this kind that came under my observation, one or more rows of the Bartlett next to the other varieties, especially if under the prevailing wind (on the west side), were just as well loaded with fruit as in other years. Perhaps it will be wise, even in this county, to mix other pear varieties with the Bartlett, in order to secure the potent pollen that may be needed.

### POTATO BLOOM

A reader in Indiana, Pennsylvania, has been told by his neighbors that the blossoming of potato vines is a sign of the variety running out, and that when potatoes bloom freely it is time to change the seed. He does not quite believe it. Neither do I. I always enjoy seeing my potato fields white with bloom. It seems to me to be a sign of health and thrift and to hold out the promise of a good yield, barring accidents.

I well remember the time, thirty or more years ago, when our potatoes never failed not only to give free bloom, but also to set "potato balls" or seed balls in great abundance. At that time our vines made a wonderfully thrifty, often really "rank," growth, and the yields often ranged upward of three hundred bushels to the acre. But we had no potato beetles, no flea beetles, no "tip burn" or early blight.

In my opinion, the failure to bloom and to produce true seed (seed balls) denotes weakened vitality, a generally debilitated or "run-out" condition of all potato kind, due possibly to the accumulated effect of insect injury and disease attacks, or to the inordinately long and persistent propagation by division (tuber), rather than by true seed. Yet I am very slow to change seed (tubers) so long as I grow my own "pedigree" seed potatoes.

### THE NITRATE SUPPLY

I find nitrate of soda very useful in gardening, but by no means indispensable, and have never yet been worried over the rumors of an early exhaustion of the Chilean nitrate beds. I as well as every other farmer can easily make my own supply, and put it where it will do the most good, by growing clovers and other legumes for soil improvement.

It is now stated, however, that new deposits have been discovered in Chili as rich as the original ones. So it seems that we shall still be able, for some time to come, to use nitrate of soda in our gardens if we so desire.

## Fruit Growing

BY SAMUEL B. GREEN

### STRAWBERRIES NOT FRUITING

R. H. D., Essex Junction, Vermont—There are a number of causes why strawberries do not fruit. Some varieties are naturally almost non-productive. We find this is the case with some wild as well as with some cultivated kinds. Some produce pistillate flowers which do not have sufficient pollen to fertilize them. Of course occasionally unfruitfulness may occur by reason of the flowers being frosted or injured in some other way, as by drying winds.

In your particular case I do not know what the trouble is, as I haven't sufficient data to work it out, and I would suggest that the thing for you to do would be to get a small stock of some good varieties of strawberries, such as are successfully grown in the vicinity in which you live, and I would suggest also that you write to the Vermont Agricultural Experiment Station, Burlington, Vermont, and ask them for a list of the best varieties for you to plant.

### GALL ON PLUM LEAVES

S. G., Houlton, Wisconsin—The plum leaves which you sent have been injured by a small gall fly, which stung the leaves and caused the peculiar horn-like growths, in which you will find the young or the eggs. This fly seldom attacks a large area, but will often confine its work to a single tree for a number of years. The only satisfactory remedy is to remove the infested leaves from the tree and destroy them.

### IDENTIFYING STRAWBERRIES BY THE PLANTS

A. C., Delano, Iowa—It would be quite out of the question to identify all the varieties of strawberry plants by the appearance of the plant only, and even if we had the fruit with the foliage it might then be out of the question to name the variety. There are, however, some plants that have such strong individuality that one could be reasonably sure of them just by the appearance of the foliage.

### PRUNING EVERGREENS—HARDINESS OF WHITE PINE

J. H. E., Wheaton, Minnesota—Most of our evergreens take on a characteristic form of their own that is much prettier than any form that can be given them by pruning. However, it is practicable to prune all our evergreens, and this is generally best done in the spring before growth starts.

Young white pine can be easily transplanted, and it is customary to do so on a large scale. The white and blue spruce are both hardier than the white pine, but for some places the white pine is preferable, on account of its peculiarly beautiful appearance. In northwestern Minnesota I would much prefer white spruce, blue spruce and arbor-vitæ to white pine. In fact, white pine is very liable to fail in that prairie section unless protected from the wind.

### RESETTING BLACKBERRIES

K. B., Scioto, Ohio—It is quite out of the question to reset a patch of blackberries so that they will bear next year. The fruit buds on blackberries are generally borne well toward the end of the canes, and these are very sure to die if the canes are moved, and it is considered best to cut off the tips in transplanting.

If your present blackberry patch is healthy and of good kinds there is no reason why you should not use them for starting a new bed. In doing this select strong, vigorous canes with a piece of root six inches to a foot long, cut off the canes at about eighteen inches from the ground, and set two or three of these in each hill in the new plantation. They should be planted about six inches deep.

It would be a good plan to move them this autumn. The work may be done any time after the first of October until after freezing weather sets in. In setting out blackberry plants I think they should be put at least five feet apart in rows seven feet apart. In the case of a garden it is a good plan to grow a row next to a fence or other line, to which they may be tied up.

### PLUM TREES FROM SEED

R. W. B., Richmond, Virginia—The plum tree that you are trying to grow from seed will not come true to name. When grown from seed almost all of our cultivated fruits vary widely and generally produce plants of a very inferior kind. The best way to propagate your plum tree would be by budding in August or Sep-

tember on seedling plum roots or on some other plum tree, or else by grafting. If you cannot get seedling plums in your vicinity, you can buy them from some of the larger nurserymen, who sell them at a very low figure. Large quantities of these are used in nurseries for plant propagation.

I do not know why your plum seeds fail to grow. I seldom have any trouble, although occasionally there will be a year when nearly all kinds will fail. If the seeds are quite dry in winter they will seldom grow the next year, and sometimes not at all, and this may possibly be the reason why yours have failed. The best way of handling plum seed is to mix it (soon after it is taken out of the fruit) with sand, put in a box, and bury in the ground, where it should be allowed to remain until the following spring. It is best to have the seed freeze in winter. Treated in this way and planted early in the spring the seed seldom fails to grow readily.

### PRUNING DEWBERRIES

C. W., Payette, Idaho—Dewberries need but little pruning. All that is necessary is to shorten the runners that are excessively long, so as to keep the plant reasonably compact, and perhaps take out a few runners where they seem too thick for a vigorous growth. Pruning should be done in the spring when the vines are tied up. It is best to have some trellis or support for dewberries. This may be given in several ways. Quite a satisfactory way is to arrange a trellis eight or ten inches off the ground and several feet wide, over which the vines may run. They may also be trained on a vertical trellis.

### A TREE THAT KEEPS SENTINEL

It was good, on coming from a long drive or walk on a cold winter afternoon, to catch the first glimpse of home. Not every home was favored with so excellent a landmark, or one whose beacon sign of cheer and comfort could be seen so far away. It was a group of Lombardy poplars.

A roomy, old-fashioned house and a row of poplars seem to belong to each other. Modern mansions and Lombardies are not in keeping, for the poplar is a very plain and unpretending tree; but it is the final touch in the picture of an old homestead, and gives it realism.

Four of these lofty sentinels stood by the house of boyhood memory—two on either side of the front door and two at either end of the house. They were noble trees of their kind, and in our pride we named the place "Poplar Farm." Landmarks for all the village, they were for us familiar friends. To be sure, elms or oaks or even pines would have sheltered us quite as well or better, and would have won our esteem quite as effectively; but just because they were poplars and not some other tree they are vividly remembered as a distinctive feature of the old home life. There they were, and we took them to our hearts.

How the wind whistled through them, turned their gray-lined leaves, and shook their tops, finding little hold, however, in their branches. They were a series of wind thermometers, or, better, an eolian quartet, and many were the tunes they played; a sharp, crackling wind blast that went quickly and nervously through the slender branches; an ominous under tone in bass that turned the leaves and presaged storm; a soft and quiet sighing, a kind of musical weeping, that to unaccustomed ears seemed drear and weird. How in winter the bare, close-set limbs and twigs rattled, shook down bits of ice, and made the open fire in the sitting room doubly cheerful. To waken at night, in winter or summer, and hear the wind playing through the poplars by one's window was not ghostlike or unpleasant to us who were on familiar terms with them; rather was it comforting. And the music of it all comes back to one now as a low, sweet, half-sad and half-playful symphony that is wonderfully bound up with the meaning and daily experience of life.

The Lombardy poplar is originally an importation, but it grows freely in America and to a considerable size. Its wood, unless very well seasoned, is perishable. Yet the tree, though often carrying a quantity of dead limb, lives to long age. Its essential peculiarity is its upward growth, its branches clinging close to the parent trunk and reaching up, but never widening out. A clever Nature writer has called it "the exclamation point of growth." It is planted usually in rows, and its regularity of proportion, growing usually to uniform height and slenderness, makes it particularly adapted to effective use as a hedge. Many fine rows of poplar hedge are to be seen on farms and village streets throughout the Northern states, the roadsides in parts of central Minnesota, for instance, being lined with them. It is a question, however, whether the tree shows to its best in rows, as it is very effective in groups, and sometimes even in singles.

AUBREY FULLERTON.



## Poultry Raising

BY P. H. JACOBS

### EXTRA LARGE EGGS

**O**CCASIONALLY we receive a report from some reader who is the owner of a hen that lays eggs of a large size, and frequently he reports that a smaller egg has been found to be enclosed in a larger one. This indicates that the hen is out of condition, her generative organs failing to perform their functions properly, perhaps because of the hen being excessively fat. The same cause applies to soft-shelled eggs, and not to a lack of lime, as many suppose. In fact, that which is considered a desirable characteristic in a laying hen is really a condition which destroys the usefulness of the fowl. If such hens become broody (which is one of Nature's remedies for an overfat condition), let them go on the nests and bring off broods, feeding each hen, once a day, an ounce of lean meat, and allowing a gill of wheat twice a week until the incubating period closes.

### JUDICIOUS FEEDING

Much of the disappointment with beginners in the keeping of poultry is due to mistakes made in feeding, and it may, with some, require a year's experience in order to learn what to avoid in the matter of management. It is difficult to impress upon the inexperienced the fact that much depends upon the individual characteristics of each member of the flock, and that the point is to learn which of the hens are the most profitable. Any breed can be improved if close observation is made of the individuals.

Fowls are peculiar in their habits of eating, and when unaccustomed to certain kinds of food have been known to refuse them. Even oats or wheat will be refused if they have never been treated with food of that kind, and one lot of fowls may be voracious with certain kinds of food that others in another yard may refuse. They can all be educated, however, to eat food to which they have not been accustomed, which is done by placing only the one kind within their reach.

Some breeds are disposed to convert food into meat rather than eggs, while

Tonics are unnecessary when the fowls are thrifty. The best tonic is the constant change of diet, which promotes regularity in the system and prevents droopiness. Variety will cure many of the ills that afflict fowls, provided the food be sound and wholesome.

Regularity in feeding produces certain habits in the flock. If the birds are fed at regular periods they will soon learn when to come up for their meals. If the fowls can forage it may not be necessary to feed more than once a day, at night, as the birds can keep in good condition themselves by foraging. The one meal at night will always prompt the birds to come to the barnyard before going to roost, which gives the farmer an opportunity of observing if there have been any losses. The birds will learn to know who feeds them, and they will at once distinguish strangers from members of the family. Habit is acquired by all creatures, man not being excepted, and by being regular in all matters connected with them the barn-yard fowls can be taught to save their owners many difficulties and annoyances.

### ADMINISTERING MEDICINES

It does not usually prove profitable to administer medicine to fowls by hand or by any forcing process, as too much time and labor are required, and the duty is not only disagreeable, but at times dangerous, as disease may be communicated to the attendant. It is also difficult to diagnose diseases, and wrong medicines may be employed.

When disease appears in a flock the owner may be advised to give kerosene, copperas, sulphur or some other objectionable substance to the fowls. If such practise prevailed with human beings it would not be long before sickness would result, yet some fowls are dosed daily, and injury is caused, which is then accredited to anything but the true reason. Sulphur will cause rheumatism in adults and leg weakness in chicks, and will, if it once affects the system, show its influence every winter, especially in damp weather. Copperas is another mineral



FLOCK OF LIGHT BRAHMAS

other breeds are not so easily made fat. The non-sitting breeds, owing to their active disposition, do not fatten as readily as the larger breeds. It is best, therefore, to keep this in view while feeding, for it is easy to feed Brahmans too much, and though the Leghorns are not so large, they nevertheless are compelled to eat large quantities in order to produce the number of eggs for which they are so famous. This does not imply that Brahmans and other large breeds must become too fat. They are easily kept within bounds by judicious feeding. Grains in excess should not be given, while bulk may be allowed in the shape of vegetables and green food.

It is necessary to study the habits of each breed in order to know just what to do. There are hundreds of complaints that fowls do not lay even when they are well fed and comfortably housed, but this is due in not allowing them the proper kind of food, or from feeding too much.

poison, dosed out in the drinking water of fowls, and it is harmful, being a poison when taken in quantity. Kerosene is an infliction, and is really not recognized as a medicine of value by physicians. It is better to give no medicine, relying upon diet, by withholding all food for forty-eight hours, in case of bowel disease, then feeding only once a day, adding a teaspoonful of linseed meal for each hen to a half gill of cornmeal moistened with milk, feeding to the fowls, allowing them to eat from a trough, which is an easier mode than administering medicine.

It is very difficult to handle and treat a large number of sick fowls. If it is not desired to destroy them, have a comfortable place for them, removing them from those that are well. The water vessel should be cleaned every day, and a fresh supply of water given. If the fowls do not quickly recover it will pay to destroy them.

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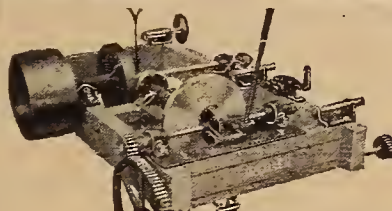
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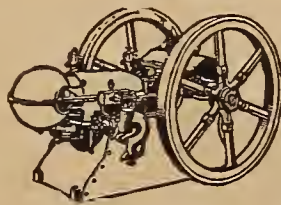
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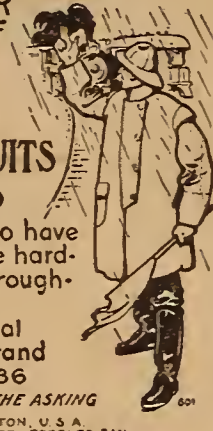
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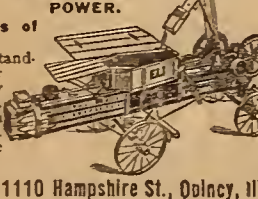
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## Live Stock and Dairy

### SHEEP NOTES

A sheep with a dirty fleece cannot be entirely healthy.

General health and thrift and diseased feet are incompatible in sheep.

As a rule the sheep that makes the best-sized carcass matures slowly when young.

One advantage with sheep is that they need the greatest care when there is time to give it.

Sheep are naturally healthy, but quickly succumb to disease under unfavorable conditions.

A healthy growth condition of the system is shown by a bright, oily condition of the fleece.

A number of old or unthrifty ewes will often make a material difference in the possible profits.

It is the ill-conditioned sheep in the flock that causes the largest amount of trouble in management.

Sheep do not require as much heat-producing feed as other animals, on account of their heavy coats.

With a breeding flock a certain number of young sheep must be kept to take the place of the old ones.

A. B. RUSHING.

### MARKET CROPS ADAPTED TO THE DAIRY FARM

The cash returns from our dairy may seem comparatively small when we consider the market prices of the grain, hay and fodder that we feed the cows; but we must look further ahead, and consider the large amount of fertility that the judicious feeding of mill feed and concentrated foods will add to our lands when we save all of the manure that is made in a condition to do the most good on the fields where it is spread.

By the feeding of considerable grain and mill feed we add more fertility to our lands than we remove from the sale of our dairy products, and it is my purpose to explain how it is best to make use of this increased fertility so that we may derive the most benefit from it by the use of one or two market crops in our regular rotation of crops that are grown for the dairy cattle.

I have made a careful study of the farm management of a large number of our most successful dairy farmers, and I find that in almost every instance these men make a specialty of some cash or market crop, that is grown in their regular rotations, which they handle with the same amount of horses and labor that is required to care for the dairy, the actual cost of producing the market crop thus being reduced to a minimum.

With many dairymen, especially those who are shipping a certain amount to the city, and feeding their cows to their full limit, it is possible to grow two market crops and still keep increasing the productive capacity of their farms by the use of the following rotation of crops:

The first year the sodground is manured and plowed and planted to potatoes.

The next year this same field is plowed and planted to corn for the silo.

The next year it is plowed and sowed to wheat and seeded with a mixture of two thirds clover and one third timothy, which is allowed to remain from one to three years, according to the size of the farm and the number of cows that are being kept. On our farms we make a practise of keeping our fields seeded longer than is the common practise by the use of the manure spreader in top dressing our meadows.

This may be settled according to the farm and the line of farming that is being followed and the amount of land that is being used. Our reason for allowing our meadows to remain longer than the majority is because we keep a few horses from the city in the winter, and need more hay than we would grow in our regular four-year rotation of crops, to provide ensilage and clover hay for the dairy cows.

We also find that keeping a few horses, and mixing the manure in the gutters and hauling it out with the manure from the cow stable makes the most evenly balanced plant food with which we are acquainted, for the reason that all of the liquids and solids are saved and hauled direct to the fields and spread at all times of the year except during the summer months, when it is placed in a compost heap and spread on the meadows early in the fall.

Potatoes are one of our most profitable cash crops, and taken one year with an-

other the potato crop will sell for enough to buy two cars of grain for feeding the dairy cattle, thus enabling the dairyman to meet the expenses of buying his feed with the money from the dairy. I am speaking of the dairyman who produces eighty to one hundred gallons of milk each day in the year, which sells for twelve to thirteen cents a gallon in the city markets.

Beans are another excellent cash crop, and are perhaps a better crop to grow where the amount of manure made is less than that which is made when potatoes are grown. It is a mistake for the grower to imagine that the poorest soil on the farm is best to grow beans. They do best on a well-fitted soil that is suited for growing wheat. When the beans are harvested the field is in the best possible condition for a crop of wheat without being plowed, and also in the best possible condition for seeding to clover and timothy. Beans are a cash crop, always bring a fair price and find a ready sale in all markets of the country, are easy on the soil and are not hard to handle with the right machinery.

Cabbage is another crop that will be found profitable in many of the dairying sections, but the price is more uncertain than the prices of potatoes and beans.

Nearly every part of the country will produce some crop that will be profitable, and the cry from many dairymen about having to put all of their profits into grain and mill feed will be ended if they will plan to make the best use of all the increased fertility that is brought on to their farms by the purchasing of concentrated feeds for their cows.

Plan to make a close study on the manurial value of the foods that you buy, and save all of the manure and use it to the most profitable advantage, and there will be less cry about being compelled to buy high-priced feeds.

### USE OF DIVIDERS IN A RATION

The use of dividers in a ration for farm animals is not commonly understood by a large majority of feeders and farmers, but is very essential when feeding for the best results.

There are many feeds that are used for dividers in the feeding of concentrated rations that contain but little real food value when fed alone, but which are valuable when fed in connection with other concentrated feeds, for the reason that they separate the particles and assist in the work of digestion.

Corn-and-cob meal has been found to give better results by many feeders than the cornmeal when fed alone, the ground cob serving as a divider for the particles of cornmeal, and thus being used to aid in digestion. If cut clover hay or alfalfa is used in the ration it will take the place of the cob as a divider, and also contain more feeding value than the ground cobs.

While feeding dairy cattle we have found that they made more economical use of their feed when the ensilage was mixed with the grain or mill feed and fed in this manner, so that the ensilage was used as a divider to assist in separating the particles of feed and assist in the work of digestion. We prefer ensilage, for the reason that the juices also act upon the grain feed and assist in the work of digestion.

There are some kinds of concentrated foods that are made more palatable by the use of a divider; such are middlings, oil meal and other foods that are inclined to form a sticky doughy mass that renders them unpalatable to farm animals.

Cut clover, alfalfa or other hay can be used with success as a divider of the grain ration. The grain is mixed with it and sprinkled and makes a good feed for work horses, or other horses that eat too fast to get the most benefit from their grain foods.

The great benefits that swine obtain from pasture and forage crops comes from the fact that they serve as dividers for the grain and assist in the work of digestion, thus enabling them to make better use of the grain consumed than they otherwise would.

W. MILTON KELLY.

### KEEP MORE STOCK

Most farms are understocked; the farmer should make it a race between production and consumption on his farm. The fear of buying feed leads many farmers into carrying insufficient animals to consume the farm roughage and pasture. Any time that the feed runs short it is an easy matter to sell a few head of stock or to buy grain; this is much more commendable than selling feed or allowing it to go to waste.

GEO. P. WILLIAMS.

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## Live Stock and Dairy

### DEVELOPING A NATIONAL TYPE OF HORSE

One of the most interesting and far-reaching experiments being conducted by the United States government is the development of a national horse—an equine type that will be recognized as distinctively American.

Horse breeders of the United States are spending millions of dollars annually on imported breeds, yet this expense must increase, rather than diminish, under present conditions, because no foreign breed of horse has been found that will not deteriorate when taken from its home environment. It has become recognized that the only solution of the problem is the development of a national type of horse—a type that will thrive and improve under American environment, just as the English hackney, the Percheron and the Arabian horse all improve in their natural surroundings.

#### WANTED: A STANDARD CARRIAGE HORSE

The trotting horse is the only equine type that can be called national to-day. But in this instance utility and beauty have been sacrificed to speed, so that the trotting type is a menace rather than a benefit. Why should the only American horse be droop-hipped, cat-hammed, flat-ribbed, ewe-necked, while fortunes are expended annually for importations where service and beauty are demanded? The trotting-horse type is useless for anything but race-track purposes. What the country needs is a carriage horse that will conform to certain standards of style and action. The demand for a carriage horse of fine type is general. The farmer, the merchant, the professional man and the man of leisure constitute the market. But while the demand is so general, the supply is practically exhausted. Constant importation does not solve the problem, because of the rapid deterioration of the

and lung power that gives the Colorado horse wind and courage to make a hundred miles a day and repeat the performance next day without injury. The climatic conditions and pure air and water are apparently conducive to speedy growth, while the native grasses, suncured on the plains, have always been considered the finest feed for any kind of live stock.

#### SELECTING STOCK FOR BREEDING

In selecting the foundation stock for this first government stud it was decided to make use of those families of American-bred trotters specially noted for quality, size, style, action and substance, rather than speed. The progeny of such famous sires as Red Wilkes, Morgan Messenger, Onward, Harrison Chief and Almont, bred to mares with a large proportion of old Morgan blood, should become the basis of the new strain.

After several months thirty-five mares were collected from seven states, and were passed upon by the purchasing committee. There were representative animals from the farms of the most famous breeders in Wyoming, Kentucky, Wisconsin, Iowa, Illinois, Michigan and other states, and from this most remarkable assembly fourteen mares were finally selected.

#### THE RENOWNED GOVERNMENT STALLION

Even greater care was evidenced when it came to selecting the stallion to be placed at the head of the government stud. After the commission had examined worthy animals from all parts of the country, unanimous choice finally settled on Carmon, bred by Norman J. Coleman, of St. Louis, and owned by Thomas W. Lawson, of Boston. It is not inappropriate that the first government stallion should have been bred by the first Secretary of Agriculture.

Carmon was purchased early in life by Thomas W. Lawson for his famous coach four. He stands sixteen hands high, weighs 1,340 pounds, and is a glossy



CARMON, REPRESENTING TYPE OF AMERICAN CARRIAGE HORSE

descendants of imported horses. The only remedy is the development of a national carriage horse, and it is with this purpose in view that the government has established a horse-breeding station at Fort Collins, Colorado, where the first steps in this experiment in evolution have been taken.

#### THE ROCKY MOUNTAIN REGION AS A BREEDING GROUND

In locating the national horse-breeding station in Colorado, the experts in charge of this experimental work took cognizance of the advantages offered in the altitude and climate of the Rocky Mountain region. Fort Collins is located about fifty miles north of Denver, a few miles east of the Rocky Mountain foothills. On these high plains the tiny three-toed horse, whose remains were found by the Whitney scientific expedition, roamed in prehistoric ages. On these wonderful uplands, approximately a mile above the sea level, everything tends to the production of a perfect horse. Sound bones and hoofs, great lung power and good size are most desired in a horse. The bone of the native Colorado horse is as dense as a piece of ivory. The dry atmosphere develops a hoof so solid that a native horse can travel miles over the rockiest country and suffer no inconvenience from lack of shoes. The high altitude develops heart

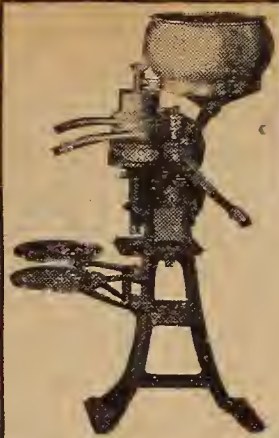
bronze bay in color, with black points. He is ten years old, and his grace and beauty and good qualities of disposition are the admiration of all visitors, from every part of the world, who inspect the foundation stock at the government stud.

#### "POINTS" OF THE GOVERNMENT STUD

In developing the ideal carriage horse there is no thought of demanding absolute uniformity in the foundation stock. There is a variety of road vehicles and a consequent variety of individual taste, and so there must be variation in color, size and temperament when the horse is concerned. But there should be uniformity in conformation, style, quality and finish, thus establishing a marked type, at the same time keeping in mind the varying demands of the gig, runabout, brougham, landau and country carriage.

#### HOW THE COLTS WILL BE DISTRIBUTED

There are about twenty colts at the experiment station, and while all of them do not exhibit the qualities that will lead to their retention in the government stud, there are enough admirable types to enable the experts in charge of the work to begin the process of selection. Through this constant selection of the best specimens will come the evolution of a national type of horse maintaining all the best of the old Morgan characteristics, with other good qualities that even the Morgan horse



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did not possess. Under the Colorado contract, a government stud book is to be established, and government records kept. In a few years, when the experiment has made progress that will allow of distribution, the product of the government stud will be distributed among the various states—probably being stationed at the agricultural colleges—where scientific breeding will be carried on. In this way the American carriage horse will be distributed throughout the country, and in one or two generations it will have a marked effect on American live stock. Under such careful and scientific direction the type will grow better and more distinctive as the experiment advances. Eventually, also, the business tide will turn, and instead of being a horse-importing nation, America will become a nation of horse exporters.—Arthur Chapman in Review of Reviews.

### SCRUB HOGS AGAINST COMMON SENSE

Why do some good farmers keep scrub hogs when pure-bred animals can be had for a little more outlay? Does common sense dictate such a course? In my state scrub pigs two and one-half months old will cost about two dollars and fifty cents each, while pure-bred pigs can be bought at the same age for five dollars each. Of course all stock hogs can't be bought as low as five dollars a head, but good pigs with a fair pedigree and entitled to registration can be had for the price named.

A buys a pair of scrub pigs and goes to raising hogs. The first year his sow has five pigs. At two and one-half months old he can sell them for twelve dollars and fifty cents. B about the same time gets a pair of registered pigs. During the year his sow farrows and has five pigs; at two and one-half months he sells them for twenty-five dollars, just double the amount A received for his scrub pigs.

A's pigs, with the exception of the first cost, were the same expense to him that B's were to him, yet B with five dollars more invested has made double the profit. And when we consider that two dollars and fifty cents each is all A can ever expect to receive for his pigs, B in all probability will sell his second litter any where from five dollars to fifteen dollars each.

The pure-bred hog is healthier, will grow faster in the same time, and as a rule will fatten at any age, while the scrub is hard to fatten under twelve months, and besides it takes a much longer time to get him fat.

Every farmer who works as much as twenty-five acres ought to keep at least three pure-bred sows. If not able to keep a boar, let him hire the services of a good male of the same breed as the sows. No good farmer can afford to keep scrubs; in the end they cost more every time.

W. H. ARMISTEAD.

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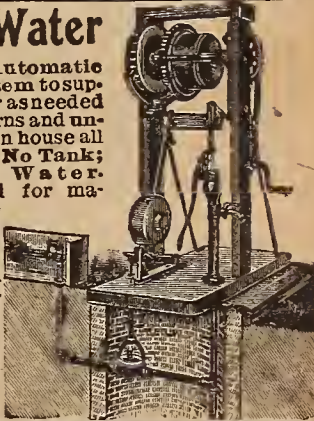
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Letters regarding advertising should be sent to the New York address.

The past year has been a prosperous one for most of our people. Do not be afraid to spend a little of your earnings for some form of entertainment during the winter months. It will leave you fresher and better for the spring work.

Edward Everett, in speaking of the influence of the ownership of the soil, says: "The man who stands upon his own soil, who feels that by the law of the land he is the rightful and exclusive owner of the land which he tills, feels more strongly than another the character of a man as the lord of an inanimate world. Of this great and wonderful sphere, which fashioned by the hand of God, and upheld by his power, is rolling through the heavens, a part is his from the center to the sky."

One of the best ways in which farmers can help and protect each other is to refuse to subscribe for any paper that prints fake, medical or misleading advertisements. Thousands of people are swindled by misleading advertisements, and thousands more are injured by so-called "patent medicines" every year. So great has been the harm done in these ways that FARM AND FIRESIDE has for some time refused all medical and other advertising that is questionable. Some papers still print such advertisements, thereby helping in many cases to injure their own subscribers. The best way to show your disapproval of such practices, is to refuse to subscribe for any such paper. FARM AND FIRESIDE is so careful of its advertisements and so watchful of its subscribers' interests that it guarantees the reliability and honesty of every advertiser.

**SECRETARY WILSON ON FOREST RESERVES**

Upon his return to Washington from a seven weeks' trip to the Northwest, during which he made a special investigation of the federal government's forest reservations, Secretary Wilson made public a few observations on this important subject. He says:

"It has been two years since the forest reservations came under the Department of Agriculture, and I have been anxious all that time to look them over myself, but the meat inspection and pure-food problems have kept me away until recently.

"The government has, roughly, about 150,000,000 acres of forest reserve. With regard to them I found two chief problems: First, to insure protection from fire, and, second, to reforest the land where continual fires have destroyed the young trees. There are millions of acres growing nothing except a little grass. The question of reforestation is pressing.

"The price of lumber indicates that we are up against a wood famine. Lumber is being shipped from the Northwest all over the world. A great deal of it is even coming here to the East. Common lumber costs thirty dollars a thousand when it gets to the Mississippi Valley.

"In the forest regions the homesteader, or the man who gets patent under the timber and stone act, often sells to private corporations, some of which have as many as 30,000,000 acres, and are still buying. Considerable pressure comes from persons who want to get title money to sell to such companies and put the money in their pockets.

"I failed to find much sentiment against the reserves, except from the small element that would like to get possession to sell. In the heavily timbered regions of the Northwest it is not very practicable to make a farm. It would cost about one hundred dollars an acre to get the land cleared fit for cultivation. The general sentiment is that the President's policy is wise, since it is evident that wood is going to be very scarce in this country before many years.

"There was very little feeling regarding the grazing in the reserves. It is desirable to have the grass eaten short so that it will not feed fires. The policy of the

government is to take care of the settler who has a limited amount of land and to let him put in a few head of cattle for nothing, charging him for the rest about twenty per cent of the value of the forage eaten by his cattle.

"What seems to be the best offer of the government is that of land in the reclaimed districts for the cost of the water used in irrigation."

**STANDARD OIL**

In the very opening of the suit brought by the United States government to dissolve the Standard Oil trust Special Counsel Kellogg struck pay dirt. Skilful examination of the witnesses not only brought to light some of the secret, inner workings of the company, but disclosed enormous profits hitherto concealed from the public. From Comptroller Fay he drew the admission that the Standard's profits from 1899 to 1906 aggregated \$490,315,934, an average of over \$70,000,000 a year, which is over seventy per cent on its capital stock of over \$98,000,000.

The testimony showed that in 1906 the profits of the subsidiary Standard Oil Company of Indiana—recently fined \$29,240,000 by Judge Landis—were over \$10,000,000, or one thousand per cent.

The few people who have been complaining about the severity of the Judge need not worry any more about the ability of the company to pay the fine.

Before Judge Landis, in Chicago, President John D. Rockefeller testified that the profits of the Standard were about forty per cent, which would be something over \$40,000,000 a year.

Alas, poor John, what will now become of his great reputation for business? Whatever views the public may have held regarding his conscientious scruples or his methods of swelling a fabulous fortune, the opinion was unanimous as to the greatness of his business ability. By reputation he was never satisfied unless he had extracted every possible dollar of profit out of every transaction and was always getting satisfaction. People marveled at the great business brain at the head of Standard Oil.

Now, how shocked he must have been to find out that his big company has been making \$30,000,000 a year more profit than he thought it was. As to the public, its business idol has fallen down. What does it now think of the man who raked in many millions of extra profit each year that he didn't know about? A more astounding case of carelessness cannot be found in the business world.

**POSTAL SAVINGS BANKS**

Almost every important country in the world except the United States has a postal savings system. There has been agitation of the subject here for a number of years, with a growing sentiment in favor of the establishment of postal savings banks. Congress has advanced to the point of collecting through the State Department information on the operations of the postal savings system.

In his forthcoming annual report Postmaster General Meyer, who studied the system abroad during his diplomatic career, will urge upon Congress the establishment of postal savings banks throughout the country. In a recent interview he said:

"I am heartily in favor of the establishment of postal savings banks, and will urge upon Congress at the next session the enactment of such laws as will enable the people to turn over to the government for safe keeping their savings. I know there is opposition in certain quarters to the proposition, but I do not expect it to encounter as much as my other suggestion for the improvement of our parcels post system. I am looking to the West for sterling support in both.

When the question is viewed calmly there is not much in it to excite opposition. I have not gone into details as yet, but have given consideration only to the general basic principles. My plan is to allow interest upon all deposits, say at the rate of two per cent per annum. Private savings banks offering three and four per cent interest on deposits cannot, with rea-

son, fear that the government's banks will cut materially into their business.

\* \* \*

"We constantly hear of the tightness of money. We are frequently told that our currency system is not sufficiently elastic. From my study, while abroad, and from my observations since becoming Postmaster General, I am satisfied that a great deal can be done in the direction of keeping money in circulation by establishing postal savings banks. I do not believe the government should enter into competition with savings banks, and I do not believe it will if we fix a rate of interest lower than that paid by the private establishments. I would suggest two per cent because the government has no trouble in borrowing all the money it needs at that rate of interest. I will recommend that the money deposited with the postal savings banks be loaned out to the national banks at not less than the rate of interest the government pays, and the rate might be made two and one half per cent, so that all expenses incident to the conduct of postal savings banks would be covered and the government would operate without a loss.

\* \* \*

"I have not decided, to my own satisfaction, just how these deposits of postal savings funds with national banks will be secured. It might be provided in the law that, like other government deposits, the national banks be required to give United States bonds as security. But that is one of the details that can easily be arranged.

"What we want now is to secure the passage of a law which will launch here a system that has been conducted with so much success abroad. Whether a special issue of stamps should be provided to be sold the public to be placed in books to be issued by postal savings banks is another question which can well be disposed of when the law is being framed. My idea is that it might be stipulated that amounts from twenty-five cents upward should be accepted by post-masters, and that no account should be permitted to exceed \$250. I think it well to place a maximum upon the total of the savings to be cared for by the government. After the depositor has accumulated \$250 or \$300 the savings habit will be upon him and he can then be prevailed upon to withdraw the amount for deposit in some private or national institution and begin again with his small savings."

**THE WAY OF THE LAND TRANSGRESSOR**

In the estimation of President Roosevelt the most vital internal problem of the United States is the forest question. To prevent our remaining resources from passing into the hand of monopolies, land grabbers and looters is now his fixed determination.

In the "Pacific Monthly" for August Mr. Lute Pease begins a series of papers on our land frauds. "The public lands," says he, "do not belong to the government. They belong to you and me and all the people of the nation. The government is our trustee." Through non-enforcement of its land laws the government gave the land thief his opportunity, and for many years he continued to improve it assiduously. Dead-letter laws were violated and claims "proved up" in utter defiance of the real spirit and purpose of the law; for the government is nobody, and consequently was not injured. This easy belief is the "land conscience." The government paid no attention to the locator, who promptly turned his holding over to a few for unrestricted exploitation.

\* \* \*

"But it should be denied," says he, "that general Western sentiment has favored or condoned land lawbreaking. For the past twenty-five years we have observed such action with a sort of dull wonder that practically nothing was done to check it. We have seen clerks, cowboys, school teachers, tramps, laborers, preachers, every sort and condition of men and women, go blithely forth to 'take

up a claim,' make affidavit that it is for their own use and benefit, not for speculative purposes or in the interests of another, and in due time, after a 'constructive' residence, 'prove up' and promptly deed the land over to the 'innocent purchaser.' We have seen men going about offering people four or five dollars for the 'use of their rights;' we have seen huge areas of public land fenced about by stockmen, or held by them through fraudulently acquired homesteads giving monopoly of the watercourses; we have known or heard of innumerable cases where legitimate settlers or entrymen have been intimidated and sometimes shot if they refuse to move, and we have wondered."

\* \* \*

Theodore Roosevelt, however, has put an end to that public sentiment that apparently sanctioned lawbreaking. This he has done by withdrawing from entry millions of acres of coal and timber lands and ordering searching investigations into the negotiations therefor with the Interior Department. Fierce and resentful at this invasion and attack upon their "prescriptive" rights, certain Western senators proceeded to vent their displeasure on Secretary Hitchcock and Forester Pinchot. Senator Carter, of Montana, was the ablest and best informed of those who opposed the policies of the administration. Eastern railroad, trust and other anti-Roosevelt forces augmented the opposition in Congress.

In endeavoring to create sentiment against the President and his forest policy, sectionalism is strongly appealed to. As an illustration, a convention recently held in Denver, in accordance with a resolution of the General Assembly of Colorado, will suffice. This meeting has been characterized "The Land-Grabbers' Last Stand." The whole affair was a "packed" meeting and was inspired by the President's opponents. The committee on program had not made provision for a single utterance in favor of the Roosevelt policy. The "talks" were entirely one-sided, and there was to be no debate. Our government was "bureaucratic," "oppressive," "despotic," etc., said its speakers, and to assist their good work a "tainted news" campaign has been precipitated in advance, particularly in Wyoming and Colorado. Senator Warren, of Wyoming, was forced to protest against the "packed" aspect and general unfairness of this convention's proceedings. Of the fifteen land states, 644 delegates were reported by the credentials committee. Of this number, Wyoming was given 145 and Colorado 386! All the others combined had only 133!

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Notwithstanding, the efforts of the land grabbers were frustrated. Resolutions were adopted "cordially" endorsing the "active and successful efforts of the administration in the enforcement of the land laws of the country," and "heartily" approving the "vigorous prosecution of all known violators of such laws." When the President became aware of the misrepresentation of his attitude by the program committee of the Denver convention, in advance of its meeting, he sent a letter by Secretary Garfield that completely unhorsed his opponents.

Therein he said: "Our whole purpose is to protect the public lands for the genuine homemaker. . . . The men whom we have prosecuted and who fear prosecution by us naturally endeavor to break down the policy under which, and under which alone, the home maker's rights can be secured, and the lands preserved for the use of himself and his children. . . . The beneficiaries and instigators of, or participants in, the frauds of course disapprove the acts of the administration. . . . The real beneficiaries of the destruction of the forest reserves would be the great lumber companies, which would speedily monopolize them. If it had not been for the creation of the present system of forest reserves, practically every acre of timber land in the West would be now controlled, or be on the point of being controlled, by one huge lumber trust."



October

BY ALONZO RICE

Soon the summer will surrender  
All the glories sweet and tender,  
And the sunset's golden splendor  
Fades and fall;  
Then will Flora's fragrant blessing  
All the hills and vales caressing  
Down the hazy lands go guessing  
From us all.

Over fallow land and stubble,  
Birds in single lines and double  
From the skies of storm and trouble  
Wing their flight;  
Crickets 'mid the deadened grasses  
Now are chanting mournful masses  
For the grace that fades and passes  
From our sight.

Sooner now the day reposes  
Over western hills; and roses  
Droop their heads in garden closes,  
Faint and frail.  
Chilly breezes from the river,  
Where the fading willows shiver,  
Bear the owl's boddy quiver  
Down the vale.

Twilight fills the land, and hushes  
Daily life; each window blushes  
With the sunset's crimson flushes,  
Growing dim;  
Dian's shallop, now canoeing  
Up the east where clouds are brewing  
For to-morrow's dark undoing,  
Shows her rim.

Cooler winds begin to bluster  
From the north, where snow clouds muster,  
While the children in a cluster  
Nightfall brings;  
I can hear storm bugles blowing,  
While before the days of snowing  
Are my fancies whitely showing,  
Under wings!

The Great Orange and Lemon Crop of California

BY CHARLES ALMA BYERS

CALIFORNIA'S crop of oranges and lemons for the season, the shipment of which to Eastern markets is now nearing the end, breaks all previous records. In boxes it is conservatively estimated at 11,286,000, and its value to the various persons and institutions concerned—ranchers, shippers and railroads—will be thirty million dollars. At least, these figures are given the public by California's two great fruit exchanges, the California Citrus Union and the California Fruit Growers' Exchange, and no organization or individual is in a better position to know than are these.

The shipment of the orange and lemon crop of this season up to the middle of August had amounted to 26,406 carloads, all of which went to markets east of the Rocky Mountains, and of this number 23,336 were of oranges and 3,070 of lemons. And on account of a scarcity of cars, the capacity of each of these 26,406 was crowded to the utmost, containing many more boxes than ever before, which would probably raise the number of carloads to about 28,000.

To Eastern people, since it is they who "pay the freight," it will be of interest to know that approximately one third the Eastern price of oranges and lemons goes to the various railroads for freight and icing charges, at the rate of \$380 a car. This means that for this season's crop a total of about \$10,000,000 is received by railroad companies in payment for transportation, and that there is a remainder of \$20,000,000 to be divided between growers and shippers and to be paid for packing.

The average good crop of oranges and lemons, growers say, means an income of about \$1,000 an acre. Sometimes, however, this figure is more than doubled.



One such instance is brought to attention this year by an orange farmer at Covina, Los Angeles County, California, who claims that from a fraction over an acre he has harvested \$2,900 net of "the golden fruit." The same ranchman also asserts that from a three-acre orchard he will receive about \$6,000. To bring such figures down to a still finer point, there are instances reported from the Rivera district wherein ranchmen have had returns of as much as fifteen dollars a tree throughout an orchard's acreage, Valencia being the variety grown in such cases. Although this season's record is still incomplete, growers assert that the average net yield to them will be about four dollars a box, or one hundred pounds, and up to date there have been cases reported of single carloads selling for more than \$2,000.

To show the increased growth of the citrus-fruit industry in southern California during the past twelve years, taking into consideration only the shipments to Eastern markets, and none of the consumption on the Pacific Coast, the following table has been compiled from authentic records:

YEAR	BOXES	YEAR	BOXES
1895-6	2,545,200	1901-2	7,035,080
1896-7	2,649,000	1902-3	7,915,760
1897-8	5,091,408	1903-4	10,500,084
1898-9	3,477,936	1904-5	11,280,676
1899-00	6,436,858	1905-6	9,824,918
1900-1	8,809,714	1906-7	11,286,000

In 1880 only about twenty carloads of oranges were shipped, but this year, 1907, more than 26,000 carloads have been shipped to points east of the Rocky Mountains.

Although there are many orange and lemon farms in southern California of large acreage, there are hundreds of fam-

ilies who live in affluence from farms of only a few acres. In cases of the latter kind special attention is given to producing a fine grade of the fruit and to taking care of the entire yield. Most of the orange and lemon crop is packed and shipped to Eastern markets under the directions of the California Fruit Growers' Exchange and the California Citrus Union, whose headquarters are in Los Angeles. These associations are formed mostly of the real growers, and are organized for the purpose of serving both the large and small growers, and for obtaining a uniformity in packing and prices.

Some Remarkable New England Cows

BY MAURICE MEREDITH

MASSACHUSETTS has some remarkably fine cows, and more attention is given to the raising of good cows in New England than ever before, since so many of the farms have become dairies and about their only produce is the milk sent to Boston and other large cities. Hundreds of the New England farmers have converted their stony acres into grass land for pasturage and hay, and some of them have herds of twenty or twenty-five cows, the milk from which goes to the city, or the cream from the milk is sold to some nearby creamery, and the farmer raises calves to sell with the milk that is left when the cream is gone.

Now and then one hears of a cow establishing a wonderful record for herself as a producer of milk. One of the cows to thus come into prominence is a Holstein cow owned by Mr. D. W. Field, of Montello, Massachusetts. This cow is named Dekol Creamelle, and she seems determined to live up to the first syllable of her second name. She is a Holstein, and may also be anxious to sustain the reputation

of that race of cows. Madame Dekol Creamelle has an actual record of seven hundred and eighty pounds, or three hundred and ninety quarts, of milk in seven days, which is an average of a little more than fifty-five quarts a day. And for thirty-three days of her very carefully kept record Madame Dekol Creamelle gave an average of thirty-three quarts a day. The cream from her milk was made into butter, and it averaged 28.13 pounds a week, or more than four pounds a day.

This is a record of which Madame Dekol Creamelle may well feel proud, but she is compelled to take a back seat as a butter maker, for Mr. Field has in his herd another cow, from the cream of which 29.26 pounds of butter have been made in seven days.

Mr. Field has nearly one hundred and fifty head of Holsteins in his herd, and he has one cow that he values at ten thousand dollars. This cow earned one hundred and thirty-four dollars in one month after the cost of her feed had been deducted. Mr. Field thinks that scientific feeding has a great deal to do with the success he is making in securing almost unheard-of quantities of milk from his cows. The cows in his herd are fed from thirty to forty pounds of chopped vegetables and beet pulp, six to ten pounds of grain and from thirty to forty pounds of hay a day. The cows are milked three times a day by hand. Mr. Field's Dekol Creamelle seems to hold the record when it comes to the amount of milk produced in a single year, for from the twenty-fifth of February, 1906, to the twenty-fifth of February, 1907, she produced 26,286 pounds of milk. If there is any other cow in the land with a greater record than this, let her stand forth and "produce the documents."

The price of the common run of cows and horses has greatly increased in New England in recent years. The way in which electricity has taken the place of horses as a motive power has not lessened the demand for horses in the least, and a fairly good farm horse will sell readily for from two hundred to two hundred and fifty dollars, while an ordinary cow will bring from sixty to seventy dollars. The writer is spending the summer on a New Hampshire dairy farm, from which a cow of ordinary breed was sold recently for one hundred dollars. She has a record of twenty-eight quarts of milk a day while running out to pasture.

Honor for American Agriculturist

THE excellence of the American agricultural teaching and education has recently been given notable recognition by the selection of A. E. Parr of the Iowa State Agricultural College as director of agricultural and animal industry for British India. A salary of ten thousand dollars a year for ten years goes with the appointment, and in addition it is understood that he will be eligible to retire at the end of that time and draw a pension for life of five thousand dollars a year.

The First Philippine Assembly

THE opening of the first Philippine Assembly will take place October 16th, and will be formally addressed by Secretary of War William H. Taft, who is expected to arrive in Manila on the 14th inst. After two weeks on the islands, instead of returning home across the Pacific, Mr. Taft will go to Vladivostok and then to Moscow via the Trans-Siberian Railway, reaching there about November 23rd. After a visit to St. Petersburg, Berlin and a few other European cities he is scheduled to reach the States about the middle of December.



A TYPICAL LEMON GROVE AT PICKING TIME AT COVINA, CALIFORNIA



ORANGES ON TREES, AND SNOW ON THE MOUNTAINS IN BACKGROUND



THE CLEANING, SORTING AND PACKING OF CALIFORNIA NAVEL ORANGES



# Arthur Grant's Constancy

By HILDA RICHMOND

"You won't forget me, will you?" said Arthur Grant. "It seems dreadful to think that it will be nine months before I will see you again, but you must write often."

"It is more likely you will forget me," said Violet Clarke tearfully. "You will meet a great many girls at college who will be very bright and—"

"I will never forget you if I meet all the girls in the world," said the young man firmly. "Don't cry, dear. When I have finished my school work and am established in some profession, then we will be together always."

"I hope so," said the weeping girl rather doubtfully.

"It will be so if we both live," answered her lover.

The next day Arthur Grant set out to college, after dreaming and planning for that event for years. Violet could scarcely say good-by for her tears. She, too, had dreamed of college for years, but it was impossible for her to leave her invalid mother, who needed her care. As the train pulled out it seemed the little village would suffocate her, shut in as it was with hills, and her heart was very heavy as she hurried back to her home duties.

"He will read and study and improve while I will be going backward," she sobbed to herself, as she hastily changed her dress. "Yes, mother, I am coming." Then she ran down to listen to the fretful voice of the poor woman who had suffered so long.

The year went rapidly for Arthur, and he rapidly won for himself a high place in the esteem of the faculty by his manly ways and good scholarship. Several of the wealthy patrons of the school on the lookout for bright pupils threw many paying tasks in his way, and at the end of the term he was surprised and gratified to be asked to tutor a crippled lad through the summer vacation, and be a sort of companion for him at the country home of the boy's father.

"I am sorry not to be able to come home," he wrote to Violet, "but you would say I was foolish to allow a chance like this to slip past me. The money will enable me to complete my next term without worrying, and the association with clever, refined people will do me a world of good." There were much more along the same line, and Violet did rejoice over his good fortune, but the reference to "clever, refined people" lingered in her mind for weeks.

During the first summer that Arthur was away Violet's mother died suddenly, and the girl had little time for letters. She wrote hastily to Arthur, saying that she would be very busy, so he should not be surprised if letters were rare until she was settled. She could not grieve for her mother, as she would have done if the poor lady had been in good health, for Mrs. Clarke had long wished to rejoin her husband and be at peace. She had suffered so intensely that the young girl knew from the look of relief on the thin face that death came as a welcome release.

"I will give Arthur a pleasant surprise," said Violet to herself, as she disposed of the things she could not store in the one room she had reserved for herself in the home. "I will be at college when the term opens, and take up the work just a year behind him. A bright, clever man needs a clever wife, so I will try for his sake to do well. If he can make money to keep up his expenses, so can I."

Mrs. Clarke had nothing besides a small income, that stopped with her death, and the home, so settling up the affairs was a slight task. Violet was almost happy as she planned her small wardrobe, carefully gathered together the money from the sale of the family horse and some other property which was to help her over the first year in school, and made the other preparations that would enable her to be at college the second Monday in September, when the term began.

"I do hope I shall be able to avoid Arthur to-morrow," thought Violet, as she prepared to start for the railroad station on Saturday. "I want to keep away from him until he sees me in the classroom on Monday."

The village girl of eighteen knew nothing about colleges and their ways, but in

her mind was a picture of the surprise Arthur would show when he discovered in the black-robed slender figure the maiden of his choice.

"Special delivery letter for you, Violet," said the village postmaster, panting after her on the train. "It just came a little while ago. Better read it before you get on the train."

None of the villagers knew where Violet was going, but all were aware that a brand-new trunk had been taken to the station that morning.

"Your Aunt Mary was took just like your ma," wrote a kindly neighbor of Mrs. Clarke's sister, "and she wants you right away. I mistrust she won't linger long, but you can't tell. The neighbors and me have been doing for her, but she wants her own relations with her."

Violet could not keep back the tears as she stumbled through the poorly written letter. Of course she would go at once, but it might be weeks and months before she would get to college now. With a sinking heart she boarded the train and was whizzed through the college town on her way to her aunt's, instead of hopefully taking up a new life in it, as she had planned. She did press her face eagerly against the window, in hope of catching a glimpse of Arthur, but that comfort was denied her. Far back under a tree, seated on a bench with a young lady, was a man who looked like Arthur, but through her tears she could not decide whether it was he or not. The bell clanged, and the town and Violet's dream of college life vanished together.

And in the meantime what of Arthur? The gentleman who was interested in him and who gave him the place as tutor soon found ways of giving him extra work, in order that he might improve his wardrobe. Arthur was not slow to see that while clothes do not make the man, it was necessary to dress well among the fashionable people of the household. The things he once would have counted as extravagant and foolish now seemed necessary, and they were, since as companion to the cripple lad he was very often with the guests of the household. His quick intuition enabled him to avoid mistakes, and the well-paid work his em-

ployer gave him made the extra clothes possible. In white flannels and cool linen and duck suits he often wondered what Violet would think of him. He thought of having his picture taken for her; but when he remembered the little locket she wore about her neck, with the picture of a shy, awkward lad of seventeen in it, he could not bring himself to replace that hard-working farm boy of the locket with the stylish young gentleman of leisure of the present.

"Dreaming, Mr. Grant?" said a laughing voice, as Arthur watched his crippled charge roll in a great delight on the

new-mown hay on the lawn one hot summer afternoon. "I could almost guess your thoughts by just looking at your face," she went on teasingly. "Do you want me to begin?"

"You certainly do not claim to be a mind reader, Miss Shelby," said the young man, turning red. "Isn't this a glorious afternoon? Look at that silver thread of the river creeping through the green meadow."

"Which means you are afraid of my powers of mind reading," said the young lady, lightly seating herself on the hay near him. "Yes, it is a beautiful afternoon. I believe a blind and deaf person would naturally drop into poetry an afternoon like this."

Arthur looked her all over gravely before he answered. The flickering lights and shadows sifted down through the oak leaves above, touching her white dress and golden hair tenderly. A pair of white hands lay in her lap, and she looked as if she might inspire a poet as the soft wind tossed the waving locks back from her beautiful face. All her life her pathway had been sprinkled with roses and her life made bright by parents with wealth at their command.

"A blind and deaf person could still feel this air and enjoy the fragrance of the hay and flowers," he said. "I am thankful I can see and hear, and I wish all people could do the same."

"There are worse afflictions than being blind and deaf, physically blind and deaf," said Grace Shelby. "Once we spent a summer in a farmhouse, a real farmhouse, not one like this, and actually the people there were so narrow and sordid that nothing appealed to them but money making. Their lives were hard and barren and narrow beyond belief. The young girls were pretty in a way, but when they reached twenty-five or thirty were faded and vacant looking and careworn. They never read a thing and never got away from home. I think that is worse than being blind and deaf, as people speak of those afflictions."

"All country people are not like that," said the young man, nettled by her speech.

"Of course there are exceptions," said

looked forty. Of course they cannot be happy, for she knows nothing beyond her children and her housekeeping, while he has friends among the most cultivated people of the city."

"Would you have him desert her?" asked Arthur as lightly as he could, fearing lest his face showed the interest he felt in the story.

"Of course not; but he never should have married her. She would be happy, as happy as she is capable of being, out on some farm with a plodding husband, but now she is miserable and ill at ease among her husband's friends. It might have hurt her if he had broken the engagement when he first realized the great gulf between them, but she would have recovered, while now her whole life is spoiled."

"It would not have been honorable," said Arthur in a low tone. "Perhaps she had home duties that kept her from school and improving her mind."

"Yes, I think that was the case; but she should have had common sense enough to know the folly of marrying a man far above her."

Arthur hastily changed the subject, for fear his face might betray his inner thoughts, as indeed it did. He was thinking of Violet, who was wearing her life out for her mother, and wondering if at twenty-six she would look forty. Miss Shelby had no right to judge things from her standpoint, he thought, yet he could not get away from her statements. Hitherto he had had a mean feeling that he was living in ease while his sweetheart was toiling in the narrow little village home, but he began for the first time to look at the other side of the case. Miss Shelby watched him closely while she talked, for she had heard his history from her cousin, who was Arthur's host, though of course they knew nothing of his engagement. It was with the thought of warning him against entangling alliances that she spoke at first, but when they talked of other things she felt sure the plain gold ring on his finger spoke of an alliance already entered into, and she wondered what his future would be.

Arthur went back to college without ever knowing the disappointment Violet had suffered. She wrote briefly to him of her new home off in the country with an invalid aunt, but she spoke hopefully of the future, so he would not think of the real state of her mind. She said her aunt had a small farm, and she would have to oversee everything, since the mistress of the house could walk about only with the aid of crutches. She told him she might have little time for letters, and somehow a sense of relief crept into his heart. He was instantly ashamed of the feeling, and wrote a long, tender letter to Violet; but studies and work soon engrossed his mind, and his letters also became brief.

During the four years of his college course Arthur never saw Violet once. His summers were taken up with work of a congenial nature, and it always seemed impossible to find time to visit the out-of-the-way farm where Violet still cared for the almost helpless relative. Her letters said little about her present life, and after that first summer she ceased to fill them with longings to see him. Evidently she was living over again the years she had cared for her mother, and his heart went out in sympathy to her, even if he did not miss her letters greatly.

At last the four years flew by and graduation day drew near. Arthur was at the head of his class, the pride of the men who had helped him through the first struggling years, and everybody predicted a brilliant future for him. After graduation he was to visit Violet and the long-deferred wedding was to take place. At least this was what they had planned long ago, and neither had ever hinted that a change of program was possible. He had often asked Violet to send him her picture, but she had always evaded or ignored his requests. She had never been more than twenty miles from the farm since she went to it, and her aunt was daily growing more feeble. In fact, early in the spring a brief note said she could not live longer than a few months at most, so there could be no bar to their immediate wedding after her death, since Arthur was to take a good position in



"From behind a stack of books came a white-faced young man who had heard every word"

Grace, "but they are few and far between. The young men know nothing higher than corn husking, and the girls are concerned with selling butter and eggs. All the ambitious young folks go to the cities as soon as they are old enough, and the dull ones are left behind. We had a neighbor once who was married to a country girl, and I pitied her exceedingly. He left home to go to college, and outgrew her in a few months, but she refused to release him, so when his course was ended he married her. I suppose she had been pretty and attractive at eighteen, but at twenty-six she



early autumn, and neither of the young people had relatives to consult.

"Art Grant is getting pretty attentive to Grace Shelby, isn't he?" said Mr. Markham to his friend John Newton in the college library one fine spring day. "I think he shows good taste, for she is the kind of person who will make a good wife for an ambitious man. She is beautiful and has money, two very important factors in a man's success nowadays, and Grant can do no better than to marry her if he can."

"I hadn't noticed," remarked Mr. Newton. "It always seemed to me that Grant was no ladies' man."

"Well, he isn't. He is just a sensible young man, in my opinion, but people are beginning to say he is in love with Grace. At one time I thought he might have some sort of a boy-and-girl affair with some girl in his native village, because he had so many letters from there; but if he had, it's all off now. I talked to him pretty plainly one day about the wisdom of waiting until he was through school before engaging himself to any one, and I think he ended up the little affair, if there ever was one. Arthur Grant is a first-rate young man, and he'll get along in the world."

"If Arthur Grant ever was engaged to a village girl, and the engagement has been broken, you may be very sure it was not his fault," said Mr. Newton slowly. "Arthur Grant has too much honor and sense to desert a girl who has been faithful to him for years just because he fancied her beneath him. I have helped a great many young men through college,

and some of them have disappointed me, but I know Arthur Grant will not."

"You certainly would not have him handicap himself by making a foolish marriage, would you?" demanded Mr. Markham.

"I certainly would not have him break a solemn contract," said old Mr. Newton. "I know he will not, though. I have the utmost confidence in his integrity."

Then the two gentlemen passed out of the reading room, and from behind a stack of books came a white-faced young man who had heard every word. During those few moments his whole past life flashed before him, and he had a vision of a patient, hard-working girl waiting and working and trusting in a man who almost unconsciously had grown to pity himself because of the boyish engagement, and to plan a way of escape from it.

"I don't deserve the good opinion of any one, much less that of my firm friend Mr. Newton, but I will not disappoint him. I will marry Violet and bring her here, no matter what it costs."

Then flitted across his path beautiful Grace Shelby, and she tarried to congratulate him on winning a certain prize. "Every one says you have a brilliant future before you," said she earnestly. "I trust nothing will ever mar it."

"Thank you, Miss Shelby," he said gravely, and passed on. He wanted to be alone and think over his future.

At his room he found a letter from Violet, telling of the death of her aunt. She had waited until after the funeral to write to him, knowing he could not

come to her, and spoke only of the details of the sad affair. No mention was made of the future, though commencement was so near; but Arthur was not surprised at that, since the poor girl must be busy with petty cares connected with the settling up of the little estate.

"I will go down and marry her and bring her here for commencement," he resolved. "If I am going to present her to the people here, I might as well do so at once. We can stop in the city and get some necessary things, and her mourning will keep her from seeing many people. Next term she can have some private lessons, and I will teach her many things myself. I am done forever with self-pity."

But it was with the feeling that the martyrs of old were no more heroic than he that Arthur Grant set out to carry out his firm resolution. If he could only find the girlish sweetheart he had left in his native village he would be content, he thought; but looking back to the great change in his life, he could not think that changes had come to Violet, too.

At commencement, when the vast audience fairly shook the building with their applause for Arthur Grant, a tall, graceful woman in deep black wiped away a few happy tears. Even his best friends were surprised at the eloquence of the young man, and no one doubted that time would bring greater honors.

"Who is that woman in deep mourning?" asked Grace Shelby of the young lady who sat next her. "I do believe she is the only person in the audience who did not applaud when Mr. Grant spoke."

"Haven't you heard?" said the other, in great surprise. "That is his wife! It is the most romantic story you ever heard. He hadn't seen her for four years till he went to marry her. It seems she had to take care of her mother first, and then an invalid aunt on a farm in the country. People who have met her say she is wonderfully refined and intelligent. It seems, in spite of her work, that she had time to run the farm so it made her a lot of money, and she improved her mind, too. Mr. Newton thinks she is simply wonderful. They were quietly married, and he brought her here to see him graduate. No wonder he did so well to-day with that kind of a wife to inspire him. Isn't she beautiful?"

Grace Shelby looked across the sea of faces to the one under the mourning veil all aglow with love light, and thought of the conversation under the oak tree so long ago. It was a strong but refined face showing plainly the soul within, and it was not surprising that the hero of the occasion sought her eyes first of all as he took his seat. In that look Grace saw the love and devotion of a man's heart; but with all her intuition, she could not see the shame and self-abasement that lurked there because Arthur realized that he did not deserve the heroic efforts Violet had made all the long, hard years in his behalf. Instead of being a martyr he felt himself supremely blest as he gazed upon the fair, womanly face of his wife and knew she was the superior of many who sat about her.

"Yes, she is beautiful," answered Miss Shelby.

**The Frog as a Weather Prophet**

IN SWITZERLAND and Germany the frog is looked upon as a never-failing weather prophet, and "Symons Meteorological Magazine" very interestingly discusses the little animal.

In many houses the frog is kept in a bottle half filled with water and provided with a ladder, and the little fellow is carefully watched as to his behavior in uncertain conditions of the atmosphere. A number of weather maxims are based upon his posture and activity.

If he remains on one of the lowest steps of the ladder it is considered a sure sign that bad weather is coming. If he emerges from the water and rests upon the steps above it fine weather may be expected, and the higher he sits on the steps the finer the weather is sure to be. He is also supposed to give warning of bad weather by croaking loudly before a storm.

The magazine says that there is really some reason to believe that the green tree frog is somewhat

experienced as regards climatic conditions, and acts accordingly. In fine weather he skips about among the branches of trees, when at liberty, catching flies. At the approach of winter he seeks the water and finds himself a bed in the mud until the following spring calls him out to resume his war on the flies.

Now the frog on the ladder without doubt watches the weather conditions keenly and rises to look out for flies when the circumstances seem favorable. On the other hand, when the weather is cold and damp he is reminded of winter, and instinctively retires to bury his sorrows in the imaginary mud, which he seeks at the bottom of his prison.

**Toy Revolutionized Africa**

CHANCE has brought fame and fortune to many a man, but it's a mighty bad thing to build hopes upon, and a still more dangerous thing to depend upon. Power and wealth have and do come from hard, tireless toil, but it isn't any task at all for the average mind to contemplate the great hand chance has played in the game of life. Many of the world's greatest mines were discovered by chance, and in many cases, through ignorance, the discovery has been of no value to the man who made it. The South African diamond mines, with their stupendous treasure, brought exactly one hundred dollars to the Boer farmer who was instrumental in unearthing their secret.

Howard Hensman, in his biography of Cecil Rhodes, says:

"This man one day saw a native child gleefully playing with a small pebble that glittered and coruscated in the sun with unusual brilliance.

"He took the stone from the child, examined it, and carried it home with him. He could have had but little idea of what the stone really was, for probably the only



time he had ever heard of diamonds was when he had read the Old Testament. But a Boer has always a keen eye for business, and thinking that the stone might have some commercial value, the farmer showed it to a British trader named O'Reilly.

"O'Reilly seems to have recognized the stone immediately as a diamond, and bought it of the Boer—after considerable haggling—for one hundred dollars. Next he submitted it to Doctor Atherstone, of Grahamstown—an authority on mineralogy—who unhesitatingly declared it to be a diamond of the purest water.

"The diamond was then shown to Sir Philip Wodehouse, high commissioner of the Cape, and was bought by him from O'Reilly for twenty-five hundred dollars."

**Cinder Cone Monument**

FOR several years past it has been the general opinion that congressional action was needed to preserve objects of historic or scientific interest situated upon the government lands. Congress therefore passed an act in June of last year authorizing the President to declare by proclamation that such objects or lands are withheld from private occupancy or use, and are to be known as national monuments, also warning unauthorized persons not to destroy, injure or appropriate any feature of the national monuments. It is under this law that the Cinder Cone National Monument has been created.

The picture on this page, which we take from the New York "Sun," shows the entire area that has been set apart by proclamation of the President under the name of the Cinder Cone National Monument. Cinder Cone is easily recognized. It is a great mass of volcanic scoriae and sand, dull black in color, rising six hundred feet in the air, with steep slopes, and a crater at the top that is about two hundred feet deep.

Extending around it on three sides is the lava field, most of it composed of great blocks of lava loosely piled together, making very difficult walking. In many places the field is one hundred feet high.

On the left is Snag Lake, which orig-

inated in the fact that the lava field dammed up the waters of a stream that flowed through this valley before the volcanic vent of Cinder Cone poured out the lava that spread over the river plain.

On the right is Lake Bidwell, that existed before the eruption occurred, but it is much smaller than it was before the outburst, because the lava field filled nearly half of the lake bed.

These four geographical features—the Cinder Cone, the lava field and Lakes Snag and Bidwell—are what has been reserved under the President's proclamation as the Cinder Cone National Monument.

It is situated in California, at the southern end of Cascade Range. It is desired to preserve it intact, because it offers unusually fine facilities for the study of many phases of volcanic activity. It is also interesting, because it is believed to be the result of the latest volcanic outburst in our continental domain except in Alaska. The crater, cone and lava field, according to all the evidence, were the result of perhaps only a few hours of volcanic activity about two hundred years ago. No doubt this part of the valley was then covered with heavy timber, as is still the case with those parts of the river plain outside of the volcanic area.

But in a few hours all vegetation was destroyed and the area remains a barren waste to-day. Along its edges still stand the trunks of trees that were killed by that fiery ordeal, and Snag Lake derives its name from the trunks of trees that are sprinkled over its bottom and which were drowned when the lava field dammed the stream and created the lake.

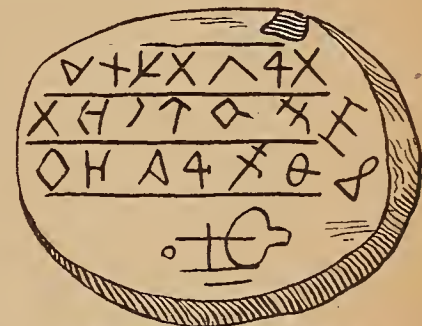
**The Grave Creek Tablet**

ONE of the most remarkable relics ever discovered in the United States is the "Grave Creek Tablet," found in the Grave Creek Mound, twelve miles below Wheeling, West Virginia. It has attracted more attention and been a greater puzzle to antiquarians, both American and foreign, than any other relic of the Mound Builders ever found in America.

This tablet is a small disc of stone, about three quarters of an inch thick,

and one and one half inches in diameter. It bears on one side an inscription consisting of twenty-one alphabetical characters, arranged in three rows of seven each, below which is a more complicated character somewhat resembling a human head supported by one arm of a sort of cross, and seemingly intended as a kind of signature or seal. The characters may be referred, almost without exception, to two closely related alphabets, the Phoenician and the Old Hebrew. This fact tends to strengthen the supposition of George de Huron, an early Dutch historian, that America was colonized by the Phoenicians and Hebrews during the alliance between Hiram of Tyre and King Solomon.

The tablet was found in the upper chamber of the mound, where was also found a skeleton, which, from the profusion of ornaments with which it was surrounded, was supposed to be that of some great king or chief among the Mound Builders. It is well known that



THE GRAVE CREEK TABLET

it was the custom of the American aborigines to bury with the deceased all his personal effects, and, in view of many other apparently Israelitish traditions and customs among the Indians, the presence of this stone in the mound may indicate that the personage there buried was of Hebrew descent. This supposition is strengthened by the fact that the prophet Jeremiah (chap. xxv, v. 22) speaks of his having been sent to preach to "the kings of the isle (or coastland) which is beyond the sea."

**The World's Big Battleships**

THE two monster battleships authorized by Congress will cost twenty million dollars, and each of them will surpass in tonnage the much-vaunted "Dreadnought" of the British navy. The new ships will be 510 feet long, 27 feet draft, 2,300 tons coal capacity, 21 knots speed and 20,000 tons displacement. The "Dreadnought" is 500 feet long, has a displacement of 18,000 tons, and a speed of about 21 knots.

The largest ships of the American navy at present are those of the "Louisiana" type. The newest of these, the "Minnesota," was delivered to the government at the Norfolk Navy Yard on February 27th, after having demonstrated an average speed of 18,851 knots in a remarkable acceptance trial run in a heavy gale. She is the fastest battleship in the American navy. The displacement of the "Minnesota" is 17,650 tons. She is surpassed in size and armament not only by the "Dreadnought," but by the new Japanese battleship "Satsuma." At the present time Japan owns the largest battleship afloat, for the "Satsuma" is a 19,200 ton ship.



THE CINDER CONE NATIONAL MONUMENT



## The "Poultry Queen of Iowa"

BY MORRIS WADE

THE woman of to-day who finds herself suddenly thrown upon her own resources, with others dependent upon her for support, need not sit down in tearful idleness because there is nothing for her to do. There are avenues of industry open to her that were not open to the woman of half a century nor even of a quarter of a century ago. Mrs. C. D. Johnson, of Iowa, was a woman of too much spirit to waste any time in vain repining when she found herself with a husband suddenly incapacitated for all work, and four little children looking to her for their support. In addition to plenty of courage, willingness to work and a determination to succeed, Mrs. Johnson found herself with a farm of nearly three hundred acres. But the farm was heavily mortgaged. This was twenty years ago, and the achievements of Mrs. Johnson since that time have been nothing short of remarkable.

When considering what she should do in her extremity, Mrs. Johnson came to the conclusion that there was money in eggs and chickens, and she set to work to demonstrate some of her theories. Her teacher was nothing more nor less than an old hen sitting on a dozen or more of eggs. Mrs. Johnson took a thermometer and made a record of the temperature at which Madame Bidy kept her eggs. Then Mrs. Johnson took a couple of common wooden boxes and constructed an incubator of her own. In this home-made "contraption" she put one hundred and sixteen eggs, and kept her lamps burning carefully for three weeks. The result was one hundred and five little chicks. That settled matters for Mrs. Johnson. She would go into the chicken business, and she would make it pay. She has succeeded so well that she is now known throughout the West as the "Poultry Queen of Iowa." Not long ago she accomplished the remarkable feat of taking 2,330 chickens from one of her incubators in one day. She had announced that on the twenty-first day of July she would take at least two thousand chicks from one of her incubators. There were doubting Thomases there to see. Indeed, several hundred people assembled to see if Mrs. Johnson "made good." She did, with more than three hundred little chicks "to the good." A couple of weeks later Mrs. Johnson took 1,827 chicks from one of her incubators as the result of one hatch. Speaking of some of the results of her efforts in the chicken business not long ago, Mrs. Johnson said:

"I sold the proceeds of the farm and applied it on the debt. I made the living for the family, and paid our help and bought farm machinery with the proceeds of eggs and poultry. I have built a new house, barn, double cribs twenty-four by forty-eight feet, hog house eighteen by ninety feet, poultry house sixteen by fifty-eight feet, smoke house, ice house, wash house and three brooders, and paid a debt of \$14,000 in eight years. Not all this was done with poultry, but I made the living for our family, paid all running expenses and put up some of the buildings with what I received from my poultry and eggs, leaving the entire proceeds of the farm to apply on the debt. I have two sons in college, and old Bidy is footing the bills."

Mrs. Johnson certainly has excellent reason for thinking that there is money in the chicken business when that business is properly managed. Writing to the author of this in regard to some of her methods, Mrs. Johnson says:

"I sell eggs for sittings and also for the market. I raise broilers and sell poultry for breeding purposes. I also sell chickens right from the incubators as soon as they are hatched. From this I realize from fifty to one hundred dollars every three weeks. I sell the chickens at a rate of from six to fifteen dollars per one hundred, owing to the breed. If one engages in all the different branches of the business, there is big money in it—more, in fact, than in any other kind of business in which one can engage with the same amount of money invested. A very common mistake in rearing chickens with incubators is that of keeping too high a temperature with not enough ventilation. This causes the little chicks to die in the shell."

Mrs. Johnson has really accomplished wonders in rearing poultry, and seems to have well earned the title of the "Poultry Queen of Iowa."

## Perfection Meat Brine

DISSOLVE five ounces of saltpeter in a little hot water. Weigh twelve and one half pounds of salt and five pounds of sugar, and put into a tub; to this add ten gallons of cold water and the dissolved saltpeter. Stir well until all the salt is dissolved. Skim off any skum which may rise to the top, and pour over the meat. This quantity of brine is sufficient for a barrel of meat. After putting the meat



into a barrel, cover with a board, and place a heavy weight on the board to keep the meat well covered with brine.

Allow the hams and shoulders to lay in the brine for six or seven weeks, according to the size.

This brine is superior for either beef, pork or mutton.

Delicious corned beef can be had by putting the meat in this brine for a week or so. S. E. B.

## Two Good Pies

**WHIPPED CREAM PIE**—Line deep pie plates with a moderately rich crust. prick them well, and bake in a good oven. Make one cupful of thick sweet cream very sweet and flavor with vanilla or lemon, then whip it to a stiff, dry froth. It should be kept very cold while beating and until the crust is ready. Fill it into the pastry shells and ornament with little dots of bright-colored jelly. A delicious variation is to half fill the pastry with fine ripe, sweetened berries or sliced peaches before putting in the cream. Serve very soon after preparing.

**POTATO-AND-ALMOND PIE**—Grate sufficient raw potato to fill a common teacup, and stir it into one quart of boiling milk. When cool add three well-beaten eggs, one half teacupful of finely chopped blanched almonds, three fourths of a cupful of sugar and one teaspoonful of lemon extract. Bake without upper crust. This will make two pies. Eat the day it is baked.

## Calf's Feet Jelly

A VERY delicious and nourishing dessert can be made as follows:

Cut calf's feet into small pieces after they have been thoroughly cleaned and soaked in cold water. Stew until well done. When entirely cold, take off the fat from the top, and carefully remove the jelly from the sediment. Put into a sauce pan, and for every three pints of this jelly add one pound of granulated sugar, four tablespoonfuls of stick cinnamon broken in one-inch lengths, the white of one egg beaten stiff and three tablespoonfuls of vinegar. Set over the fire, and boil all together five or six minutes. Take from the stove, and strain when cool. Serve with cream and sugar. S. E. B.

## Some Apple Dainties

BY MARY FOSTER SNIDER

THE apple is the most healthful of all fruits, and one beloved by every one. The delicious ways in which it may be prepared may safely be called legion, but almost every housekeeper has her own favorite recipes, and dabbles with newer ones not from necessity, but from the love of experimenting in her art and the possibility of making a delightful discovery. Some very pleasing apple ways are the following:

**APPLE TAPIOCA**—Soak one half cupful of tapioca in warm water to cover for two or three hours or over night. Pare and cut one quart of good cooking apples into small pieces. Butter a pudding dish, put in a layer of the apples, sprinkle generously with sugar and a few cloves, cover with a layer of the soaked tapioca, and alternate these layers until the dish is full, having the last layer of apples. Add enough water to come half way up the dish, and bake for an hour in a moderate oven. Cover the dish during the first half hour, so that the apples may cook without browning. Add a little more water if necessary. Serve with cream and sugar.

**APPLE BATTER PUDDING**—Mix two tablespoonfuls of flour smoothly with three gills of sweet milk, add one egg well beaten, one half cupful of sugar and a little grated lemon peel. Pare and slice one and one half pints of apples, mix them well through the batter, turn into a buttered mold, and steam for two hours. Turn out, and serve at once with sugar sprinkled thickly over the top.

**APPLE CHARLOTTE**—Pare and slice thin one quart of nice-flavored cooking apples, and stew them in a little water until quite soft, adding sugar to sweeten and a few cloves. Line a mold with small, thin slices of bread dipped in melted butter, turn in the cooked apples carefully, cover the top with slices of buttered bread, and bake to a nice brown in a moderate oven. Serve with cream and sugar.

**APPLE CAKE**—Pare a dozen good-sized apples, and slice them thin or chop small. Mix together in a bowl as much sugar as will be required to sweeten the apples, a little grated lemon peel, two tablespoonfuls of melted butter, one fourth of a

cupful of sweet cream and two well-beaten eggs. Mix well, then stir in the apples thoroughly. Line a deep pie tin with puff paste, place a narrow rim around the edge of the dish, and lay the apple mixture in the middle. Sprinkle the top thickly with blanched almonds cut into shreds, and bake for three fourths of an hour in a good oven, being careful that it is not hot enough to burn the almonds. When done sift powdered sugar over the top.

**JELLIED APPLES**—Pare and slice very thin enough fine tart apples to make a quart, and mix with them one cupful of granulated sugar and a few cloves. Put them in a shallow dish, pour over one half cupful of water, cover with another dish, place in a tin of water, and bake very slowly in a cool oven for four hours. When done and cold this will turn out a solid delicious jelly. It should be made the day before it is to be served. Before serving pour a large cupful of cold boiled custard or whipped cream around it.

**APPLE NESTS**—Boil two teacupfuls of well-washed rice in milk to well cover until about three fourths done, then strain off any milk that has not been absorbed. Pare and core the apples carefully, put a little sugar and a clove in each one, place a thick coating of the rice around them, and tie each separately in a piece of white muslin. Boil until the apples are tender, from half an hour to an hour, depending upon the size, then remove the cloth and serve with a sweet liquid sauce or with cream and sugar.

**ALEXANDRA PUDDING**—Stew one pint of pared and sliced apples in just enough water to prevent scorching, then add sugar to sweeten. Let them cool. Put a layer of stale cake, sliced or crumbed, in the bottom of a glass dish, pour a little boiled custard over it, then a little of the stewed apples, another layer of the cake, and so on, until the dish is full, having the top layer of cake. Pour a good deal of custard over this, and heap over all a stiff snow made with the whites of two eggs and one tablespoonful of powdered or granulated sugar. This is a very pleasing way to use up several left-overs.

**APPLE CHEESE CAKES**—Pare and boil two pounds of apples to a soft pulp, add to them two tablespoonfuls of melted butter, one cupful of granulated sugar, three well-beaten eggs (omitting the white of one) and the grated yellow rind and juice of a lemon. Stir all the ingredients well together. Line fancy pans with puff paste, put in the apple mixture, and bake them for twenty minutes. Make a meringue with the white of the egg and one tablespoonful of sugar, spread it over each little cake lightly, and let brown very delicately with the oven door half open.

**CREAMED APPLE PIE**—Line a deep pie dish with puff paste, fill it with very thinly sliced apples, add sugar to make quite sweet and a little grated lemon peel, and cover with another layer of the paste, but do not press it down. Bake until done. When cool, lift the top carefully, and pour in one half cupful of boiled custard or whipped cream.

**GRANDMOTHER'S APPLE STEW**—Pare and slice six large apples, having first washed them well. Put the parings with one quart of water over the fire, and let them simmer half an hour. Then drain off the liquor, add it to the sliced apples, with sugar to sweeten and the juice of half a lemon. Boil until the apples are clear and soft, then remove from the fire, and beat into them one cupful of rich milk. Turn them into a shallow pudding dish, and when cool cover the top with the white of an egg whipped to a snow with one tablespoonful of sugar. Let brown very delicately and slowly, and serve at once.

## Preserving Sausage Meat

A FEW seasons ago we learned how to keep sausage meat in a perfect condition until late in the spring. After the meat was ground and seasoned it was fried until well done, and while very hot the fried sausage meat was packed in tin fruit cans and carefully sealed.

We find this to be a superior method, as the meat is taken from the cans in a fine, healthful condition, free from the slightest taint or mold.

The great advantage is that the meat can be saved in the tin cans until late in the spring. S. E. B.

## Fertilizers for House Plants

A GOOD fertilizer for house plants, and one which is entirely inoffensive, may be made as follows: Dissolve thoroughly in one pint of boiling water four ounces of sulphate of ammonia and two ounces of nitrate of potash. Bottle, and cork tightly. One teaspoonful should be used to three quarts of lukewarm water. It is said to stimulate growth better than liquid manure. To make the bloom stalks of hyacinths stronger and much richer in color, put a few drops into the water in which the plants are growing. Small white worms will also avoid coming in contact with this liquid.



MRS. JOHNSON AND HER CHICKS



1,872 CHICKS HATCHED AT ONE TIME

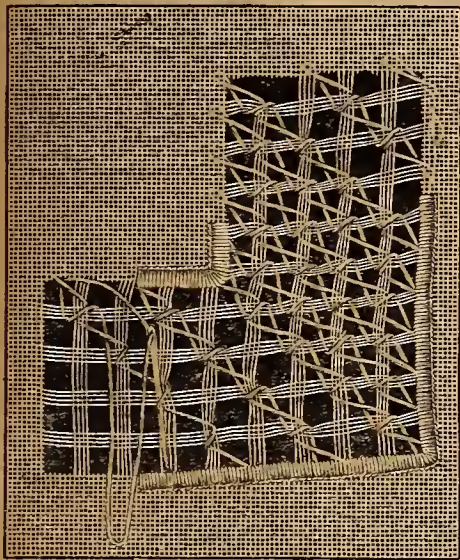


**A Simple Drawn-Work Border**

**D**RAWN WORK, one of the oldest known forms of ornamental needlework, is capable of many variations, and one of the simplest and prettiest of these is shown herewith. It is illustrated as a border design, but is equally as appropriate for all-over effects, as for pillow or pincushion tops, yokes, and the like.

The work as shown is on scrim, with mercerized cotton as a working medium, and is made coarse purposely; but on fine linen, with thread of a corresponding texture, and with threads drawn to form smaller squares, the work is as exquisite and dainty as any one could possibly wish. Indeed, it appears more like some sheer, intricate net work than an easily executed piece of drawn work.

In the sampler six threads are drawn and four left, alternately, both ways of the border. The cotton it then carried



BORDER DESIGN IN DRAWN-WORK

diagonally across these openings, over the squares of intersecting threads, to the other side of the border, and then back, thus crossing the threads in the openings hour-glass fashion. By filling all the diagonal rows for a little ways, then alternate rows for an equal distance, a unique striped pattern is formed. The edges are of course buttonholed to prevent raveling.

This work is so rapid, and in finer materials will prove so pleasing, that every one who admires drawn work should try a bit of it. Centerpieces, doilies, towel and scarf ends are all embellished in this way, and it makes handsome insertions for waists and dresses.

MAE Y. MAHAFFY.

**Batter Bread**

**B**ATTER bread, as Southern people make it, is very soft, and is meant to be served with a spoon. It is one of the simplest forms of corn bread. It should be borne in mind that Southern people never use wheat flour in combination with cornmeal. Corn bread with them means bread made entirely of cornmeal, and the meal used for this purpose is invariably fine and sweet; it is ground by the old water-mill process, which means that the entire grain of corn is used, including the kernel. It is the kernel which gives the sweet flavor to cornmeal; this is not obtained in meal ground by the patent roller process, as the kernel is eliminated.

Following is the recipe, which makes a pan of bread sufficient for four or six persons, according to how liberally it may be served: One cupful of cornmeal, two heaping teaspoonfuls of baking powder, one half teaspoonful of salt, two eggs, and three cupfuls of milk.

To the cupful of cornmeal add the baking powder and salt, mixing them well through the meal. Break and stir the eggs into the meal without beating them; then add the milk slowly at first, until the meal is thoroughly wet and free from lumps; add the remainder of the milk; stir quickly once or twice, and put into a hot oven, and bake just twenty minutes. This mixture should be stirred as little as possible, in order that it may be very light. It should be of the consistency of cream when put into the oven, and should be baked in a deep pan, as it will rise more than twice its original height. Served hot with butter, it will literally melt in the mouth.

**Improving the Farmhouse**

**O**FTTIMES one can but wonder at the neglect and dreary aspect of the country home. There is room for flowers, shrubs and vines of every gay color, yet the bare porches and weedy yards show naught of Nature's beauties. The unpainted walls and rickety steps, the un-hinged gates, missing pickets, through which chickens and pigs run riot, all tend to blot out the pastoral beauty of life on the farm.

As a general thing, the housewife is anxious for an improved appearance, but

has waited so long for the good man of the house to begin, that hope has fled, and the torn-up flower beds and destroyed annuals have disgusted her against trying again. The girls in turn have had their breaking in, and the boys have followed in the footsteps of father.

Now I am going to tell you how a dear friend of mine managed such a dispirited case.

For many months she had been saving the pennies toward a new carpet, as the old one was threadbare, and the girls had been hoarding up for a sofa. They counted their means over and found them sufficient for the wants.

Katie, the youngest daughter, said, "I've an idea it would be best to put our carpet and sofa outside."

The others of course protested at first at such an idea, but when each one owned up that the outside of the house caused them more shame than the faded carpet and worn sofa, they agreed on the change, so it was decided to call in a painter and carpenter.

As luck would have it, the good man was absent on a visit, and during the week the house received a new coat of paint, gates were rehung, pickets straightened and replaced, and a nice set of steps built; the old carpet was gone over with corresponding colors of a good dye, and there remained of the original fund enough to purchase some pretty rep to recover the old sofa.

The astonishment of the husband and father on his return can better be imagined than told—and what is better, it really opened his eyes. D. B. P.\*

**Pointers Worth While**

**A**N ORANGE, lemon, apple, a spray of rose geranium, or any sweet-scented fruit or flower, placed in the air-tight jar of fresh-baked cake or cookies will give a delicious flavor.

One and one half cupfuls of sugar, butter the size of a butternut; boil three medium-sized potatoes, mash, and mix with above; add one teacupful of sweet milk and two eggs, five heaping teacupfuls of flour and four teaspoonfuls of baking powder, one teaspoonful of salt. This recipe makes forty-five doughnuts, and they will keep moist for many days.

Stir thoroughly one egg into one pound of ground coffee; set in covered porcelain dish in warming oven, to dry, then put in coffee can. Your coffee will need no more egg until a fresh supply of coffee is needed.

Cut the sleeves from old white lawn shirt waists, trim off the cuffs, leaving only enough to make a narrow band, and cut straight across the top, making the sleeve protectors long enough to come well over the elbow. Hem the tops and bands on the sewing machine, and you have a quickly made and very useful article to draw on over the clean blouse sleeves. Being so easily and cheaply made, one can have several pairs, which can be put in the weekly wash when soiled. As a general rule, they will stay in place without pinning, but if one finds they keep slipping off, it is very easy to put over them, when in place, a thin rubber band, to hold them on.

Teacups, even when carefully kept, sometimes have dark stains at the bottom, caused by the action of the tannin in the tea. Salt, slightly moistened, will remove these, but in the case of the very fine china the salt sometimes scratches it a little. Powdered whiting will be found quite harmless and equally good.

Nothing helps so much toward making hens lay in the winter time as nuts. Two heaping panfuls of walnuts and butternuts cracked are given to a flock of twenty-five hens twice a week, and how it makes them "shell out" the eggs. Remember we live on a large farm, and all the nuts cost us is time to pick them up in the fall.

**Dark Cake**

**T**AKE one cupful of brown sugar, one half cupful each of butter and sour milk, two cupfuls of flour, one cupful of chopped raisins, one teaspoonful of soda, one tablespoonful of molasses, the yolks of three eggs, one teaspoonful each of cloves and nutmeg.

**Nut Salad**

**U**SE one cupful each of chopped celery, apples and nuts (English walnut or hickory). Mix with salad dressing a short time before serving.

**Rye Gems**

**M**IX and sift one and two thirds cupfuls of rye flour, one and one third cupfuls of pastry flour, four teaspoonfuls of baking-powder and one teaspoonful of salt; then add one and one fourth cupfuls of milk, one fourth of a cupful of molasses, two eggs well beaten and three tablespoonfuls of melted butter. Bake in hot, buttered, iron gem pans.

**Dish-Washing Drudgery**

**M**OST women dislike to wash dishes simply because of the effort involved, and the frequency of the necessity. Dishes have to be washed three times a day, or 1095 times a year; therefore, every little saving in effort counts.

**GOLD DUST**

will cut dirt and grease from your dishes like magic, and will not only make them spotlessly white, but will purify and drive out every semblance of dirt or germs which may lurk in them. It is the greatest cleansing powder and labor saver the world has ever known. It acts like magic on dirty dishes, and starts to cleanse the moment it strikes the water. It will cut your dish-washing labors right in two.

No soap, borax, soda, ammonia, naphtha, kerosene or other foreign ingredient needed with GOLD DUST.

For washing clothes and dishes, scrubbing floors, cleaning woodwork, oil cloth, silverware and tinware, polishing brasswork, cleaning bath room pipes, refrigerators, etc., softening hard water and making the finest soft soap.



Made by The N. K. Fairbank Company Chicago Makers of Fairy Soap

"Let the GOLD DUST Twins do your work"

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Sold by all First-class Dealers Everywhere. Ranges furnished with the Garland Oven Heat Indicator. Booklets free by mail.

THE MICHIGAN STOVE COMPANY Detroit, Mich. Largest Makers of Stoves and Ranges in the World. Chicago, Ill.



**Simpson-Eddystone**

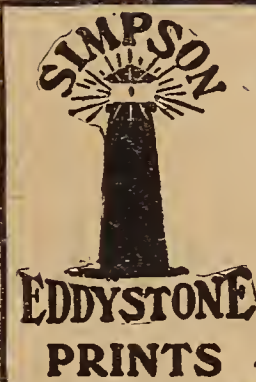
**Black & Whites**

The standard for over sixty years. Absolutely fast color. Every year has added to their quality. Some designs have a new silk finish.

Ask your dealer for Simpson-Eddystone Black-and-Whites.

Three generations of Simpsons have made Simpson Prints.

The Eddystone Mfg. Co. (Sole Makers) Philadelphia.



**Evening Hours at Home**

When twilight shadows softly fall  
Across the fading light,  
And vesper bells in music call  
The heralds of the night;  
Oh, hour that breathes of peace and rest  
To those who sadly roam,  
Hour that is the dearest, sweetest, best,  
When evening brings us home.

Forget the trials of the day,  
The toil, the grief, the care;  
All seem to fade at sunset ray,  
The world grows bright and fair;  
And yet the shadow deeper falls,  
And weary wanderers roam,  
But through the gloom a loved voice calls  
When evening calls us home.

The lagging feet quick onward press  
To meet those at the door,  
Where love in answering caress  
Waits loyal evermore.  
Most blessed hour of all the day  
To those who toil and roam,  
Love is the star that lights our way  
When evening brings us home.

And if it be that no one waits  
In earthly homes to greet,  
There is a home beyond the gates  
Where all who love shall meet;  
So may we say in truth always  
To those who sadly roam,  
Each heart will find its own some day  
When evening brings us home.  
—N. R. Burnett in Twentieth Century Farmer.

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# Smart Styles for the Fall and Winter

By Grace Margaret Gould



No. 863—Boy's Overcoat

Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, three and one half yards of thirty-six-inch material, or two and one half yards of fifty-four-inch material, with three eighths of a yard of velvet for collar

THE separate skirt this autumn will occupy a most important place in the well-dressed woman's wardrobe. Many of the worsted and soft plaid fabrics show wonderfully beautiful colorings—plaids which are subdued rather than conspicuous. These materials will be much used for the making of separate walking skirts to wear with plain cloth jackets. Then the separate skirt comes in most conveniently when one does not happen to own a skirt-and-coat suit, but has many shirt waists and a long coat.



No. 939—Thirteen-Gored Skirt Buttoned in Front

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, eight and three fourths yards of twenty-two-inch material, or six and one half yards of thirty-six-inch material

PLAITS are still the feature of the smart skirts. There are kilted, box-plaited and fan-plaited skirts which are all extremely good style. The very new walking skirts are quite short. Skirts cut in many gores are also much worn. Many of the skirts are decorated with a foot trimming. Bands of silk braid are used for this purpose, also bands of the self material, sometimes one and sometimes three in graduated widths. A pretty touch is to introduce a note of plaid or contrasting color as a piping for these bands.



No. 898—One-Piece Dress With Side Opening

Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, six and one half yards of twenty-two-inch material, or four and one half yards of thirty-six-inch material



No. 852—Seven-Gored Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 41 inches in front. Quantity of material required for medium size, or 26 inch waist, six and one half yards of thirty-six-inch material, or five yards of forty-four-inch material, with one yard of thirty-six-inch material for the bands



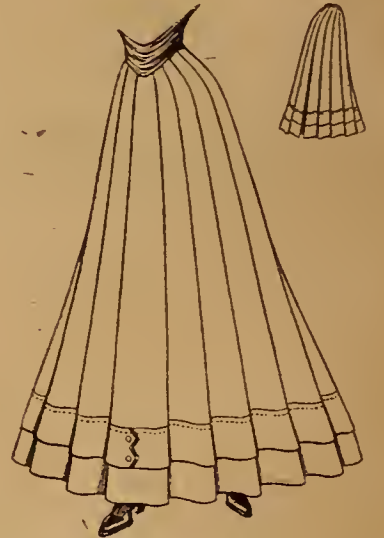
No. 743—Slip for Lingerie Blouses

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material for medium size, or 38 inch bust, three and one fourth yards of twenty-two-inch material, or two yards of thirty-six-inch material, for waist with puff sleeves.



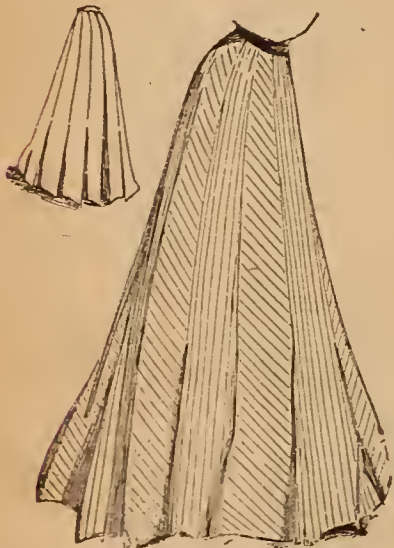
No. 706—Corset Cover With or Without Fitted Skirt Portion

Pattern cut for 32, 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



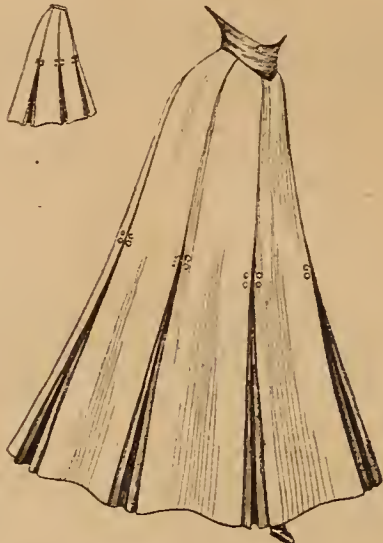
No. 892—Plaited Skirt With or Without Trimming Band

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 39 inches. Quantity of material required for medium size, or 26 inch waist, ten and one half yards of thirty-six-inch material, or five and seven eighths yards of fifty-four-inch material



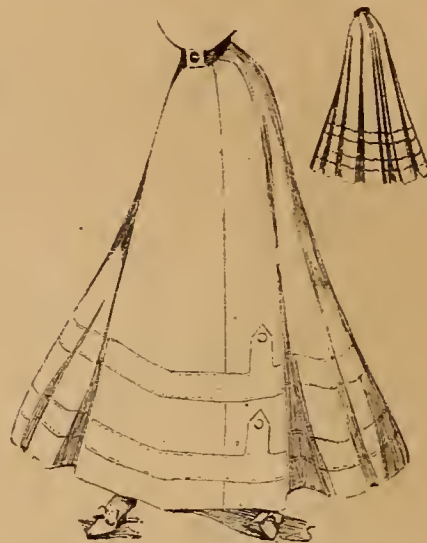
No. 909—Thirteen-Gored Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt in front, 40 inches. Quantity of material required for medium size, or 26 inch waist, nine yards of twenty-seven-inch material, or seven yards of thirty-six-inch material



No. 802—Seven-Gored Skirt With Fan Plaits

Pattern cut for 24, 26, 28 and 30 inch waist measures. Quantity of material required for medium size, or 26 inch waist, eight and three fourths yards of twenty-two-inch material, or six and one fourth yards of thirty-six-inch material



No. 926—Seven-Gored Band-Trimmed Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 39 inches. Quantity of material required for medium size, or 26 inch waist, eleven yards of twenty-two-inch material, or seven yards of thirty-six-inch material



No. 723—Skirt With Tucked Panels

Pattern cut for 24, 26, 28 and 30 inch waist measures. Quantity of material required for medium size, or 26 inch waist, eight and one half yards of twenty-two-inch material, or six and one half yards of thirty-six-inch material



No. 962—Dress With Revers

Pattern cut for 4, 6 and 8 year sizes. Quantity of material required for medium size, or 6 years, three and one half yards of thirty-six-inch material, or two and one half yards of forty-four-inch material



No. 897—Box-Plaited Coat

Pattern cut for 4, 6 and 8 year sizes. Quantity of material required for medium size, or 6 years, six yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material

## MADISON SQUARE PATTERNS

Our magnificently illustrated fall and winter catalogue of Madison Square patterns, larger and better than ever, containing Miss Gould's latest Parisian designs and London fashions, will be sent free upon request. Our fall catalogue is the result of Miss Gould's summer in Paris and the other fashion centers of Europe, and consequently it contains the very latest and newest styles to be found anywhere in America. When ordering patterns alone address Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. Orders for patterns in connection with subscriptions and renewals should be sent to Farm and Fireside, Springfield, Ohio.

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.

ALL PATTERNS ARE 10 CENTS EACH

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.



# Miss Gould's Practical Fashions

Designs for Easy-to-Make Clothes for the Amateur Dressmaker



**T**HE quaint little coat for a small girl, illustrated on this page, is made with an Empire yoke. Now that braiding is so much the fashion, the coat can be made extremely attractive by having it fashioned of white cloth or white silk wadded, and covering the yoke with white silk braid. Braided cuffs also make a pretty finish for the full sleeves.

Almost every mother finds it more or less difficult to introduce some new little touch into her baby girl's first short clothes. That is why she is sure to like the dress here pictured. It is made with a square yoke back and front, and a pointed drop yoke included in the neck seam. Rosettes finish the ribbons which outline part of the square yoke.

No. 1018—Child's Dress With Drop Yoke  
Pattern cut for 6 months, 1 and 2 year sizes. Quantity of material required for medium size, or 1 year, three and three eighths yards of twenty-seven-inch material, or two and one half yards of thirty-six-inch material

No. 1019—Child's Empire Coat  
Pattern cut for 6 months, 1 and 2 year sizes. Quantity of material required for medium size, or 1 year, three yards of thirty-six-inch material, or two and one half yards of forty-four-inch material

**A** WELL-MADE shirt-waist suit, whether it is for summer or winter, is about the most useful every-day-wear dress a woman can own. The model shown on this page is developed in plaid serge. The waist, which has plaits on the shoulders in front and a plain back, is made with an adjustable chemisette. White piqué is the best material to use for this chemisette, and be sure to have the cuffs of the leg-o'-mutton sleeves the same. The bows at the neck and corsage can be of dark silk or piqué, just as preferred, and the belt should be of the same material. The waist fastens in the back. It is always well, with a waist of this sort, to have a number of chemisettes and cuffs; they freshen up the costume wonderfully. Of course none of them should be of the same material as the dress.

The skirt is the new short length. It is cut circular, fitted with darts around the hips, so that it clings prettily to the figure, and has inverted plaits at the center back. A broad band of the same material, only cut on the straight instead of the bias, trims the lower part of the skirt.



**E**VERY woman needs a house gown, but not all women can afford to have each season a new wrapper and a new tea gown. The wrapper illustrated on this page is just the sort of gown which will appeal to the woman who must consider economy in her wardrobe. It is plain enough for a wrapper and yet effective enough to be used as a tea gown.

This Princess wrapper with full front has the edges of the fronts cut in squares, each square trimmed with a button. The plain Princess back shows the curved seams. The sleeve is an elbow puff with a dainty ruffled cuff and a cape cut in squares.

The pattern for the useful work apron illustrated on this page includes a pattern for the dusting cap and one for the half sleeves.

Send all pattern orders to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. In ordering, give number of pattern and bust and waist measures required. In ordering children's patterns, mention age. The price of each pattern is ten cents. Write for our new fall and winter catalogue.

No. 1020—Plaited Waist With Adjustable Chemisette

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of thirty-six-inch material, or two yards of forty-four-inch material, with three fourths of a yard of tucking for chemisette and cuffs

No. 1021—Circular Walking Skirt

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 39 inches. Quantity of material required for medium size, or 26 inch waist, seven yards of thirty-six-inch material, or five yards of forty-four-inch material

Write for our fall and winter catalogue of Madison Square patterns, which is just out. If you want a new tailored suit, a more elaborate costume, clothes for your children, or new designs in house gowns and underwear, write to Pattern Department Farm and Fireside, 11 East 24th Street, New York City, for this catalogue.



No. 1022—Work Apron, With Cuffs and Cap  
Pattern cut in one size only—medium, 36 inch bust. Quantity of material required, three and one fourth yards of twenty-seven-inch material



No. 1023—Princess Wrapper With Full Front

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, eight and one half yards of thirty-six-inch material, or seven and one half yards of forty-four-inch material, with one and three fourths yards of contrasting material for front



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### On Grub Street

So many dreams have perished there!  
So many visions, frail and fair!  
Such mighty thoughts pervade the air,  
On Grub Street.

Such lonely vigils in the night!  
Such fairy flocks of phantoms bright,  
That hover ere they take their flight,  
On Grub Street.

Such days of utter weariness,  
Ere changes come that come to bless:  
Such periods of strife and stress,  
On Grub Street.

Such sadly sordid sorrows fret  
The struggling soul—such woes—and yet,  
I would not, if I could, forget  
Old Grub Street!  
—Louise Cass Evans.

### The Bishop of London in America

**D**R. ARTHUR FOLEY WINNINGTON INGRAM, BISHOP OF LONDON, who is to be in America this month in attendance at the General Convention of the Episcopal Church in Richmond, Virginia, is known throughout London as the "people's own prelate," because of his great popularity with all classes and conditions of people. High and low, rich and poor, unite in their respect and admiration for a man who has endeared himself to every class by his broad and generous sympathy and his eagerness to serve all without respect to their condition. He has the honorable reputation of keeping busier than any other churchman in London. And no cabinet minister or member of parliament works harder than the Bishop of London works for his church. But hard work never troubles him. He is accustomed to it, for he has always been a great believer in the gospel of work.



THE BISHOP OF LONDON

He has had years of experience as a worker in the slum end of London, and it was here that he developed his rare capacity as an organizer. It was he who induced many of the public schools to take up settlement work by each school assuming the support of a club for this work. Personal work has been the method of the Bishop of London in getting hold of the people he has been so eager to help.

It is of interest to know that the salary of the Bishop of London is the same that we pay to our President of the United States. He needs all of his salary to keep up his residence and the grounds adjoining it, for he lives in a big palace with no less than forty-four bedrooms, and he is expected to do a great deal of expensive entertaining. One of his friends has written of him: "He didn't want the palace, and he didn't want a big mansion in Saint James Square that was also added to his episcopal domain, but he had to take them, although he protested that he would much prefer to live in some little flat and divide his income among the poorer clergy. As it is, it requires even more than the Bishop's income to keep up his expensive homes. Indeed, he could hardly keep them up but for the help of wealthy men in the Episcopal Church."

While in Washington the Bishop will lay the corner stone of the great cathedral to be built there, and will then go to Richmond and to other American cities.

The Rev. William Durham of London says of the untiring efforts of the Bishop: "The Bishop of London is eminently one of the 'preaching prelates.' Every Sunday in the year he delivers at least one sermon, but frequently two; and each week all through the year he preaches not less than twice, very often thrice, and sometimes even on a fourth occasion. He never tires of this function, but seems to feel increasing delight in it. The wonder is that he is always fresh and strikingly original, for his days are so thronged with various duties that he cannot attempt systematic preparation. Most preachers can devote the morning hours to quiet study, but the Bishop of London is con-

## IN A MISCELLANEOUS WAY



MODERN FARMING SCENE ON THE BIG ALFALFA RANCH OF S. P. MILLER IN NEW MEXICO

stantly receiving his clergy or visiting different parishes at all hours of the day. His regular habits aid him somewhat, for he rises all the year round at seven, and remains alone for a full hour of reading, until the bell summons the household to the palace chapel for prayers. The domestic service is followed by breakfast, and business begins immediately.

"A great factor in the popularity of the Bishop of London is his comprehension of the people. Few leaders of society equal him in this respect. He told me how, when Bishop of Stepney, he delighted, early in the morning, to cycle with clubs of working lads. And on Saturday afternoons it was his usual occupation to take parties of factory girls over Saint Paul's Cathedral. Now, as Bishop of London, his great garden parties consist mostly of similar clients, invited to come to enjoy his hospitality and to play in his park at Fulham on the banks of the Thames. When he was rector of Bethnal Green he still resided in the Oxford Settlement house, so as to be constantly in the very heart of all the poverty, and he spent much of his time daily in visiting the neediest of the people in the great, wretched slums, until the people learned to know and love him as their true friend. His rectory he gave up to his assistant clergy. In those days he made a great record as a masterly open-air preacher. And he loves open-air preaching still, and has inaugurated this summer a 'Bishop of London's open-air session' for the various London parks."

When one knows of all that the Bishop of London is doing for all classes and conditions of people one is not surprised that he is known in England as the people's prelate.

### The Gracious Lady of Deer Isle

BY MORRIS WADE

**O**UT in the Merrimac River, in front of the fine old town of Newburyport, Massachusetts, is a little island of five or six acres, on which lives one of the most popular of our American writers, Mrs. Harriet Prescott Spofford. Hers is the only house on the island, and the first chain, or suspension, bridge ever built in our country reaches from the Newburyport shore out to Mrs. Spofford's island, better known as Deer Island. It was one of these islands and of Mrs. Spofford that Whittier wrote:

From the green Amesbury hill which bears  
thy name  
Of that half-mythic ancestor of mine  
Who trod its slopes two hundred years ago.



THE UNIQUE RESIDENCE OF MRS. SPOFFORD

Down the long valley of the Merrimac,  
Midway between me and the river's mouth,  
I see thy home, set like an eagle's nest  
Among Deer Island's immemorial pines;  
Crowning the crag on which the sunset  
breaks  
Its last red arrow. Many a tale and song,  
Which thou hast told or sung, I call to  
mind,  
Softening to silvery mist the woods and  
hills,  
The out-thrust headlands and inreaching  
bays  
Of our northwestern coastline, trending  
where  
The Gulf, mid-summer, feels the chill  
blockade  
Of icebergs stranded at its northern gate.

In the closing line of the poem Mr. Whittier referred to Mrs. Spofford as "my neighbor and my friend."

Few of our American women writers have done better work than has been done by Mrs. Spofford both in prose and rhyme. She has been a very prolific writer, and her work is sometimes seen in half a dozen periodicals in a single month.

Mrs. Spofford was born in Calais, Maine, seventy-two years ago, and removed to Newburyport when she was but a very young girl, and that interesting old town has ever since been her home. She was married to Richard Spofford in the year 1865, and they made their home out on the Deer Isle, on which Mrs. Spofford still lives, excepting during the winter months, when she lives in Boston or in Washington, for both of which cities she has a great liking. Mr. Spofford was a man of the highest education, and one of the charms of the old mansion on Deer Isle is the large library which long ago overflowed beyond the confines of a single room, and books are to be found in every part of the house.

Mrs. Spofford has never had robust health, and is seldom seen in society, reserving such strength as she has for her literary work. Something more than a dozen works of fiction bear her name on the title page, and if she were to collect her short stories they would make a dozen more volumes. It is seldom that a writer excels in both prose and poetry as does Mrs. Spofford, and her volumes of poetry have in them the songs of a real singer. She has struck as high notes in some of her poems as were ever struck by an American poet. One of her critics said not long ago of Mrs. Spofford that her pen was "diamond tipped." It is certainly a pen that has contributed much of permanent value to our American literature, and as the literary profession is one in which there seems to be no "dead line," one may hope to read new songs and new

stories from the pen of this gifted writer, who is sixteen years younger than that remarkable woman, Mrs. Julia Ward Howe, who has passed the eighty-eighth milestone of life, and is still doing admirable work as a writer, while it is not unusual for her to address two or three audiences a week. When Mrs. Louis Agassiz, widow of the great naturalist, died last June, Mrs. Howe said of her that her life record was "written in white," because of its purity. Those who know Harriet Prescott Spofford best feel that this might also be said of her because of the purity, the refinement and the beauty of her life. She has a charm of manner that has won for her the title of the "gracious lady of Deer Isle," and those who have the privilege of going over the old chain bridge visiting her in her own home feel that the title is one that is deserved.

### Out-of-Door Life for the Indoor Wife

BY WILLIAM J. BURTSCHER

**N**O MATTER how much work a woman has inside, she should be able to introduce a system which would enable her to get through in time to spend some of her time out of doors. If she cannot arrange this, then it is possible for her to carry the out-of-door life into the house with her.

The first thing that a woman gets out of doors is fresh air. But she can keep the air in every part of the house just as fresh as the air outside by proper ventilation. There should be a window or two open in every room, winter and summer—especially the bedroom. No matter how cold the night, sleep near an open window, and you will never be bothered with cold.



MRS. HARRIET PRESCOTT SPOFFORD

I have entered homes in cities where the air was so foul that I felt like crying aloud, "Ventilate! Ventilate!" Under such conditions women cannot be healthy.

The next thing she gets out of doors is sunshine. We all love sunshine, yet some will do all possible to keep it out of the rooms. Pull aside the curtains and let the sunshine in. And when possible, perform your work in that part of the room where the sunshine falls upon you—except in mid-summer.

The next thing she gets out of doors is exercise. This may also be had in the house. In the course of a day she will walk a mile, perhaps. She will exercise her arms in sweeping, dusting, dish washing, etc. When you have exercised your body, rest yourself by sitting perfectly quiet for several minutes in a comfortable rocker. When your work has been while sitting, rest yourself by taking a walk.

In the question of health we can all afford to emulate the Indians, who took their medicine while they were well, to keep from getting sick. The medicine I recommend is a compound of system, fresh air, sunshine, exercise and healthful food.

### The Puzzler

CHARADE

A weary traveler approached my first  
To satisfy his hunger and his thirst,  
Then felt within his pockets, thinking there  
To find wherewith to liquidate his fare;  
But not a third remained. My second  
shows  
In cypher plain the sum which they enclose.  
"How WHOLE we are," at length the land-  
lord sneers,  
And turns him out, well boxing both his ears.

TRANSPOSITIONS

- Blanc—Rome.
- Puss on spire.
- I can run Tom.
- Tic, Stella.
- Harry got hemp.
- Snipe trade.
- Rus in city—E.
- Miss N. Reade.

ANSWERS TO PUZZLES IN THE SEPTEMBER

25TH ISSUE

Girls' Names Concealed—1. Ada; 2. Isabella; 3. Amelia; 4. Ellen; 5. Emma; 6. Barbara; 7. Martha; 8. Susan; 9. Ella; 10. Mary; 11. Sarah; 12. Agnes.

Charade No. 1—Wintry—win-try.

Charade No. 2—Curtailing—curt-ailing.



# The Grange

BY MRS. MARY E. LEE

## A FARM AND FIRESIDE GRANGE

SEVERAL Granges have been organized through FARM AND FIRESIDE, and I feel as much interest in them as in those I have personally organized. Last week I met one face to face and was indeed proud of it. Last March W. A. Palmer wrote me that they were to hold an independent farmers' institute, and he was on for a talk on the Grange. He wanted literature. Nearly every family read FARM AND FIRESIDE, and they most naturally turned to it. I sent material, wrote the other granges and the county delegate to send greetings and a helping hand, notified that excellent deputy, Ellwood Walker, and in two weeks a Grange was organized, which now numbers forty-five members. It is destined to become a leading factor in Grange life; high ideals, with the grit and determination and spirit of self-sacrifice to make these qualities felt, are characteristics. A brass band and choral club, a good organ, fine musical and literary programs, and withal high courage and heartiness—ah, there is hope for men and women of this stamp.

In this vicinity the hills are high and rugged; sheep raising is the principal industry, with poultry coming to claim attention, and fruit looming in the rear will make this country a garden spot. Such organizations thrill the heart and give hope and courage for the future.

## EFFICIENCY IN PUBLIC SERVICE

Just as long as the public business is transacted by those who must yield to the chicanery of politics, and contribute to the party in power from their earnings in office to hold that office, just so long will there be fraud and slipshod and expensive methods that no business on earth could stand and prosper.

The business of administration of public office is entirely separate and distinct from vote getting. Under our rule of two terms and out, which prevails in most states, the first term in office must be largely consumed in learning the duties of that office, unless experienced and competent clerks are retained, in which case the extra officer is an added expense. To make a man contribute from his earnings in office, that he may get back again, is one of the surest ways of forcing him to find a way to take from the office—that is, from the tax payers—the funds he has to pay out. Fortunate for the public purse is it that after he has learned the trick he doesn't take more.

I see an expression of "that's so" on your face. Wait a minute. The fault is yours. The business is yours, and you have voluntarily selected a man to transact it for you. You are the electors. You are the ones to blame for this nefarious system that is sapping the purse and weakening the moral fiber of the people. You time-serving electors, who have flattered yourselves on your goodness and intelligence, who growl at graft and corruption, complain of high taxes, you are the ones to blame. It's your business. A part of business you retain to yourself as a private matter, and mind it with varying degrees of sagacity and ability; and a part is said to be of a public nature, and the entire community turns out to take part in selecting a man to transact it. Do they go about it in an orderly way, as they would to select a man to put in as foreman on a farm or in a shop? By no means. Brass bands, huzzas, hunting up everything about the record of the man back to the fourth generation, if it can be traced so far, but not a word about his ability and efficiency for the business in hand. Party strife is stirred up, and for weeks papers are paid for, that either laud to the skies or cast to the uttermost depths the candidates for office. And the people read and shout and call themselves intelligent! Was there ever such monumental blundering?

I would that every man, before he could even be announced as a candidate for office, qualify for the duties of that office, and pass a civil service examination. To go before the people and ask for their votes to do a certain kind of business without qualifications is consummate effrontery. Let us get at the matter in an orderly way. Have we not fumed and vaporized quite long enough? Have not the revelations of graft been sufficiently lurid? Has there not been enough agitation to at last rouse the people from their iron-lidded sleep? Are we not ready to declare that public business is just as much our business as private affairs, and use the same business methods to achieve an economical, businesslike administration of them?

I think in each community there are those who could form the nucleus of a sane, determined effort in this regard.

The first step is a system of bookkeeping which shall be uniform throughout the state, which will include every official, from road supervisor to governor, by which all accounts shall be accurately kept, all the income and outgo; these accounts inspected annually, published and distributed to every tax payer. Throw the light of publicity on every transaction.

If a man is an efficient business man, keep him in office and pay him liberally for his ability. Select a man with judgment, who knows where to get information and skilled help, and keep him there until a better man arrives. There will not be economy or honesty in the public service until this is done.

There is no good reason for desiring frequent change in office, and the man who is always clamoring for short terms, "pass the honors around," "there are other good men," simply has an ax to grind. There never was a time in the history of the world when there was as great need for efficiency as now, and never a time when so many elements conspired against it. Go to work, if you really want an orderly, economical administration of your business which you call public. Feel a personal responsibility. It's an economic necessity. Until you do it you will groan under heavy taxes, and your sense of decency will be outraged by revelations of corruption that should make every honest man and woman blush. Organize into Granges in the country, into boards of trade in the city, and all work together for a businesslike administration of public affairs.

## NATIONAL GRANGE

Several of the Eastern states have voted funds to make a special display at National Grange in Hartford, Connecticut, in November. Committees have been appointed to look after the comfort of guests in other cities. Connecticut herself, under the leadership of Orson S. Wood, is making arrangements for splendid entertainment and trips to historic places, these trips to be so arranged as to interfere as little as possible with the regular meetings. This is to be one of the most important meetings in years.

Let every one who possibly can do so arrange to attend this great convention. One cannot be intelligent on economic and agricultural themes unless intelligent upon the action of the National Grange.

## THE OBSERVATORY

Maine has the finest Grange halls of any state in the Union. The home Grange of State Master Gardner built a hall costing sixteen thousand dollars. There are many halls in the state costing from twelve to sixteen thousand dollars. Mr. Gardner is loved and trusted by his people for his fine organizing ability and leadership.

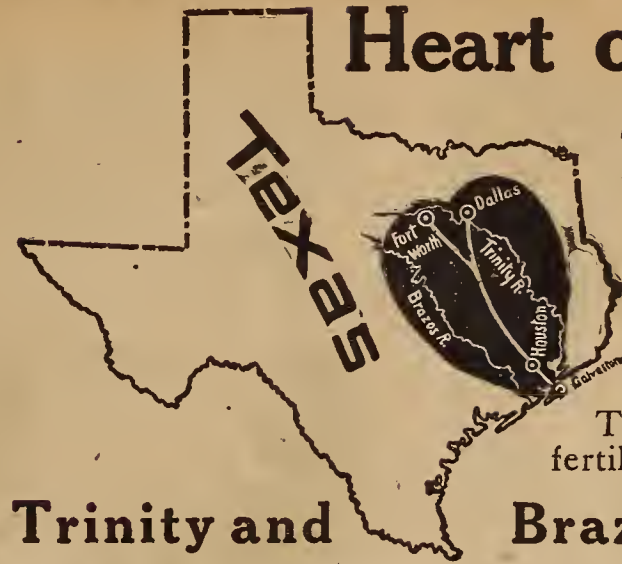
Organizations for civic betterment are turning to women urging them to take up the responsibilities they have so long shirked. Moral and economic problems cannot be solved without the aid of good women, they say. They bitterly condemn the indifference of women to the most potent means of reform, the ballot, and urge the women to join with them in asking for an opportunity to express their demand for good, clean government at the polls. It's the economic and moral necessity of the age. Are women going to wait for the ballot to be thrust upon them? The Grange has always stood for woman suffrage.

Fines, no matter how large, will not prohibit lawbreaking of such corporations as are determined to break the law. They can soon reimburse themselves from a small raise in prices. The fine is simply transferred from business channels to government vaults. The only effective way is to devise laws of such justness as will command the respect of all, then punish violators by imprisonment. Some place in the corporate machinery there is some one responsible. Find him.

If the people are unable, through their representatives, to regulate industries in the interests of common good, will they be any more able to do it when the government owns the commodities? We still have the integer, the individual, with which to deal. What is needed is a larger sense of justice toward individuals and corporations and from individuals and corporations. It is not likely to come unless sought.

There are enough agencies at work to make our government an ideal one if only the interested ones will make use of the power of organization, and the organizations will co-operate. That is the true remedy. There is goodness enough to win. God helps the righteous.

# Cheap Lands in the Heart of Texas



There is an opportunity open to you now to get good land in The Heart of Texas for much less than it is really worth.

The land lies in the fertile

## Trinity and Brazos Valley

This valley is located in the midst of the most prosperous and thickly settled part of Texas. It is formed by the Trinity and Brazos Rivers, which flow only about 70 miles apart for over 300 miles through the richest agricultural section of Texas.

The land in this Trinity and Brazos Valley varies in character from the finest black waxy land, capable of growing enormous crops of staples, like cotton, corn wheat, etc., to the light sandy soils which produce fruits and vegetables in abundance.

The Trinity & Brazos Valley R.R. has recently been completed through the very centre of this valley from Ft. Worth and Dallas on the North to Houston and Galveston on the South. The direct transportation to the four great markets of Texas thus secured gives the territory along the railroad what it has needed to develop its great resources.

Large numbers of settlers are going into the Trinity and Brazos Valley now. They are buying fine land at from \$5 to \$40 an acre, according to kind and location, but these prices are not likely to long remain so low.

If you see in this your opportunity, don't delay. Investigate. You will find the land cheap—the crops big—the climate healthful—the people prosperous, industrious and glad to see you.

Take advantage of one of the low-rate excursions on the Rock Island-Frisco Lines, only \$20 from St. Louis or Kansas City, \$25 from Chicago, to any point in the Trinity and Brazos Valley and return.


If you would like to read something about the opportunities open to you in the Trinity and Brazos Valley write for my book on Texas. You will find it full of good, reliable information. I will send you one, without cost, if you will give me your name and address.

The Rock Island-Frisco Lines have no land for sale and are only interested in getting good, energetic settlers for the desirable, but unoccupied, lands along their roads.

I have chosen several specific sections, where conditions are especially favorable for new settlers, and am advertising their advantages. If you would prefer some other section than the Trinity and Brazos Valley, look for my advertisements in other issues of this paper, or write me for specific literature about the section you are most interested in.



JOHN SEBASTIAN, Passenger Traffic Manager, Rock Island-Frisco Lines, 1222 La Salle Station, Chicago, or 1222 Frisco Bldg., St. Louis



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Any one having a farm for sale in good locality, please send price and description. Would also like information regarding good business and house and lot for sale in good small town. Please state reasons for selling and when possession can be had. Will deal with owners only who wish to sell direct with buyers and save commissions. No agents need answer.

Address, Buyers' Dept., NORTHWESTERN AGRICULTURIST, Minneapolis, Minn.

The UNIVERSAL MAGAZINE the most interesting. Send 25 cents for one year's subscription and 12 beautiful pictures. Address, HALE PUBLISHING CO., 3550 Vista Avenue, St. Louis, Mo.



# THE PRINCE OF PETS



A future society queen on her small gray thoroughbred. A few more years and this little daughter of Mr. O. W. Bird, of Hempstead, will follow the Meadowbrook hounds.



This is Archie Roosevelt, the President's son, on his calico pony, "Algonquin." "Algonquin" is a mighty nice pony, but not a bit finer than the ponies we are going to give our boys and girls.



The son and daughter of a New York man with their favorite pony. No fault can be found with this turnout, but "Prince," with his cart and harness, are prettier still.

The pony directly below is "Prince," the first-prize pony in the contest that FARM AND FIRESIDE is just starting. This picture was taken only a few weeks ago on the FARM AND FIRESIDE pony farm, and the little girl is the daughter of the superintendent. She and "Prince" are warm friends, as the picture will show.

Boys make good "pals" and little girls are mighty nice, too, but after all there is nothing better for a fellow than a pony. The pony is the favorite pet of all children. All the sons and daughters of the kings of Europe have ponies, and Archie Roosevelt has one, too. They are so gentle and easy to keep that the world over they are indeed "The Prince of Pets."



This is another one of the ponies that will go to our boys and girls. We are going to give him away as third prize.



How would you like to have this pony? He will be given away as second prize in the FARM AND FIRESIDE Pony Contest. Isn't he pretty?



This is a picture of "Prince," the first-prize pony, hitched to the cart that will be given away with him. Isn't it a handsome turnout?

Five of the ponies pictured above will be given away in the great FARM AND FIRESIDE Pony Contest, which is just starting. Ten ponies will be given away altogether. There are two hundred and eighty Shetland ponies on the FARM AND FIRESIDE pony farm, and we have our choice of these to give the boys and girls who are our friends. You can find out more about them on page 22.



**PLANTING WINTER GRAIN IN THE SOUTH**

Some few years ago the territory commonly denominated as the cotton belt nowadays was known as the land of the cotton. But with diversification and intensive cultivation the changes in no other section and in no other line of business have been as notable as in farming in the states in question. A combination of causes account for the remarkable difference, but labor is probably chief among all the rest. With this as a primary trouble, others developed on every hand.

Crops that required cultivation had to be abandoned in a measure for crops that could be handled with a small force. Methods of cultivation that called for frequent work had to be supplanted by improved mechanical contrivances which took the place of men. Through all these agencies, so to speak, a great number of changes took place.

The growth of the live-stock industry has called for more grains and forage. The Southern farmer has found the cow pea to be the most wonderful summer crop in the world. They serve as hay and pasture crops, and are used profitably as a seed crop. However, there are many others being brought into use. From every section of the world new plants that will help out are being introduced.

Now the greatest work, in the estimation of many farmers, is the crop to be grown profitably through the winter. New varieties of oats have been established. The Appler oat has made such a wonderful change in the winter-oat crop of the state that the difference in yield has amounted to enough to make the oat crop, under present conditions, one of the most profitable that can be planted. The Georgia Experiment Station grows them almost exclusively, and always sells every bushel for seed at splendid prices. In addition to these oats, the turf oat has been found of great value for grassing, and it also makes a good grain crop. The Burt oat has supplied a missing link in the spring-oat crop. It can be planted in February or early March in the South, and made to yield a big crop, where a few years ago farmers would not think of planting spring oats, even to help out a short food crop.

However, the winter oat is the most profitable to plant. It is very easy to grow splendid crops of them on most any soil that is properly drained. Where the land is at all sour, or shows signs of acidity, the application of lime will remedy the evil and put the land in such condition that an immense crop of oats can be grown. Still the preparation of the soil and the method of planting has much to do with the final yield. There is nothing stranger to me than the lack of knowledge of the farmers concerning the essential points in preparation of the soil. In preparing for winter oats the land should be broken broadcast, so as to turn under all weeds and trash. After this is done, a drag harrow should be used to smooth the land, or if the land is exceptionally rough, a disk harrow could be used with advantage. Writing for the benefit of the average Southern farmer, who is not well supplied with improved implements, causes me to mention the drag harrow, as most anybody has one. In case the land is rough it can be run over two or three times and a good seed bed prepared. That is the essential point to be kept in view.

After this is done, if one has no seed drill, a double-foot plow stock, or even a single foot, can be used to lay off the land, using a four-inch scooter plow, running close together, say six or eight inches apart. When this is done the oats can be sown broadcast over the land, and nine tenths of them will fall in the furrows. When the harrow is run across the land, in the opposite direction of the furrows, all the oats will be dragged into the rows as nicely as if drilled. By this method the slight danger of being winter killed is reduced to a minimum and the crop is practically assured.

The matter of fertilization is of prime importance. When the oats are planted on a field where cow peas have been grown there is usually a good supply of vegetable matter and nitrogen. However, no matter where they are planted, it will be best to use only acid phosphate in the beginning. It can be thrown broadcast over the land and turned under when the soil is broken. If lime is to be applied, it should be applied the same way. Then the harrowing mixes it in the soil.

In the spring, just as the oats begin to grow, nitrate of soda or cotton-seed meal may be applied broadcast with wonderful results. By waiting until spring to apply the nitrogenous fertilizer all danger of its washing out of the soil before the plants take it up is eliminated, and as a result the crop is invariably successful.

J. C. McAULIFFE.

The economic potentiality of agriculture is enormous when we take into consideration the total crop production of last year.



**Better and Cheaper Roofing Than Tin or Shingles. Good for any Kind of Roof**

Did you ever pay a good price for a new roof and then have to patch it within the first year or two? Enough to make anybody sore, isn't it?

You know just as well as we do that the tin and shingles that you buy nowadays are a long ways from being the good old quality you used to buy. Big difference in price, too, isn't there?

Do you want to put your good money into any kind of roofing material that after it's been on six months will make you incessantly haul out the old ladder and patch up a few leaks after every rain?

For 18 years we've been manufacturing MICA-NOID PREPARED FELT ROOFING. When we first started there were no manufacturers of such roofing, but today a bunch of young ones has broken into the ring and, gee, how they talk! In many cases they even have names similar to

**MICA-NOID READY ROOFING**

It takes years to test a roofing material and that's why every farmer ought to investigate MICA-NOID before he decides to put on a new roof. We've thousands of customers who bought MICA-NOID years ago, the first time for only one building. Two or three years after they bought enough for another building, until today they haven't any other kind of roofing on the place. Isn't that pretty good proof that the old stand-by, MICA-NOID, is all right?

MICA-NOID can be applied by any one to any kind of roof. If necessary, can be laid over shingles. Makes a splendid siding for buildings. MICA-NOID is the only roofing that's good for life.

Why wouldn't MICA-NOID be just the thing for that new roof of yours? Write for FREE samples of MICA-NOID and our illustrated booklet.

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**BE SURE TO MENTION FARM AND FIRESIDE WHEN WRITING TO ADVERTISERS.**



# Do you want this Pony?



"Prince" is his name, and he certainly is a prince among Shetland Ponies. "Prince" is by far the prettiest pony we have ever given away, and see how gentle, too!

The  
Greatest  
Of All  
Pony  
Contests  
For Our  
Boys  
And  
Girls

## Good News For You All!

How would you like to have your mother or father tell you that you could have one of the prettiest Shetland ponies in America all for your very own? Wouldn't you be happy?

Well, you can get a beautiful Shetland pony just as well as not, for we are going to give away "Prince," the handsome pony whose picture's you see on this page, to some boy or girl who will do FARM AND FIRESIDE a favor. Wouldn't you just love to hitch up "Prince" and take your friends for a drive in his pretty cart? You would be the envy of every one in your town, for "Prince" is the prettiest Shetland pony we have ever seen—and we have looked all over the country for pretty ponies, too. But "Prince" is not the only pony we shall give away. Altogether we shall give to our boys and girls

### Ten Beautiful Shetland Ponies 500 Magnificent Grand Prizes, and Ten Thousand Dollars in Ponies, Prizes and Rewards!

Just think of it, ten beautiful ponies for our boys and girls! Last spring there were only three pony prizes, but in this contest there are ten—all of them prettier than any ponies we have ever before given away! We have two hundred and eighty ponies on the FARM AND FIRESIDE pony farm, and these ten are our choice of all for our boys and girls, so you can see how fine they are. And just think, there will be five hundred magnificent grand prizes, too. Besides all these, we shall give away thousands of other valuable prizes, including pianos, watches, bicycles, sewing machines, guns, talking machines, and everything else you can think of that is beautiful and useful. Don't you want some of these fine prizes? They are not ordinary prizes at all, nor is this an ordinary prize contest, for in this contest there will be

## A Prize for Every Contestant Enrolled!

That is our guarantee, and FARM AND FIRESIDE stands behind it with hundreds of thousands of dollars capital. It is going to be different from any contest FARM AND FIRESIDE has ever conducted—and far more liberal. We mean every word of it. You can get a prize by just becoming enrolled as a contestant, and in addition to your prizes we will pay you in **cash** for absolutely every subscription you get. FARM AND FIRESIDE guarantees that absolutely every contestant will be rewarded directly, according to the number of subscriptions obtained. Could any offer be more liberal? As soon as you get started you will be a prize winner **sure**, but nothing in the world can keep you from getting "Prince," with his cart and harness, or one of the other beautiful prizes, if you will hustle a little. Just think, there are ten beautiful ponies, all sound as a dollar and gentle as kittens—just like "Prince." And you can get one!

## How to Get "Prince"

Absolutely the most important thing to do now is to write your name and address on the coupon below (or a postal card will do), cut it out, and send it to the Pony Man, FARM AND FIRESIDE, Springfield, Ohio. That is my address, and just as soon as I hear from you I will send you pictures of the other ponies and prizes, and tell you just how they will all be given away. And I will send you a fine picture of Archie Roosevelt, the President's son, on his pony "Algonquin," pictures of the pony winners in FARM AND FIRESIDE's last contest, and letters from them to you, telling you just how they won the ponies and how happy they are. There are lots of other things I will send you, too, and they won't cost you a cent. All you need to do is to write. But if you want to make sure of a prize the very first thing, don't wait to hear from me, but get ten of your friends to take FARM AND FIRESIDE, or renew their subscriptions at twenty-five cents each. Then you will be a prize winner **sure**, and you can keep five cents from each subscription as your cash commission. Just as soon as I get your coupon or postal I will send you all the pictures and other things. Don't wait. Write to-day—**now**.



This is "Prince" with his beautiful cart and harness just as they will all be sent absolutely without cost to some one of our boys or girls. You can get him if you hustle!

*The Pony Man*  
FARM AND FIRESIDE  
Springfield, Ohio

DEAR PONY MAN:—  
Please send me by return mail all the pictures of the ponies and the other things you mention, and tell me just how I can get a pony. I am very anxious to get "Prince," so save a place for me in the contest. I will send my ten subscriptions as soon as possible.

Name.....  
Rural Route.....  
Town.....  
Date..... State.....

CUT THIS COUPON OUT AND MAIL TO-DAY—DON'T WAIT



IS THE MODERN MAN A POOR FATHER?

WHAT the father of to-day should be to best develop his offspring and at the same time create for himself an abiding source of delight is set forth pleasantly and convincingly in an article in the German magazine, "Deutsche Monatsschrift," of Berlin. The writer maintains that neither in the school nor in the home do the children as a rule obtain the training which fits them later to discharge the duties of father. He remarks at the outset that the haste and unrest of modern life leave little time for paternal joys. Some are too weary from the day's work to pay attention to the children's training; others are pre-occupied with social duties, and many there are who are really indifferent about the whole matter. In this way the coming generation loses those priceless hours when the father is also the educator, friend and ideal; and the latter is robbed of the rejuvenating, vivifying force, the spiritual expansion, that spring from contact with one's own child.

The number of fathers that are able to satisfy their children's thirst for information is steadily decreasing. Even when a father is willing to devote his leisure to their interests the modern parent is no longer capable of coping with the situation. The world of surrounding objects has undergone a fundamental change. Germany, for example, from being preponderantly agrarian, has become an industrial country, and modern German life fairly bristles with technical problems. On every hand the child observes phenomena whose solution he is eager to learn—electric roads, gas pipes, telephone wires, aqueducts demand elucidation. One must not try to satisfy him with foreign words and vague phrases; the explanation should primarily be clear and simple. Here the child becomes the educator; he compels us to reflect about things, and, above all, to realize how little commensurate our knowledge, our culture, is with the demands of the time.

The writer says he trains his own boys—of eight and nine—to be keen observers of the things about them and of apparently simple or insignificant objects, and these reveal a world of wonders and surprises. He himself has grown conscious of his own insufficiency, for in his years of study of Nature at the gymnasium but little attention was paid to the plant and animal life of his immediate surroundings. The naturalist never took his pupils into the open where they could question him about the myriad things that met their gaze—plant, beetle, stone; nor does the writer think that even at present instruction is imparted in this profitable, vitalizing way. He shows what a fruitful source of interest and knowledge a mere pond might be, with its many odd forms of animal life.

"The frog might teach us the secret of submarine navigation; the enlarging wave circles, ceaselessly shaped by the water beetles, picture to us the light waves and those that serve as messengers of news in wireless telegraphy. There were mineralogists—as far back as five thousand years ago; every boy should be something of a mineralogist to-day. By proper observation beautiful specimens may be gathered in field and road, and what pleasure to find shells embedded in stones, to strike fire from the flint. A knowledge of mineralogy affords pleasure in a thousand ways—the color of sea and river, the forms of mountains, of landscapes, the material of which most of our industries are the product, all these would be better comprehended through a knowledge of the mineral world. And there are things still closer to us—the house fly, for example, of which we know nothing, in spite of constant contact with it. Instruction usually follows the rule of proceeding from the known to the unknown. Should not a father, too, begin with teaching his little ones in a natural, unconstrained way, about objects which are the most familiar, but about which there is often total ignorance? It may be rejoined that the school is there to instruct the child regarding the things around him, to develop his powers of observation. With all due respect for the school, its actual teaching is done en masse; with the best will it cannot accomplish everything. Besides, the child spends only a portion of his time in school, and learns things there which, though indispensable, tend rather to dull than to sharpen his faculty of observation. The father is the appointed teacher, who in the home, on walks, can develop his senses, which cannot be awakened too early, to be sure, in an easy, pleasurable way. The incitement to exact observation is an incitement to the discovery of unsuspected things in the heavens, in grass, tree, stone."

If one knows through experience how rejuvenating, stimulating and full of delights it is to live in close contact with a child, to investigate, to learn along with it, one is tempted to cry out to the other fathers:



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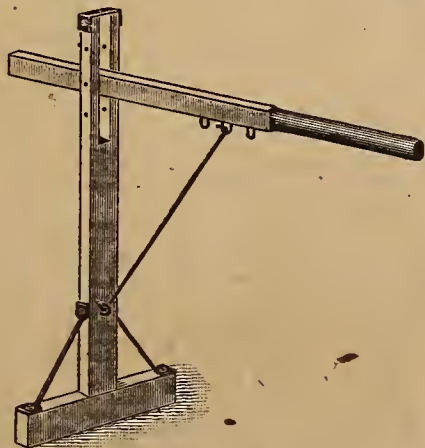
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"Ah, did you but know the joy it affords! You can give your children something better than your gold—yourself, provided you renew and increase your knowledge. And if it be too late for that, see to it that your sons receive a better training for fathers than was vouchsafed to you, and this by having them taught above all about the things that lie nearest to them—in other words, more natural science and technics in the school!"

WAGON JACK

In your June 25th issue I noticed a cut of a wagon jack, by Mr. Richard Maxwell. The next day it rained, and I thought I



would make one. After studying the drawing carefully, I concluded it would be almost as heavy as the man-killing rail. So I took lighter material, and made it in a little different way, as may be seen in the sketch. You will notice that the lever is not notched, hence does not need to be so heavy. The base and braces need not be of heavy material. W. T. SMITH.

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**THE IDEAL LEGUME**

It is a fact that the tiller of the soil must keep up the fertility of his land, and the three elements most necessary to the growth of plant life are nitrogen, phosphoric acid and potash. Barn-yard manure furnishes all three, although not a balanced fertilizer, but no farmer can make enough manure to supply the needs of his farm; nor can he afford to buy the chemicals necessary to make a complete fertilizer, so he must necessarily depend upon the legumes as a source from which to obtain cheap nitrogen. Having gotten the nitrogen, he can afford to buy the phosphoric acid and potash.

Alfalfa growing is a very uncertain way of obtaining nitrogen, as so many things can happen to this plant. In some sections of the country it is almost impossible to get a stand, and it is always ready to give place to any persistent weed or grass. Red clover is much harder to grow in the South than some years ago. I can remember when the practise in my state, Virginia, was to sow it broadcast over the wheat or oats in February, and a good stand was always obtained, but now that way won't do; the land must be enriched, especially prepared and the seed sown in August or September, or you won't have any red clover the next spring. It used to live three years, now two is the limit. The reason for this change no man can give. If the soil is good, cow peas will always come in the South; but peas are high now, and on this account are an expensive crop in the way of seed. If a wet spell comes about curing time, you will certainly lose the vines in an attempt to cure for hay.

For the South, Japan clover, (*Lepidocarya striata*) is the ideal legume. It has done more for this section in the way of furnishing nitrogen than all the alfalfa, red clover and cow peas put together. No one can say how it first got a foothold here. About fifteen years ago it appeared and has held its own against all newcomers. It was introduced, no doubt, in seeding other grasses. This little clover came like the early settlers, blazing its own way without any help from the hand of man. It took possession of all the waste places and commenced to build them up by putting to flight the weeds and grass. It will grow and flourish on much poorer land than even the white clover, and is the only plant that will destroy wire grass and broom sedge. It will grow in the shade better than any other clover. I have never known it to destroy a crop on cultivated land, and if sown on any kind of soil without the least cultivation, it will take hold and do well.

Fields that are well set in Japan clover will bring good crops of corn, wheat, oats and rye. I consider every acre well set in Japan clover to be worth at least five dollars more than before. Cows give large quantities of milk while running upon it; for them it is as good as red clover. I have never known it to give a cow the bloat, even when eaten wet. The only thing that can be said against it is that it makes horses slobber, but not as badly as the second crop of red clover. I have seen it get eighteen inches high on rich land, and it can be cut for feed, but it is primarily a grazing crop. It should be sown in the spring. The first frost in the fall will kill it, but it will come again the next spring. It stands dry weather well and looks like it might live forever by reseeding itself every year. It is easy to destroy by plowing up.

I do not advocate abandoning alfalfa, red clover or cow peas for Japan clover, but I simply wish to call the attention of every farmer to the merits of Japan clover, and let him test it for himself. If Japan clover does this much for us in the uncultivated state, what won't it do when seeded under the same conditions as alfalfa or red clover?

W. H. ARMISTEAD.

**HOW LICORICE IS PRODUCED AND MARKETED**

Almost every pound of the world's supply of the toothsome licorice root comes from Asiatic Turkey. The plant grows wild in the fields, and but few attempts have been made toward its cultivation. According to a recent report by our consul at Smyrna (Mr. E. L. Harris), the use of licorice is scarcely more than half a century old. We quote from his report:

"The root grown on the Meander plains is the best in the world, being superior to that found in Syria, Mesopotamia, Caucasia, Siberia or China. The exporters of the root lease licorice-bearing lands for a period of from three to five years. Digging usually begins in October, and is done by peasants, who at the end of each day deliver the root to the various depots and receive payment according to the quantity they bring. The wages earned depend entirely upon the industry of the individual laborer.

"The root is piled up and exposed to the air until about May and June. It

then weighs only half as much as originally, owing to the thorough drying process to which it has been subjected. It is sorted to obtain the qualities known as 'debris' and 'bagette,' both of which are highly valued. The quantity and consumption of these two qualities is but small compared with the unsorted root exported for the manufacture of sugar and powder of licorice.

Licorice root is shipped in bales, weighing about two hundred and twenty pounds each, pressed by hydraulic machinery and strapped with iron bands. The United States is the principal consumer of this class of licorice, which is shipped there in its natural state as raw material, being admitted free of duty. It is converted into licorice paste for medicinal purposes, and is especially used for flavoring plug tobacco. Licorice root in its original state can also be found in any drug store in America. Annual exports to the United States amount to about 14,210 tons, valued at \$550,000.

"The debris and bagette qualities are purchased almost exclusively by France. Germany also purchases a small quantity. This class of licorice is shipped in sacks weighing from three hundred to three hundred and thirty pounds each.

"Licorice intended for European markets is first converted into paste in factories near Smyrna. It is shipped in cases which weigh about three hundred and thirty pounds each. Recently small loaves have been prepared for export, which weigh from eight to eleven pounds each, twenty-four of which are packed in a single case. England is the chief purchaser of licorice in the paste, only small quantities being exported to other European countries."

**AGRICULTURAL NEWS-NOTES**

Bostonians are fruit eaters. They require about one hundred carloads each day to meet the demands.

France is the largest importer of peanuts. They are received at Marseilles, where the oil is extracted from them.

Delhi, Delaware County, New York, is said to receive and ship fifteen thousand cans of milk daily. This makes it the leading milk-shipping point in the United States.

It is conceded that consumers of farm products are having to pay an increased price for their table supplies. Is the producer getting his proper proportion of this increase?

Fifty or more farmers, together with the experiment substations in northern Wisconsin, are testing the Oderbrucker barley this season. It is without question a valuable acquisition.

The acreage of durum wheat in the Northwestern states in 1906 was estimated at three million acres. The average yield an acre was a little over six bushels greater than that of the spring varieties.

An important addition has just been made to the Minnesota Experiment Station by the purchase of one hundred and twenty acres of land. This is to be used for experimental work in the propagation and growing of fruits.

Of the leading kinds of lumber cut in the Southern and Eastern states, the four that advanced most in price between 1900 and 1905 are the following: Maple, \$8.11; cypress, \$6.16; poplar, \$4.68, and cottonwood \$4.57 a thousand feet.

A plant for the production of denatured alcohol is about to be established at Woodward, Oklahoma. Woodward County, which is in the extreme northwestern part of the state, is noted for its extensive production of broom corn, and the surplus of this product will be utilized at the distillery.

A notable addition to the means for the preservation of forests has been the introduction of telephones. By using these, help can be summoned before the forest fires have gotten beyond control. The construction of the lines is not expensive, as the poles required are right at hand.

It is quite evident that science is at work at the various experiment stations and at the United States Department of Agriculture. The thousands of dollars that have been expended in this work have added millions to the profits of the farmers of this country. Let the good work go on.

The only really good road is a macadamized or broken-rock one. They are expensive, and the burden of cost should be evenly distributed over a series of years. The Missouri law provides for the paying of a tax of ten cents an acre for twenty years, the state to pay one half the cost of construction.

President Roosevelt reiterates the now well-known fact "that the Department of Agriculture has done work of inestimable value, and stands in direct relation to our national prosperity to such an extent that its work must be enlarged and improved." Let the appropriations be increased, and improved efficiency will be the result. \*

# Amatite

## ROOFING

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The main weakness of most ready roofings is the fact that they have no mineral surface, and therefore need constant painting or coating to keep them tight.

Instead of a smooth skin coating made to receive a coat of paint, Amatite has a rough surface of small particles of hard siliceous rock such as is seen in quartz or other hard stone when examined under a microscope.

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On the steepest roof the flow of water will not be strong enough to loosen these particles. This surface does not need paint to protect it from the weather. It will last for years.

*The extremely low cost of Amatite with its effective protection and long service, without painting, care or repair, make it the most economical ready roofing yet devised.*

Two representative buildings showing the handsome, clean appearance of Amatite on the roof are illustrated herewith.

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There is no reason in the world why you should buy a roof that needs painting.

Paint is a makeshift to help preserve the material on which it is used and will only give limited service at best.

The roof that you have to paint every two or three years is the roof that is going to leak if this care and expense are overlooked.

owners of one of these roofs is typical of the thousands of letters which we have received in praise of Amatite.

*Gentlemen:* I am very pleased to be able to state that the Amatite has been entirely satisfactory, and I would not hesitate in recommending it to any one in need of roofing material. Yours truly,  
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# FARM AND FIRESIDE

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## Cattle Raising in the South Combating Texas Fever, the Handicap of the Industry

ABOUT the time when my acquaintance with the South was beginning, and before I had decided upon taking up my residence in this land of contradictions, I heard a conversation between a lady who had bought a small farm down here, and a farmer, Northern born, but so long a resident of the South that he had become as racy of the soil as a veritable native.

The lady had lived on a farm in the North, and regarded herself as fully acquainted with the necessities of rural life.

"I am thinking," she said, "of buying some stock, young steers, you know, and a couple of cows. They can live on the grass that you tell me keeps its growth till late in the fall, then I can fatten them in the winter, and no doubt it will pay me to market some of them in the spring. Perhaps you can tell me where I can purchase some cattle."

"Wal, ma'am," was the reply, "I reckon I might rustle 'round an' find a few cow frames fer ye, but what success ye'd have hangin' flesh on 'em is more'n I can tell ye."

The term "cow frames" amused me, though I did not then understand the aptness and accuracy which gave genuine wit to the phrase. But when I came to know the South by actual, close observation, nothing amazed me more than the paucity of stock in meadows and barn yards. When I gave utterance to my surprise that in a land where the winters were so mild that animals could browse the year through, and where a well-cultivated meadow would yield four crops of hay in a year, there was so little stock to feed upon either grass or hay, I received always the same reply, "Oh, every one knows the South is not a cattle country." And when I noted the aspect of many of the cattle here, undersized and thin, stunted in growth and gaunt as skeletons in the midst of apparent abundance of food, and sought to have the strange fact explained, again I was told that "the South was not a cattle country." When, further, my neighbor brought from Illinois half a earload of fine steers and heifers, only to be compelled to use them as fertilizing material in less than three months, the sum total of his consolation was the assurance that he "ought to 'a' knowed the South wa'n't a cattle country."

Now that cattle raising is an industry very imperfectly carried on in the South is generally known elsewhere, but perhaps few other sections, excepting those directly engaged in cattle buying and shipping, fully understand the causes of this serious deficiency. It has been largely supposed that a condition of insufficient pasturage

exists through much of the South, especially in the Gulf states. I have heard new-comers to this region, who held to that view, try to sustain it in the face of the magnificent growth of grass shown here, by arguing that these grasses are lacking in nutritive quality, and fail to properly nourish stock fed thereon. These theories, however, only show that those who uphold them are quite ignorant of the vital facts of the question.

It is true that the indigenous grasses of the South are different from those native to the Northern states, and less varied in species. But experiments carried on at the various agricultural stations of the Gulf states have fully proved that a large number of the most nutritious grasses will grow abundantly here, plainly showing that only a more general tillage is needed to furnish the hills of the Gulf states with a luxuriant green growth, on which unnumbered fine cattle might thrive, fatten and multiply.

They might, but they do not, and the cause of the lack must be looked for outside of the question of food supply.

Another theory, that the imperfect success in cattle raising in the South is due to the climate, the excessive heat fostering fevers and blood diseases among the animals, is partially correct. The reason why the South is not, as has been under-

driven northward from Texas carried with them the poison of a strangely infectious disease. It was noticed that cattle driven over the trail of these herds even sixty days or more after they had passed would contract this disease, and often perish in great numbers. As cattle buyers from the Atlantic coast began to drive cattle from the Texas pampas, they also noted the trail of death these left behind them. At first the connection of the disease with the moving cattle was not credited; it was generally believed to be an epidemic of purely local cause.

During the period of the war the subject was unnoticed, there being no movement of the southwestern herds, but when about 1867 this movement was again renewed, it was once more noted that wherever these moving herds had grazed, there were left the germs of a frightfully fatal disease, by which native herds without number were decimated.

At this time the economic importance of the enormous grass ranges of the West and Northwest was just beginning to be understood. Rich men from the Eastern states, and even from Europe, were buying or leasing these wide ranges, and they sought to buy the Texas cattle—then very numerous, and of course cheaper than Northern herds—and drive them to feed thereon. Cattle owners in the localities

and threatening the very existence of our export trade. Plainly it was beyond the power of individuals or states to deal with it, and federal aid was felt to be essential. At that time the Department of Agriculture was only a bureau, very imperfectly equipped for scientific work. The first appropriation for the investigation of prevailing animal diseases was made in 1877, when ten thousand dollars was granted. In 1884 the Bureau of Animal Industry was organized, and it was understood that no more important duty lay before it than the study of the nature and conditions of the Texas cattle plague.

At first, the true cause of the disease seeming to baffle even conjecture, investigation was turned to the task of learning the extent of the area of infection. Here facts were so fairly attainable that in the course of a few years the northern border line of the plague district had been traced from the Atlantic coast in Virginia to the Pacific coast in the vicinity of San Francisco, a distance, allowing for turns aside from a straight line, of about four thousand miles.

The actual knowledge of this line of endemic delimitation was of great value to the cattle trade, making it possible to check the spread of the disease through quarantine regulations. But the far more important discovery came soon after, when the mystery of the disease itself was penetrated. It had been already noted that a microscopic animal parasite was always present in the blood of infected animals. In 1889 it was discovered that the agent not only in conveying, but in developing, this disease germ was the common cattle tick, the *Boophilus annulatus* of entomologists. Then it became known how these cattle of the Southern prairies, though themselves apparently free from disease, carried a death-dealing plague everywhere they went.

### THE TICK AND ITS EVIL WORK

What is the *Boophilus*, generally called the "blacked tick" for short? It is a very small insect, one of the mites that infests the entire

South wherever there is an ox, a cow or a calf upon whose life blood it can feed. When not engaged in its mission of prey it is attached to vegetation everywhere, actively employed in multiplying its numbers. These insects are endowed—by that inscrutable Providence that has so generally given the trump card of numbers to things that are worthless and evil—with amazing fecundity, each female tick laying about three thousand eggs; and as four generations in a season is the rule with them, it follows that the progeny of a single individual may be computed



HERD IN NORTH CENTRAL MISSISSIPPI

This is part of a really fine herd, fed in a section where the fight with the tick is now actively going on

stood for nearly seventy-five years, "a cattle country" is involved in the prevalence of one disease, splenic, or Texas, fever. That this disease is caused by the bite of an insect has been known for eighteen years only.

### HISTORY OF THE TEXAS FEVER

The disease known as Texas fever, or splenic fever, made its existence known soon after the Mexican War had brought the southwestern territory into the American Union. During the fifties cattle buyers of the West noted the fact that herds

through which these moving droves passed made angry protest at this spreading of a terrible disease, and tried to confine the trails of the infectious herds to narrow limits, and in some instances to close the trails entirely—actions bitterly resented by Texas cattle raisers, who refused to believe that their animals, which were apparently unaffected by it, could cause the disease that broke out along the line of travel.

However, the uncomprehended curse continued from year to year, causing great loss to the domestic trade in cattle,

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into the millions in one year. The tick belongs properly to hot countries, and does not live through the winter. It loses its hold on the animal, whereon it lives, with the coming of cold weather, but its eggs live unharmed through the short winter, to hatch in the first days of spring. The supply therefore does not fall off, but increases its area and its power for evil annually.

Did you ever see a "ticky" cow, one, for instance, in a neglected pasture, where insect infestation had accumulated, season after season, with no let or hindrance on the part of fire or the plow? There she stands, gaunt and wretched, with drooping ears and clouded eyes, making no effort to eat the grass that grows about her feet; if she could speak she could not make the fact plainer that she is only waiting for merciful death to end her life's misery. Go close to her and you will see that her body is so covered with small insects that not another could find a hair to lodge upon. How many do you think there are? Well, I should say that counting the dots on a prize picture was a cinch compared to counting the ticks on a Mississippi cow, but I have heard a farmer, taking her dimensions and reasoning from the number counted on a square inch, roughly estimate the total at three hundred thousand. Oh, the South is not a cattle country, you say. Certainly, when it has specimens like this to show, it is just as well that it should not try to be!

Now, when the cause and origin of this disease came to be known, and it was at last admitted by the natives that Texas fever was an actual product of this latitude, it was claimed that the native-born cattle were not affected by the disease that killed those born elsewhere. When our attention was called to the "numerous" ticks it was assured that they had lived on cattle in this region so long that calves were born immune to any harm from their bites. Investigation showed, however, that these cattle were not immune at birth, but that they invariably suffered a mild attack of the fever when very young, and apparently the effect of this was, if the calf did not die, to ensure its immunization. But later it was generally recognized that three fourths of the supposed immunity of these cattle was the result of the wide range that they had to feed upon, it being impossible for infestation to become so intense there.

It will be remembered that the Texas cattle, when first known in the North, were made the subject of much adverse comment, because of their bony frames, the difficulty in fattening them, the poor milking quality of the cows, and other reasons. It is now believed by many that the defects of this breed of cattle are so largely due to the poison of the tick, that were it possible to wipe this insect out of existence, the Southern cattle type would in a few generations become entirely changed. This belief is founded on the fact that every attempt that has been made to improve Southern cattle has been thwarted, more or less, by the agency of the tick. Given the best blood for cattle brought to or born in the South, also the most generous feeding and the best of care, and if the tick has an opportunity to obtrude his evil work, it all comes to nothing. Again and again improved stock has been brought into this section, and I have been shown calves born here that were the equal in fine points to the best that could be shown at any time in Illinois herds. But if the tick ever gets hold of them, either through infestation of pastures or because of the idea, so unfortunately prevalent down here, that the infection of this poison is necessary in early life as a measure of protection against more dangerous infection later, its evil power is plainly shown to be stronger than the best influences of heredity. The animals never can be made to attain their full size, no matter what care may be given them later. And if further infestation follows, there is loss of flesh, debilitation of the system, and a loss, one by one, of the good points given by breeding. There need be no question why the South is not a cattle country while the tick continues to have it all his own way.

#### THE TICK MUST GO

But it has now been decided that the rule of this pest must come to an end, and the clarion cry has been sent out from farmers' conventions, from the Southern experiment stations, from state departments of agriculture, as well as

from the headquarters of agricultural stimulus at Washington—"The Tick Must Go!" And in this last chapter to my story I wish to show how we of the South know that this glorious culmination, destined to be of more material benefit to our section than any number of big cotton crops, is both possible and certain.

When the existence of the tick as the cause of Texas fever became known it was of course first supposed that an effective remedy against it would be found in the form of dips and washes. The government lent its aid toward the testing of such aids to the cattle raiser, and under the auspices of the Bureau of Animal Industry cattle men of the West have been able to use dips with results held to be quite satisfactory. But remedies of this sort are cumbersome and expensive, and possible only upon large ranches, where labor is available and the cost of appliances is a small item. They are troublesome and difficult to the small farmer, and often altogether impossible. Besides, the chemical appliance advised, sometimes in ignorant hands, has caused serious injury to the cattle. Furthermore, under the best of conditions it was seen that washes were never sufficiently effective, as they gave to the animals only temporary relief, never protecting them from re-infestation by the insects.

Finding that a list of chemicals warranted not only to kill the ticks, on any cow, but to also take off her hair and hide was not fully appreciated, Science made a second offer in a system of inoculation, by which a small portion of the blood of a tick-infested animal was injected into the veins of a healthy animal, thus producing a mild form of Texas fever, and rendering the latter immune to any severer form. This plan was often tried, and it undoubtedly checked the excessive mortality of susceptible stock which had been brought into the tick territory, but it in no way touched the real tick problem.

Then pushing Science and her theories aside, Observation and Common Sense came into the field some three years ago, and in partnership gave us the true remedy. Observation noted that the tick drew its sustenance from bovine animals only, and that when for a period of a few months it was deprived of their proximity, it perished for want of its natural food supply. "Starve it to death, then," said Common Sense, and this is the work that, already begun, bids fair in time to bring about a complete revolution in Southern farming and open an era of prosperity exceeding anything that the South has ever known or has ever dreamed of.

The means of accomplishing this monumental work is so simple that many may doubt its full efficacy, but experiment has given entire proof that it meets the case. It is merely a rotation of pastures, providing for the removal of the stock when they are free from the ticks in the winter to a tick-free pasture, and keeping them away from the infested enclosure until the insects within it have been starved.

ticks, but they should not be placed in the pasture which they left the first of December until about two hundred days have passed, during which time the ticks therein may be assumed to have perished from starvation. Those who have written on this subject, and who, presumably, have tested the plan, differ somewhat as to the length of time that should be allowed for the dying off of all the ticks, making it from one hundred and seven to two hundred and twelve days. A farmer whom I know, and who has successfully eliminated the tick pest from his land, tells me that his usual limit of time was one hundred and fifty days. This is for cold months, he says. The insects die off much sooner in hot weather than in cold weather.

I need not, however, in an article like this, go into the details of the eradication plan. Enough is it to note its simplicity, its entire practicability and the fact that it has already been begun with most promising results. During 1906 no less than seven counties in North Carolina were freed from the tick by such a method as I have outlined, and two in Georgia, and during 1905 and 1906 eight counties were cleared in Tennessee. This cleared territory lies contiguous to the national quarantine line which has already been referred to, a line which is based solely on the presence or absence of this particular insect, and which is altered from year to year, as adjoining territory is found to be free of the pest. Every year in January the Bureau of Animal Industry sends out a map, carefully brought up to date, showing the limit of existing infested districts.

The success of this eradication work demands, of course, a willingness on the part of Southern farmers to work together, and a determination by the intelligent and thrifty to bring the idle and the shiftless up to the mark. They must understand that neglected "ticky" creatures, such as I have above described, are a menace to the whole community of stock raisers, and should not be tolerated.

The loss which the South sustains annually through the toleration of this one insect pest is amazing, computed in dollars, and yet no estimate probably even approaches the actual truth. I will show this by changing the point of view, and look not at our present loss, but the certain gain to the community from a banished tick.

In the first place, there will be no deaths from Texas fever. Is not that a gain of fifty million dollars, at least? Secondly, we will not have any stunted calves, no young steers and heifers with vitality so impaired that no care can bring them up to the standard of their kind; we can improve our stock with the aid of the best strains that the land affords. Is not that worth one hundred million dollars to us? Further, we abolish the quarantine line, having an open market for our stock the year through, and thus bring in a stimulus that will build up a neglected industry and wipe out the stigma of

seedsman by telegraph, and I ripped up the soil again, ran over it with my sixteen-foot harrow, and the corn arrived by express just as I finished the job, and I soon had it planted. It seemed like every grain grew, and the weather was just right.

"I hired two boys when the plants were about a foot high, and went over it and thinned it to three strong stalks to a hill, and the result is a dandy good crop that is now (September 14th) safe from injury by frost.

"I left one acre of my first planting, which I had replanted by hand with the big, late variety I generally grow, and it will make about twenty-five bushels, if frost holds off until the first of October, that will be sound corn.

"I have made enough off one acre in this deal to pay for FARM AND FIRESIDE the rest of my life, and something over. If my first planting had come on all right, of course I would have had a larger yield, because my big corn generally makes about seventy bushels an acre, but it requires a long season to mature. I am more than satisfied with the outcome of this move. The ears are well filled out, and the grain will be sound and heavy, and it may shell something over fifty bushels an acre."

The above is part of a long letter just received from an Iowa farmer, and is one that makes a fellow feel that he has done at least one person some good service. This man acted promptly and wisely. Some farmers would have laid down. I know several farmers who did, and several more who declared that they would not go to the expense of procuring seed of an early variety, because it would simply be adding to their losses, and as a result they will be shy a good many bushels of high-priced corn. I like a man that does not quit because luck seems to be against him. Farming depends upon the weather to a considerable extent, but not so much as upon the skill and prompt action of the farmer. All great battles have been won by prompt action at the opportune moment, and wealth is won on the farm in the same way.

A live, skilful farmer is never beaten. If one course of action fails he is ready with another, and if he fails to score a great success he scores a smaller one. I well remember the words of an old farmer at the close of a drought that cut the corn down to a mere fraction of a crop. "Well," said he, "I lost out on my corn crop this year, but I raised some of the finest and sweetest melons that ever grew, and I filled up on them every hot, dry day all through August and September, and I felt sorry because I couldn't fill some of my poor, shriveled hills of corn up with them, too. My, how they would have enjoyed the rich, sweet juice!"

#### SECURING A FULL STAND OF CORN

Just about this time of year many a farmer can see exactly how he missed growing a bumper crop of corn. The principal reason is because there is only about half a stand of stalks in the field. Every hill and stalk that is missing is so many ears missing. I have seen a farmer make a great fuss because a husker missed an ear in one of his rows, but he had nothing to say about the twenty to fifty ears missing from the same row through his own mismanagement—failure to secure a full stand. A poor stand of corn is often the result of pure shiftlessness. Not one time in fifty does it pay to replant missing hills or plant more seed beside a single plant. The only way it can be done

with any success at all is by heavily fertilizing the spot where the hill is to stand, and planting a much earlier-maturing variety.

One farmer I know has not failed in years to secure a full stand of corn. He plants eight to ten grains in each hill and thins to four plants when they are about four inches high. He grows only about fifteen acres a year, but he invariably secures a maximum yield. He told me that he rarely finds more than one hundred and fifty to two hundred hills entirely missing, and he has two hundred three-inch flower pots with a hill growing in each, and he fills the vacant spaces with them. He says this plan makes him five to eight bushels of corn, and he thinks that pays. It is very evident, let farmers say what they will, that planting too much and thinning is vastly better and more profitable than planting too little and replanting.

FRED GRUNDY.



A TICK-FREE PASTURE IN CENTRAL MISSISSIPPI

"As long ago as when Texan cattle raisers and Northern cattle buyers were quarreling as to the source of the epidemic fever that followed the cattle trails of the West, it was noted that these outbreaks of disease never occurred in the winter. The fact is, as I have before said, all ticks drop from the cattle they have been bleeding—pleasantly styled their "hosts"—upon the coming on of cold weather. Each female then proceeds to lay her stint of three thousand eggs or so on the ground, according to her custom, but these eggs do not hatch until the coming of mild weather in the spring. All cultivated fields, if tick-infested cattle have not been feeding in them, are tick free in the fall, and on December 1st the "ticky" cattle may be driven into one of these, for the shedding of the seed ticks. By February 15th, when all these have dropped, the cattle may be driven into another cultivated field, or a pasture known to be free from

"no cattle country." In one year this would surely be a two-hundred-million-dollar gain.

And lastly, though often overlooked, there would be the increased productivity of the soil to count on, through the natural fertilizers that we now so greatly lack, an advantage that may not be computable offhand, but soon must involve millions in increased values.

A. C. CHASE.

#### PROMPT ACTION PAYS

"My corn crop is made, and it will easily reach fifty bushels an acre. My first planting was a failure, owing to heavy rains rotting the seed, and I feared it was all up with me for a corn crop this year. Just then I read your advice in FARM AND FIRESIDE to plant an earlier variety if the first planting failed, and that decided me. I ordered four bushels of an early maturing variety from a reliable



**MAKING "FLOATS" SOLUBLE**

Several of our friends have asked me whether I think it would pay them to buy raw phosphate, the so-called "floats," and sulphuric acid, and make their own superphosphate. If I had a chance to buy floats near by, or at least not too far off, and at a reasonable price, I would surely buy and use some. Unless I could get it comparatively cheap, and also secure sulphuric acid very cheap, I would not for a moment think of going into the business of manufacturing superphosphate, although the process is by no means complicated. To do this with advantage one has to secure the materials at lowest wholesale prices, and have vats or tanks, and possibly other equipments, for doing the work. The regular manufacturer of fertilizers has all these advantages, and I believe that in most cases I would rather buy the ready-made acid phosphate, which is a plain superphosphate, at the going price, say fourteen to sixteen dollars a ton, than work with sulphuric acid, the handling of which requires considerable care and caution. An alkali, such as baking soda, should always be kept within easy reach, so as to apply it to any place where the acid has been spilled or spattered, and thus neutralize its corrosive action.

A simple formula for turning floats (a plain phosphate) into superphosphate or acid phosphate (dissolved rock)—in other words, dissolving or reducing it—is as follows: Make a tank of suitable size, using sound two-inch plank, and line this inside with sheet lead, as this will withstand the action of the acid. Put into this two hundred and sixty-five pounds of floats, and moisten it with about ten gallons of water, stirring it until well mixed. Next add slowly the contents of a carboy (one hundred and sixty pounds) sulphuric acid of sixty-six degrees strength, and stir thoroughly. After a while it will be in condition to be bagged and applied, and will make about four thousand and fifty pounds of acid phosphate containing sixty to seventy pounds of soluble phosphoric acid, and being worth about three dollars and twenty-five cents.

I have heretofore used the ready-made acid phosphate altogether, but shall make an effort to procure a supply of floats, and use it in the raw, or undissolved, state as already mentioned. It may be used on soils that are a little acid and well supplied with decaying organic matter. The natural acids and ferments in such soils will gradually dissolve the phosphate of lime and make the phosphoric acid available for the use of plants.

Floats comes also especially handy for scattering under the hen roosts, over piles of fermenting manure, in privies, etc., and its free use in such places will seldom fail to pay well.

**POULTRY STANDARDS**

At the American Poultry Association recently held in Niagara Falls the question came to a discussion, whether in the established American standard of the various breeds utility had found its proper consideration as compared with beauty.

The membership of the association undoubtedly consists almost wholly of fanciers and "breeders," and their ideal is the "show bird" which can win prizes. A few of the members seem to realize, however, that for every fancier there are a thousand poultry-keeping farmers who raise poultry for their eggs and their meat, and do not understand the standard nor care particularly about perfection in color. One speaker mentioned a certain penciled Wyandotte hen, perfect as to standard, which took the prize at every show, but produced no eggs. He called attention to the Rhode Island Red hen which came into popular favor and demand long before she was recognized by the standard and the fancier, and this simply because she produced the goods, in large number of eggs and meat qualities.

For the established standard, however, it was claimed that utility points are provided for, that the hen which has the typical shape and other characteristics given by the standard is also the utility hen, producing the eggs and the meat, and that even the color of the bird has much to do with its market value.

The "judges" decided in favor of the advocates of the established standard; but the truth, it seems to me, lies in the middle. Every observing poultry raiser knows how seldom we find in our flocks a "perfect bird." A hen or rooster without a blemish, however slight, is a rare bird indeed. Even while we value utility above everything else, and are after eggs and meat stock, yet we at the same time desire to have our fowls as handsome and perfect as possible, and for that reason we continuously "weed out" the faulty specimens. We don't want the barren hen, or the fowl that has a poor carcass, no matter how beautiful her color or appearance; but we like to have our good layers and good meat producers "show off" to best advantage, and all in one

flock of the same general type and appearance.

While color may not count much in this respect, yet we know that our neighbors or chance customers from other places will be much more willing to pay a good price for "eggs for hatching," or for breeding stock of the particular breed we are working with, when we have birds that conform to the established standard and the type, and are reasonably perfect in color, as well as in shape and other points. As for me, I like to combine good color and beauty in general with utility in my fowls.

T. GREINER.

**WINTER LEGUMES FOR THE SOUTH**

There are hundreds of farms in every section of the South that are usually denominated as worn-out lands, and abandoned by their owners. Generally these farms are found in old settled communities, where the people who first settled the country centered upon as the most advantageous of all the country. So far as Nature is concerned, these same communities retain their superiority over the country, and are really just as valuable to-day as they were in the days when the country was first opened.

However, an old worn-out system of farming, with untutored cultivation, has robbed the soil of all available fertility, and in order to make it productive an intelligent and intensive system must be installed. One of the greatest troubles that has been experienced in these communities, aside from continual one-crop method, is the lack of cover crops in the South, where the burning sun of summer parches the land and dries out the soil to such an extent that it is damaged almost irreparably. In the winter the same is true from the different sources of rains, that cause the soil to leach away, and gullies develop in the land that was before in a splendid condition.

To eliminate this feature it is necessary for the farmers to take up the study of cover crops. In most sections of the South this trouble has been eradicated by the introduction of the cow pea and other leguminous crops that are proving very valuable. In fact, in many instances the cow pea crop has become one of the leading crops of the country, and its value this season has been attested in a greater degree than ever before. However, it now remains for the farmers to take up the care of the land in winter. This can be done in various ways, and it is being understood better each season. On these old farms in the South the ancient custom was to plant a small patch of rye or some other grain crop around the home, and this served as a grazing patch for the family horse or some other fancy cattle, that usually received especial care in the family. On these plots the grain grew with remarkable vigor year after year. These lands developed into pet patches, and summer and winter something was kept growing on them.

It can be safely attributed to these spots of God's great terrestrial empire that they were the fundamental factors in getting many new farmers interested in a better system long before educational farming was indulged in to any

worth double the price in the great grain belt. This is just one instance among the first to be started in the South. Today there are hundreds of farms growing better every year, and in some localities I know the prices of lands have made an advance that is almost out of reason, comparatively speaking, and now selling at three times the figure asked for them three years ago.

It is quite useless to ask what system and what legumes can be used in the South. A thorough preparation of the soil in the early fall, the selection of some leguminous plant or plants that grow in winter, and the rest of the story is short. Rye, beardless barley, Canadian field peas, burr clover and the vetches form the basis of plants to grow. It is time for the farmers, not only of the South, but of the whole country, to take up this matter from the general business point, resulting in a great advantage to the soil and much profit to the farmer, to say nothing of the interest of the community at large.

J. C. McAULIFFE.

**A NEW PLAN FOR GROWING CORN**

During the past few years a new method of growing corn has been developed in the South which is working a revolution in corn-producing districts, and which is proving so successful that the farmers are anticipating the time when they shall be independent of Western corn growers. The new method was discovered and worked out by Mr. E. McIver Williamson, of Darlington County, South Carolina, and is commonly spoken of as the Williamson plan.

Mr. Williamson's practise sounds decidedly radical to people who have been growing corn in the usual way all their lives. One leading agricultural authority in the South declared that it was against Nature, but when he saw one of Mr. Williamson's fields he said that against Nature or not, Williamson had the corn.

There are four essential features in the plan. The first is deep planting on deeply plowed ground; the second is holding back the growth of the plant after it is above ground; the third is the side application of fertilizers while the corn is growing, and the fourth is the sowing of cow peas at the last cultivation, to be plowed under for humus and nitrogen. The whole purpose of this plan is to produce grain instead of stalk.

With corn planted eleven inches apart in six-foot rows, and with the use of eleven dollars' worth of fertilizers, Mr. Williamson has been able to produce an average of eighty-four bushels to the acre, while on some of his best acres he has been able to raise as many as one hundred and twenty-five bushels to the acre. Mr. Williamson says that the tendency of corn is to grow upward and not down into the soil. For that reason he advises deep plowing and the planting of the corn deeper than is the custom. Mr. Williamson uses no fertilizer before planting, this point being one of the most important differences between the new and the old plan.

The first working of the ground is given with a harrow or any plow which will

It takes some experience to tell just how much the corn should be held back to get the best results, but the richer the land, the more thoroughly should the stunting process be done. When the corn is from twelve to sixteen inches high it is time to make the ear. It will not look very promising, and neighboring fields, where fertilizers were used heavily before planting, will look far ahead of it. If you want corn and not stalk, and are following the Williamson plan, you just hold your peace and wait for the harvest.

When the corn is ready to make the ear the first application of fertilizer is made. Mixed fertilizer is used as a side dressing. A few days later nitrate of soda is used, and at the same time the corn is laid by and cow peas are planted. Mr. Williamson is quoted as saying that in his opinion more corn is ruined by late plowing than by lack of plowing, for that is when the ear is injured. The corn will make more with less rain under this practise than when fertilized and cultivated after the old fashion. The stalks being small do not require nearly the amount of moisture necessary for large stalks running with sap. For this reason they may be left much thicker in the row. The theory of the whole thing is that large stalks cannot make large and uniform ears except in unusually favorable seasons. Heavy applications of manure before planting go to make large stalks, which are not wanted, and the plant food is used up before the ear, which is wanted, is made and matured. The final application of nitrate of soda is particularly important. It is given just when it is needed by the ear, and should never be mixed with other fertilizers. The sowing of peas is also held as essential, as being of great benefit to the land. Some of the farmers who have adopted the plan say that they believe the increased fertility of the soil arising from the plowing in of the peas and stalks fully equals the value of the fertilizers used to grow the corn, as the land is in better condition at the end of the cropping season than at the beginning.

The Williamson plan is by no means a one-man affair, for it has now been tried in practically all of the Southern states, and in the majority of cases is reported to have greatly increased the yield of corn. Just how far the plan can be adapted to conditions in the North remains to be seen. Farming has now reached a point where every acre must be made to produce more than it ever did before in order to show a profit. It is not the nature of corn to grow quite so high in the Northern states as in the South. The farther south one goes, the higher the corn is found to be, until the tropics are reached, where there are tremendous stalks, but very insignificant ears.

The secret of the success of the Williamson plan seems to lie in the application of the fertilizers at the right time and under the proper conditions, instead of applying all of the plant food before planting, and having a large part of it washed away or otherwise lost before the corn can make use of it. In this case there seems to be no reason why the principle should not apply as well in one section as in another. Of course, however, any farmer would make a big mistake in attempting to experiment with a plan of this original nature on a large scale at first. The value of growing the cow peas and turning them under with the corn stubble is of course apparent. In the North it is probable that crimson clover could be used in the same way with this system with as satisfactory results.

E. I. FARRINGTON.

**THOUGHTS FOR THE FARMER**

Give those fall calves lots of room in which to run around. They need all the exercise they will take.

A farmer living near Gibson, Tennessee, claims that he cleared nine hundred dollars off of six acres of tomatoes. He raised for early shipment. It took work at the proper time.

Give your son a field education to begin with, and a college education to end with, if possible. It may mean wonders for the field.

There is much valuable information in the various farm books which the average farmer ought to know. A little "book knowledge" mixed with his other knowledge is what he needs.

The Carroll County (Tennessee) "Democrat" advises its readers to grow tomatoes, cabbage and cantaloupes and put money in the bank, or grow cotton, corn and razorback hogs and stay in debt.

Never run a neighbor down to a new-comer. That particular neighbor may make such a favorable impression on the new-comer after a while that he will think of you what you tried to have him think of your neighbor.

WILLIAM J. BURTSCHER.



FALL SCENE IN A COMMERCIAL ORCHARD

extent worth mentioning. Experimentation and diversification from a personal standpoint became a leading factor in development, and wherever it was practised in the days when the present advanced ideas of farming were in the incipient stage, it is an easy matter to distinguish the community from its neighbors that did not promptly fall into the idea.

I know of one particular instance of a farmer who started this work on a barren farm in Columbia County, Georgia, some twenty years ago, and to-day it is almost priceless, yielding crops as abundant as the grain field of the Middle West, and in a section where the product is almost

not cover the plants. Another working is given when the corn is about eight inches high, after which it is thinned. The field is not worked again until the stalk has been retarded or stunted, and so toughened that it will never grow too large. This is the point which gives the most trouble, for it takes a good deal of courage to deliberately hold back a field of growing corn, but it is the all-important feature of the whole plan. The stalk from then on takes much less nutrition from the soil than under the old plan, allowing the ears to benefit, so that they grow large and full, with very few nubbins.







## A NEW BREED OF DRAFT HORSES

The Iowa State College at Ames is co-operating with the United States government in a breeding experiment to establish a breed of gray draft horses. An importation of gray Shires and Clydesdales arrived at Ames some time ago and they are to be used as the foundation stock in this work.

The object of the experiment is to combine and improve the qualities of the highest excellence of each breed, so far as possible, and to eliminate some of the characteristics that are objectionable from the American standpoint. It is the intention to combine the feet, quality, pasterns and action of the Clydesdale, with the more massive proportions of the Shire, and, while doing so, to establish the gray color and other essential characteristics which will eventually lead to the development of an American breed of draft horses better adapted to American conditions than any of the foreign breeds.

It is the opinion of the best informed horsemen that the crossing of these breeds will not be attended with the usual uncertain results of cross-breeding experiments, as they have practically the same origin and have been bred along quite similar lines for many generations. Lawrence Drew, the most successful Clydesdale breeder of his time, unquestionably made use of Shire blood in his operations, and the famous sire, Prince of Wales, is generally conceded to have had a Shire dam. Moreover, some of the most noted show geldings seen in American show rings in recent years have combined the blood of these two breeds.

In adhering to the gray color there will be no radical departure from the original characteristics of these breeds, as gray has been a common, if not a prevailing, color of both breeds, and many of the best specimens of each breed are still found among the grays. In America gray is the popular draft-horse color, and, other things being equal, a gray gelding commands more money on the market than one of any other color.

A study of blood lines and draft types decided Secretary Wilson of the United States Department of Agriculture and Professors Curtiss and Kennedy of the Iowa State College to select the Shire and Clydesdale breeds for the beginning of the experiment, though some of the gray Percheron blood may possibly be used later in the progress of the experiment.—L. E. Carter in Live Stock World.

## WAGES IN CANADA

It may be of more than passing interest to American farm workers to learn something of the wages paid in Canada for the principal industrial occupations. According to our Consul-General at Montreal (Mr. Church Howe), the total number of wage-earners, covering all classes of employees in manufacturing establishments, in Canada for the year 1900 was 344,035, and the wages paid amounted to \$113,249,350, while for the year 1905 wage earners employed numbered 391,487, and the total wages paid amounted to \$164,394,490, the details being: In five years the number of employees increased by 47,452, the amount of wages by \$51,145,140, and the average wage per employee by \$90.47. Employees increased in the five years by twelve per cent, total wages by forty-five per cent, and average wage by twenty-seven per cent. The value product per employee in the year 1900 was \$1,398, and in 1905 it was \$1,832, being an increase of \$434, or thirty-one per cent. For 1890 the average wage per employee was less than in 1905 by \$128.66, and the average product less by \$477. The largest number of wage earners are engaged in log products. They total 54,954, with wages aggregating \$21,028,919. Other big sources of employment are: Boots and shoes, 12,940, with wages of \$4,644,171; bread and biscuits, employees, 8,241; butter and cheese, 5,056; car repairs, 8,957; car works, 7,755; clothing, all kinds, 26,000; cottons, 10,450; electrical apparatus, 4,806, with wages of \$2,489,905; electric light and power, 2,418, with wages of \$1,460,418; fish, 18,449; foundry and machine, 17,928; flour mills, 5,619; furniture making, 8,141; iron and steel products, 5,580; lumber products, 13,336; paper, 4,974; plumbing, 6,807; printing, 9,686, with wages, \$5,540,885. V.

## MARKETING APPLES

Be careful, in making a sale of apples, about claiming that the fruit is fancy fruit, for there are few orchards that produce fancy fruit. The word fancy is superlative, and means an extraordinary high grade. It means, in fact, apples so large, beautifully colored and perfect as to be suitable for placing upon the fruit stand to be sold at from two to five cents each. A fancy grade of apples should not be sold at less than double the price of ordinary first grade.—Green's Fruit Grower.

## Review of the Farm Press

## THE FARMER IN SOCIETY

It is an undisputed fact that the farmer, even of to-day, is looked down upon by persons of other professions and occupations, and is considered by them as a kind of inferior animal; good enough, perhaps, in his place, but not good enough to associate with them.

City "dudes" regard the appearance of "old hayseed" as their opportunity to make "game" of him, and enjoy the fun at his expense. The poet (?) writes of "The Man With the Hoe," and dubs him "brother to the ox." Of course the farmer resents all this—at least he feels resentment if he does not express it. Here then is a class of men more numerous than those engaged in any other occupation or profession at the present day, who are not looked upon as the equals of those engaged in mechanical or mercantile pursuits: There must be some foundation for such an opinion or it would hardly exist. And I am inclined to think that the fault lies largely with the farmers themselves. They have taken these back seats from choice. Now I am speaking of our farmers as a class.

It is true that now and then some individual farmer steps up and says to the world, "I am a man," and makes his presence known and felt; but how many of our farmers make the most of their opportunities, or take any active part, or interest, in matters outside of the daily routine of their own business? Not a majority of them surely.

How many of our farmers have taken pains to educate themselves up to a thorough knowledge of their own business even? How many have taken pains to make their home surroundings and their home life as pleasant as they might? Surely not all. Now as farmers, we want to step from this low level to a higher one; but we do not want to take the step until we have prepared ourselves for the new position.

The first thing to do is to respect ourselves and our calling. If an individual has no respect for himself he can hardly hope to gain the respect of others. Intelligence wins respect—and in order to be intelligent we must educate ourselves.

In this age of free schools, free libraries, cheap books, newspapers and magazines of every description, there is no excuse for our farmers or any other citizen of average ability remaining in ignorance. We must also have due regard for personal appearance.

The farmer who goes into the village or city with his farm products, wearing heavy cowhide boots, every-day pants and coat, carrying with them the odor of the cow stable, hat brim covered with hayseed, etc., cannot expect to win the applause of the people with whom he comes in contact. Although they may be well pleased with his products, there is certainly nothing attractive about him. Farmers must learn that they as well as their products must be of first quality and put up in good style. Perhaps some reader will quote just here the old familiar proverb, "Fine feathers do not make fine birds," "All's not gold that glitters," etc., all of which may be true; but at the same time, the bird is none the worse for his fine feathers, and the glitter of that which is not gold does not lessen the value of the same, while it certainly does improve its appearance. Farmers, as a class, must be aroused to the fact that they are men possessed of brains and common sense, with minds and manners capable of education and improvement, and that they have wives and daughters capable of appreciating the home comforts and adornments which they might have and should have, but in too many instances are obliged to go without.

Is it any wonder that our boys as soon as they arrive at years of observation have a desire to leave the farm and try their hand at some more congenial employment? What is there in farm life to keep them at home? What attractions are there in the home for them? And what has been their observation and experience as regards the farmer in society? Have they not in too many instances good reasons for leaving the home roof? And yet these homes, their lives and their station in society are largely what the farmers themselves make them.

It is the fault of the farmer himself, and not his calling, that he occupies a lower level than he ought.

True, many of our roughest farmers may be good, kind-hearted, sober and industrious—veritable "rough diamonds," etc., but remember, brother farmer, that the rough diamond is made more valuable and beautiful by polishing.—The American Cultivator.

## GOOD GAINS ON DRAFT COLTS

This year we are weaning at four months of age and under, and are working hard to make the youngsters hold their own for the first two weeks, after which time we expect them to gain as much as usual. A good healthy draft colt will make almost phenomenal gains when rightly handled. We have one two-year-old which put on eighty pounds a month for the first eight months after being foaled. Two which are now being taken from their dams weigh five hundred and four hundred and seventy pounds at four months, which is a gain of from eighty to ninety pounds a month since birth.

It is important that the young drafter should have no setbacks to his development, especially in its earlier stages. Size is an all-important consideration, and to secure it the young horse must be kept at his best all the time. In order that these setbacks should not occur, all changes in his method of life should be gradual. As soon as the colt will touch it, we give him a little grain, usually oats, gradually increasing the amount as his appetite grows. At four months our colts are eating about three quarts of oats apiece each day. Thus when taken from their dams they have something to fall back on. We try to reserve a pasture lot for their use, keeping a seven-acre piece of timothy meadow apart for them this season. By this means they get all the pasturage they can use without having to closely crop the same. The oats are fed just the same. It is not a bad plan to make sure of your fence, as a young colt can do seemingly impossible feats at breaking down and jumping over fences, especially when a little excited. Also be especially careful to securely tie the mares, as they, too, can do "stunts" when worrying on account of their colts. Such advice may seem unnecessary, but by not so doing we have lately lost a brood mare.

For the first few days we allow the colts to suckle twice daily, after that once, and even less seldom. With reasonable care the mares' bags will not become caked, though sometimes it is very hard to prevent it. However, camphor is a great aid in treatment, if one happens to get a case on hand, and we have used it with success.—C. A. Waugh in The National Stockman and Farmer.

## BREAD SALES IN EUROPE AND AMERICA

The following interesting item of information appears in the "British and Foreign Confectioner and Baker," a London periodical relative to the bread supply of American and European countries: "Government statistics show that the bakers of the United States furnish about sixteen per cent of the bread consumed, giving the housewife credit for making eighty-four per cent. On the other hand, the Scottish baker furnishes ninety-five per cent against five per cent baked at home. The French baker furnishes eighty per cent, leaving twenty per cent for the home baker. England and Ireland are credited with seventy-five per cent for the baker against twenty-five per cent for the housewife." V.

## GATHER THE WORMY APPLES

If the apples are to be gathered in time to prevent a full crop of the codling moth in the orchards for next year, the work must be done at once. All the apples in the orchards of the Colorado Agricultural College were gathered from the trees recently, and ninety-two per cent were found wormy. Ordinarily the apples at this time of the year would not be more than five per cent wormy. By the time that the next brood of worms gets into the apples it is probable that there will not be one apple in five hundred that is not wormy in the orchards of the eastern part of the state, where so very few apples are to be found.

It will be a great gain, whenever the apples are in very small numbers, to pick them all now, for the purpose of greatly lessening the number of worms in the orchards for the next two or three years to come. In order that this work should be most effectual, it will be necessary to induce your neighbors to pick the apples from their trees, also.—C. P. Gillette in Orchard and Farm.

## CORN A CARBONACEOUS FOOD

Notwithstanding the fact that corn is the best single stock food known, and that thousands of animals are successfully wintered or fattened each year on an exclusive ration of corn and corn stover

or some similar roughage, it is true that it is by no means a perfectly balanced or completed food. Corn contains a very large quantity of carbonaceous matter in proportion to the protein compounds. It does not give a proper balance between the carbohydrates (which includes starch, sugars, fat and digestible fiber) and the protein. In other words, practical experience and scientific experiments have proven beyond doubt that by combining corn with some feed that will increase the proportion of protein, a more efficient ration will be the result; more rapid gains will be made by the animals to which it is fed; more rapid and healthful growth will be made on young animals; a larger flow of milk will be obtained from the dairy cows, and the steer will carry a smoother finish and a finer coat to market.—Prof. H. J. Waters in Farmer's Review.

## TO RECLAIM THE EVERGLADES OF FLORIDA

As far back as 1850 Congress passed an act called the "Swamp Land Act," according to the terms of which that great swamp of Florida, the Everglades, is being reclaimed. The law granted to each of eleven states all of the swamp and overflowed lands within their borders for draining and reclamation, on condition that the lands so granted, or proceeds of their sale, should be used in reclaiming the lands by means of levees and drains. Florida appointed trustees to carry out the provisions of this law in 1855, but except for two abortive attempts no action was taken until last year, when dredges were put to work digging two canals into the Everglades, running northwesterly to Lake Okechobee. Says a special correspondent of "The Manufacturers' Record" (Baltimore):

"The Everglades are formed of two rock reefs running in parallel lines from north to south, about sixty miles apart, the length of the reef being about one hundred and forty-five miles. Situated between the northern ends of the rock reef is Lake Okechobee, which is about thirty-five miles in length from north to south. From the southern part of the lake the muck and silt have been washed in between the rock reef and packed in as it has been washed from the higher portions of the state down the Caloosahatchee Valley and through Lake Okechobee until the center of the Everglade is slightly higher than the other portions of southern Florida; but as the foundation is of rock, with muck on top of it ranging from twenty down to two feet in depth in the southern end, and as the capacity of this muck to absorb the rainfall, which averages about sixty inches per annum, is not very great, it remains sloppy, and in rainy seasons the lake overflows through the Everglades, and that, together with the rainfall, causes the whole territory of the Everglades at times to be covered with water from a depth of two or three inches to a depth of two or three feet.

"There are about 3,000,000 acres of this land, covered with dense sawgrass, with no timber or brush upon it of any kind, with only an occasional lump of trees upon what may be called islands, which islands are few in number and embrace only a few acres each.

"On account of the latitude in which the Everglades are and the richness of the soil, they should be of very great value when once reclaimed. This land is farther south than any other portion of the United States, having the Gulf of Mexico on one side and the Gulf stream, running between the Florida coast and the Bahama Islands, on the other.

"On 500,000 acres of this land could be produced the 2,250,000 tons of sugar annually imported from abroad; other portions can be made into great rice fields. Sugar cane will grow there luxuriantly, and after planting once it will continue to grow afterward from the stubble for from seven to twenty years without replanting."

The plan of reclamation, the writer goes on to say, will be to lower Lake Okechobee by cutting canals into it, leading from rivers on the Atlantic coast, and from the Caloosahatchee River to the Gulf of Mexico, then by running half a dozen parallel canals north and south, with laterals leading through them. To quote again:

"It is the purpose of the trustees to have six large dredges at work in the course of two years. By December of the present year they expect to have several thousand acres ready for cultivation and settlement.

"The reclamation of the Everglades is considered by its promoters as the most important work for the development of agriculture undertaken in the United States up to this time. The fact that the territory has upon it no timber, hence no stumps, but is ready for the plow when freed from water, adds another value to it, as the 3,000,000 acres would cost at least \$100,000,000 to clear if covered with timber."



## Gardening

BY T. GREINER

### GARDEN PLEASURES

**B**ETTER late than never. Until a few weeks ago it had every appearance as if our supply of many of our most valued garden products would be short. Our tomatoes, egg plants, peppers, melons, etc., were several weeks later than in average seasons. Yet a few hot days in September have helped to ripen these things fast, and at this writing, the latter part of the month, we have an abundance of all these delicacies, and we enjoy them all the more. At the same time there is also an almost limitless demand for such products, and prices are ruling so high that our gardening operations will not be altogether profitless, even from a financial viewpoint. There is a lot of pleasure in having so many things from the garden on our table, but the enjoyment is largely augmented by the inflowing coin.

### ONIONS, BIG ONIONS

The big onions of the Prizetaker (Yellow Spanish) type have never failed to materialize since I first began growing them by the new transplanting method. In all kinds of seasons—hot and dry, cold and wet, early or late—they grew to about the same giant size. Neither maggots nor blights nor smut have ever prevented me from obtaining a profitable crop. I have now grown them thus for nearly twenty years, and have come to look upon this as one of my surest and most profitable garden vegetables. After this the onion will be my main money crop. This year, although my onions are later, they have given me nearly the old accustomed size; namely, up to a pound and a half, or nearly so apiece.

I have been repeatedly asked which of the two kinds, the Prizetaker and the Giant Gibraltar, I prefer or find most profitable. I answer, "Both." The Gibraltar is larger, a little later, sweeter than the other; in fact, the most delicious thing in onions, fine for slicing and eating raw. No imported "Spanish" onion could be nicer. When I plant with the idea of getting only fifty to one hundred or even two hundred bushels, and am sure that I can dispose of them during the early fall, I find the Gibraltar much the more profitable of the two, as being so much larger, I can grow three bushels of them as easily as two bushels of the Prizetaker. But when I must keep onions over into late fall or winter, I prefer the Prizetaker, as it is by far the better keeper.

The Gibraltar is especially subject to a troublesome fungous disease, which first attacks the outer skin or scale, and soon spoils the bulb for market. This disease is most troublesome in moist or wet seasons, and is easily spread by contact. I always try to harvest the Gibaltars promptly, if possible before the fall rains, and keep them as dry and cool as possible. Sprinkling with air-slaked lime has proved a good protection. I find a good many white spots among these yellow onions, and they are most generally the first to be affected by this "Onion Vermicularia."

### EARLY WATERMELONS

While I lived in New Jersey, and had the advantage of sandy loam, I found no difficulty in growing all the watermelons I wanted, of almost any variety and of large size and best quality. Our home-grown watermelons were far, far ahead of any that we could buy, that were grown in Virginia or Georgia, for size and profits, rather than for quality.

A year or two ago, while in central New Jersey, not far from Vineland, where the soil consists largely of sand, I came across a patch of the "Allheart" watermelon, a long melon of medium size and most excellent quality, sugary clear to the rind, and with rather small seeds. It is a melon such as the home grower can enjoy. Of course I got some seed and planted a number of hills. Last year my crop was so attractive for the boys in the neighborhood that hardly a specimen was left for ourselves. It is not a late melon, but our seasons are short, and the few melons that the boys left on the vines for us ripened just before frost or not at all. My patch of the Allheart this year produced a great abundance of vine, but only a melon or two set early enough so that we can expect them to get ripe before frost. We have not had much of a summer, you know. A few weeks ago the plants began to set fruit in good earnest, however, and the ground is now well covered with half-grown specimens. It is now about time for the first frost of the season. So we may use some of these green melons for preserves, in the same way as citron watermelons are used.

We are not quite without ripe water-

melons this year, however. We have one hill of the "Triumph of Asia," Hugo Beyer's melon, the seeds planted in a number more hills having failed to grow, or the plants having accidentally come to grief. The plants in this one hill have set fruit early and freely, and the melons have reached maturity by the middle of September, which is a good record in this late season. The specimens are not large, but they are very sweet and very good. The seeds are rather small and not very numerous. The rind thin. I believe that this is the melon we can grow here to advantage. In an average season we can get them ripe probably by the end of August and through September, and they are certainly enjoyable. You may be sure I have saved all the seed of it that I may desire to plant next year.

### GREEN FLY

A lady reader complains that her cucumber vines last year and this were covered with lice. Plant lice, or green flies, are common pests of many vegetables, especially cabbage, cauliflower, Brussels sprouts, kale, etc., and sometimes quite destructive and troublesome. Tobacco, in the form of a dust or tea, is one of the best remedies for them. A handful of fresh tobacco dust thrown over a cabbage or cauliflower head, or a spray of good strong tobacco tea thrown forcibly onto it, will quickly clear it from these lice. A stream of hot water or soapsuds directed with some force upon the suffering plants or leaves will also give good results. But when we have to treat cucumber or melon vines or similar plants for lice we must try to reach the under surfaces of the leaves as well as the upper surface. I have a knapsack with nozzle attached that is calculated for just such service, being bent at an angle about two inches from the opening, or discharge. With this I can reach under the foliage or among the vines and spray from the under side.

In the absence of tobacco dust or tea, kerosene emulsion may be used. It is probably best and most effective if made with whale-oil soap, but any common soap will do. Pains should be taken to make the emulsion perfect, so that there is no free oil.

### POTATOES IN MISSOURI

A reader says he wants to raise ten acres of potatoes next year, and asks what variety and mode of culture I would recommend. Would it do to plow and fertilize the land this fall and again next spring?

The selection of variety is quite a problem. I infer that he has no seed potatoes on hand. If he had, he would probably want to use them. I would look around in my own neighborhood, if I were in his place, and find out what variety has given best results for the people there, and then arrange with them for seed potatoes. In my vicinity the Carmans and the Rural New-Yorker No. 2 are yet the leading late market sorts. For myself I prefer the early sorts, especially Irish Cobbler and Early Ohio, as I am surer of a crop under my conditions than were I to plant late sorts, which here are more apt to blight.

Local conditions are a big factor in all this. Applying old stable manure in the fall and plowing it under is a good practise. Plow again in spring and apply a complete or mainly phosphatic commercial fertilizer broadcast, to be thoroughly harrowed in. Make the rows three feet apart and about four inches deep, then plant. How this work is to be done depends on the tools you happen to have on hand. Many people around here, when planting potatoes on such a scale, use a regular potato planter. We plant in drills, having the plants or hills fifteen to eighteen inches apart. In the great potato sections of the state the growers all plant in check rows, three feet by three. The cultivation is all given by horse power, with cultivators and hillers. The hand hoe has gone out of use in the potato fields.

### POTATO ENEMIES

A central New York reader reports that the potato beetles have been few and far between on the early potatoes, and entirely absent in the late potatoes. He wonders what may have caused this unexpected exemption. Evidently the winter condition had not proved very favorable to the safe hibernation of the potato beetle, likewise to many other insect pests. The yellow-striped cucumber or squash beetle, the potato beetle, the cabbage maggot, the large black squash bug, and perhaps other insects, found the last winter too severe for comfort and health, and failed to make their reappearance this spring. We do not particularly care why they did not come back, but felt greatly relieved at their failure to appear. Unfortunately, however, the black flea beetles managed to come through all right, and to do the usual amount of damage to our potato vines. There are also potato beetles enough left to give us some trouble next and following years unless we watch out. Spraying will continue to be a necessary practise.

## Fruit Growing

BY SAMUEL B. GREEN

### MAPLE-TREE INJURY

J. F. S., Monroeton, Pennsylvania—In regard to your maple tree, which is split from the first set of limbs to the ground, and from which the sap is oozing and causing a greenish, unhealthy growth which you think is liable to injure the tree, I take it that the crack is caused by freezing, or possibly by wind. If the crack is due to the action of the wind, then it is desirable to put a half-inch iron bolt with a washer on each end through the tree, and draw it up tight. But first you should clean out the crack as well as may be, then seal the crack with grafting wax, taking special pains to make it tight in this way in the crotches. This will keep out the water and insects and give the wound a chance to heal over.

If the bark is covered with moss, which you want to get rid of, it is a good plan to scrape it off and then apply a solution of sulphate of copper made at the rate of one pound to twenty-five gallons of water. This will kill any of the moss or algae that may be growing on the trunk.

### VARIOUS KINDS OF APPLES FROM THE SAME GRAFT

W. Y., Winona, Minnesota—The apples which you sent I have noted with much interest. I can readily believe that they all came from the same tree, and yet if they were exhibited for the same apple at the fair I might perhaps be disposed to throw out one or more of them as being of a different kind. It is unusual for such sports to occur in plants, but they do occur occasionally, and I know of other cases fully as marked as this one. For instance, I have seen specimen apples taken from a Ben Davis tree that were a uniform red over nearly the entire surface like Winesap.

Occasionally apples are modified in form and quality, as well as in color, by the stock on which they are grafted. For instance, the Duchess grafted on Transcendant will sometimes take on quite a few characteristics of the crab, even in quality.

### VARIETIES OF GRAPES FOR PLANTING

E. A. R., Eaton Rapids, Michigan—For northern Michigan only early maturing grapes should be planted, and perhaps the best kinds for you to use are Janesville, Moore's Early, Worden and Green Mountain. The first three are purple and the last a white grape. For southern Michigan probably Concord, Worden and Niagara are among the most desirable kinds.

### PEAR-TWIG INJURY

J. A. W., Stendal, Indiana—The sample of pear twig which you sent seems to be injured by some disease. I am inclined to think it the ordinary pear blight, but would like to have a sample of the diseased foliage, which, if injured by pear blight, would have turned black suddenly and dried up. There is no sign of San Jose scale on the specimen sent.

### WHEN TO MAKE CUTTINGS

Make cuttings of gooseberries and currants when the plants have matured the shoots of the present year and are dormant and clear of leaves. Cut them about ten inches long, cutting just under a bud at the bottom and about half an inch above a bud at the top. Insert them in the soil in rows their full length, so that the bud at the top will be about level with the surface. A slight mulching of straw or leaves between the rows, to prevent too hard freezing, will be of advantage.

Cuttings of nearly all the spring-flowering shrubbery can be treated in the same way. In a cold climate it is hardly practicable to root rose cuttings in the open ground. You can, however, put them in sand in a cold frame with glass sashes, and root them, so far as the hardy hybrid perpetual class is concerned. In a shaded frame in late summer and early fall you can root cuttings of tea roses from the half-ripened wood. Make the cuttings of shoots that have just formed a bud, and use the lower half of these shoots. Cut right under the lower eye and leave a full leaf of the upper bud and about half an inch of wood above it. Insert the cuttings thickly in rows in the frame, and place a whitewashed sash over. Keep the sand always wet, and if the wood was in the proper condition they should show white roots in about four weeks, when they should be potted in small pots, and can be packed in a

frame in coal ashes, covering the pots, and the frames protected during the cold nights of winter with straw mats. I have grown and wintered tea roses in this way, and planted them in the spring in the open ground, where they soon made fine plants. But all the tea-rose family are better rooted in the greenhouse and kept in a cool greenhouse during the winter.—W. F. Massey in the Rural New-Yorker.

### CAROLINA AND NORWAY POPLARS

M. J. D., Moorhead, Minnesota—The Carolina, Norway and Russian poplars I think are distinct. The Carolina and Norway poplars are forms of our native cottonwood that have been sent to us from Europe. Some nurserymen regard them as being identical. In my opinion this is not true, but they are forms of the cottonwood which are of remarkably free growth and exempt from ordinary leaf rust, to which our ordinary cottonwood is subject.

By Russian poplars may be meant a group of perhaps ten different kinds of poplars that were imported from Russia about twenty-five or thirty years ago and distributed in this country, largely through Prof. J. L. Budd of the Iowa Agricultural College. I do not know that any of them are as worthy of cultivation as either the Carolina or the Norway poplar. On the grounds of the Minnesota Experiment Station none of them have been a great success.

I think you are perfectly safe in recommending your customers to plant the Carolina or the Norway poplars in preference to the ordinary cottonwood, and that either one of them is better than our native cottonwood, and there is not a great deal of difference between them.

### NEW REMEDY FOR SAN JOSE SCALE

Those who have to combat the San Jose scale will be interested in knowing that the Connecticut Experiment Station at Storrs has worked out a new formula which is very promising. It can be applied in the fall, when the scale is most susceptible to injury, and is easily applied and prepared. It has no ill effect on the flesh, nor does it corrode spraying machinery. It also has the decided advantage of being cheap, costing a little less than lime-sulphur wash. The preparation is something along the line of certain proprietary articles, as the oil emulsions, though somewhat different, and costs not over half as much as some of these.

At the fall round-up institute meeting of the pomological society at J. H. Hale's orchard, Prof. C. D. Jarvis of the Storrs station demonstrated the use of the preparation. It proved to be one of the features of the occasion, and the keen interest shown by growers present left no doubt as to the presence of San Jose scale in Connecticut.

### THE NEW REMEDY DESCRIBED

This new remedy goes by the name of petroleum emulsion. It is made as follows: Use two quarts of carbolic acid, two and one half quarts of fish oil and one pound of caustic potash. This is brought to a temperature of three hundred degrees. The next step is to add three and one-half quarts of kerosene and five and one-half quarts of water. This mixture is a stock solution, or, as Professor Jarvis explained, "an emulsifier." Then for the next step eight parts of this emulsifier is taken, one part of water, eighteen parts of crude petroleum and four parts of rosin oil.

To spray, dilute this mixture with fifteen parts of water. The formula sounds a little complicated, but is not in actual practise. Stock solutions are made and it is little bother to have the mixture ready for application. It stays in suspension for days at a time, and while an agitator in the spray barrel is not necessary, it is a little better to use such. Arsenate of lead cannot be mixed with it, but Paris green can, with fairly good results. There is no special danger in making the mixture.

Horticulturists all over the country will watch the behavior of this mixture closely. Lime-sulphur wash has many undesirable things about it, while proprietary substitutes are more or less expensive. The Connecticut station will soon issue a special bulletin on the subject, but "The New England Homestead" gives this advance notice so readers will not miss the importance of the bulletin. Mr. Hale has tried the petroleum emulsion and speaks enthusiastically regarding its merits. It has also been tried in orchards at Yalesville with gratifying results.—The New England Homestead.

If you are a successful farmer you will sell at a bargain whatever you have and do not need, and buy what you need as soon as you need it. Use the advertising columns of FARM AND FIRESIDE in your transactions.



## Poultry Raising

BY P. H. JACOBS

### GRASS AND POULTRY

It is easy for those who live on farms to provide grass for the flocks, especially when they can work over the orchard or grass field; but where the fowls must be confined, the matter of supplying green food is one that gives the poultryman considerable anxiety at times. If the area of land given to the hens is limited, the proper course to pursue is to have two yards, changing the hens from one yard to the other, as occasion demands, which yards can be spaded or plowed, thus removing the surface filth.

Grass is an essential portion of the ration for hens, and if they are confined it pays to cut it into short lengths for them, reducing the grain ration proportionately, in order to avoid overfeeding on concentrated food, and to afford the hens that which is more appropriate for the purpose of egg production, as grass contains a large share of nitrogen and mineral matter.

The best green material for hens is white clover; but where a quick growth is desired, oats or any other grain may be sown. In early spring, kale is an excellent substitute, and young corn, just peeping out of the ground, is highly relished.

Very young rye or grass may cause diarrhea if given in very large quantities at first, but as the grass approaches maturity there is less water in its composition and it does no injury. Any of the clovers should give good results, as they are rich in lime; but young weeds or any tender green material will be relished, and prove valuable in the way of promoting thrift and contentment in the flock.

### 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 could be examined, would present a similar condition.

It is an easy undertaking to clean wooden troughs. Take an old broom, and brush 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 in the matter of keeping them clean.

Ducks and geese waste a large quantity of water when drinking from troughs or fountains, much of the water being utilized in the effort of keeping the nostrils clean when eating soft food, the bills being shaken and washed in the water. Both fountain and trough are the main appliances from which diseases spread, hence do not omit the boiling soapsuds when cleaning such utensils.

### CONDITIONS AND EGG PRODUCTION

The domestic fowl is kept under conditions differing from all other birds. She is sheltered, provided with food, and her young are cared for independently of her aid if necessary, the hen being a producer of articles that command a value in market. The goose, duck, turkey and guinea are also domesticated, but their usefulness extends over a shorter period of the year than with the hen. Man has changed her nature, compared with her wild jungle state, and she is now a necessity in nearly all countries. Birds in the wild state lay but few eggs, and only at certain seasons of the year. The jungle hen probably does the same, and the larger proportion of her young become the prey of numerous enemies. The domestic hen, however, performs greater work than the birds on the wing. They seldom lay more than two or three eggs before commencing incubation, but the hen may lay from fifteen to fifty, or even more, beginning again after caring for her brood. She must produce these eggs as well as maintain herself. In the natural state she lays fewer eggs, but she has greater difficulty in procuring food and resisting enemies. An egg is a composite substance, and cannot be produced from a single article of food. The hen requires a variety of food in order to perform her duties as a regular and persistent layer. Therefore, it is not conducive to egg production when the hen is deprived of her natural advantages of scratching. She does best when she is compelled to work and scratch for her food, and she will always select the kinds most suited for her purpose. The conditions affecting birds that produce but few

young, and the hens that average one hundred and fifty eggs or more a year, demand the consideration of the farmer. If certain wild birds exist in the open air and during the most inclement weather, the hen cannot compete with them in that respect, as she must produce eggs as well as maintain herself. It is not a natural condition when the hens have but one kind of food, such as grain; the birds that build in trees and feed their young would be unable to do so if they could find nothing but seeds. As the concentrated foods must be given, the variety is also to be considered. Such substances as grass and the tender shoots of herbage are intended as much for dilution of the concentrated foods as for the nutrition to be obtained therefrom. The work of feeding her young is not incumbent on the hen, by bringing their food to her chicks, but she works and protects them. Scratching is the natural function of the domestic hen, and she enjoys such employment; she requires a variety, and seeks it, not rejecting worms, meat, bone, grain, grass or anything that she can utilize.

### SHIPPING LIVE FOWLS

The fowls sent to market should not be shipped under conditions which conduce to cruelty. Thousands of poor birds are tortured during the warm season, and the matter deserves the consideration of all who are interested in mitigating the cruelty which seems to exist everywhere, so far as the fowls are concerned. Poultry should be treated with more care than is usual in such cases. Often whole coops arrive in market fearfully overcrowded, with the fowls nearly dead for the want of food and water. They cannot eat and drink while in a crowded condition, and during the warm months they suffer severely on the journey to market. The flesh of such fowls is not wholesome, for fear, exposure and suffering act upon their systems to such an extent as to bring on disease during transit. The remedy is to give them plenty of room in the shipping coops, and to have several tin cups nailed to the sides, filled with water, with plenty of food scattered conveniently within reach. Regarding the watering of fowls, a single tin cup is of no use, except to those fowls near it. When a car is in motion the birds sit down, and do not attempt to stand, fear assisting to keep them quiet. The animal heat of their bodies assists in raising the temperature of the coop, and as coops are usually crowded, the birds cannot seek water even if they desire to do so. They do not know that there are water cups unless they see them, for which reason the more cups the better. Thirst kills many of them on their journey to market, both in winter and summer.

### REVOLUTIONS IN FEEDING

Modern poultry keeping is conducted with more systematic arrangements than formerly, compared with the practise once so common on farms where all kinds—ducks, geese, turkeys, guineas and hens—were fed together, or given no food at all, as the case happened to be. The better plan of allowing each variety to partially manage itself, by separation from fowls not of its kind, saves labor and annoyance; and it is an advantage, too, to separate the older from the younger stock when feeding.

Promiscuous commingling of fowls allows the largest and strongest to take their choice, and leave the refuse to be eaten by the weaker; whereas the best should be given to the poorest, in order to help them to a condition of thrift and growth. It is more economical to make some distinction when feeding. The system of feeding, according to arbitrary forms and regulations, such as allowing a certain proportion of food according to live weight, cannot be followed in connection with poultry, owing to the large number of individuals, as compared with larger stock, while the labor of so doing is more costly in proportion to live weight.

No rules can be adopted that can apply to all, as the preference for the various kinds of food, the capacity of production and the health of the individuals vary. A large fowl may be a dainty feeder, while a small one at times may be ready to consume large quantities of food. To feed properly it is necessary to study each fowl in the flock and allow her as much as she requires. If she does not pay for her food, then she should be replaced with something better. It matters not how large a quantity of food a fowl may consume, so long as she gives a profit.



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### GREATER DEMAND FOR GUINEAS

Until within the past decade the guinea found little favor on the market stalls, few purchasers seeking it, but with the advent of the mammoth hotels, and the demand for wild game as a portion of the bill of fare, the guinea fowl is now largely used, its flesh being considered an excellent substitute for grouse and other birds. It is possible that it is sold under its true name in some instances, and that it is appreciated by those who know the value of the guinea on the table, and it is an assured fact that in a few years the guinea will be in great demand, and sold solely upon its merits.

The eggs of the guinea have long been sold with eggs from chickens, and without objection. When the guinea begins to rival the other varieties of poultry for its flesh it will be capable of affording a profit, for the reason that it can forage over a wide area and secure the larger proportion of its food without assistance, while its prolificacy as a layer is well known.

### THE SURPLUS PULLETS

The surplus fowls are the non-producers. When the conditions for laying are favorable, the farmer should be observant and note results. If he has kept a lot of pullets until they are old enough to lay, and they give no evidence of being productive in proportion to their opportunities, they should be disposed of, in order that their room may be given to something else. The farmer usually does not like to sell off a lot of pretty pullets that give promise of being useful in the future; but he should not rely too much on possibilities, and should get rid of the surplus as soon as he can.

The large, fat pullet, that has completed her growth, and seems to be a hen, may have already lost more time than she should have been allowed. If her comb is not now becoming enlarged, and of a bright scarlet color, she will not amount to anything for some time yet, but she may bring an extra price on the market stall as a choice table fowl.



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# Live Stock and Dairy

## PRODUCING MILK FOR THE CITY TRADE

**A**N ARTICLE so generally used as milk, to say nothing of the products made from it, demands great care in its production. Every meal in the average family depends upon milk to some extent, and there is no single food so wholesome to both young and old as this product from the cow.

In all branches of the dairy business, that of producing a good, wholesome article for the city milk trade is probably the most exacting, and of all the care, that which is given during the first half-hour after being drawn from the cow avails more than several hours' labor later.

The dairyman who makes this branch of dairy farming his specialty should have an equipment commensurate with the needs of the business. By this I do not mean anything very expensive, but I do mean a stable with good ventilation, kept scrupulously clean, large and airy, and built on sanitary principles.

There must be regular periods of milking, according to the time of trains, delivery and distance to haul; a clean room, in which to cool and aerate the milk immediately after it is drawn, and a good tank, in which to put the cans, and which should be kept full of cold water until time to remove the cans for shipment. The cans must be sterilized, aired and kept absolutely clean. Milk cared for in this manner will reach the city in good condition, and be clean and wholesome food for the people who consume it.

The cut shows the best and most practical arrangement of an aerator and tank that I have ever seen for the care of milk that was intended for city delivery. The low cost of the outfit and its efficiency should commend it to general use on all farms where running water is available in the milk room or where it is possible to keep it running by the use of a windmill or other power during milking time.

The water passes into the aerator and fills it nearly full, and from there it passes out through the overflow pipe and into the tank, where the cans are put after being filled, and from there it feeds the automatic water basins by the side of each cow, and also the yard tank which affords water for the other farm animals.

The water that slops over from setting in the filled cans goes onto the cement floor and out through the drain tile, away from the buildings. After each milking the outside surface of the aerator should be washed clean. In some places it is a good plan to connect the aerator on the pipes and allow the water to run through it all the time.

A milk room should be plastered and kept whitewashed, and the cans may be covered with netting, to prevent dust and insects from falling into the milk. They should remain in the milk room or tank until just before time to ship. It is important that the water in the tank comes up as high as the milk in the can, for if this is not the case, the cream will rise and become sour, or will be tainted before the milk turns, and when stirred together before shipping the milk will be spoiled.

That disease and contagion may be transmitted through milk is an undisputed fact, hence the utmost care in everything that pertains to it is necessary. At the present time the city municipal governments are taking every precaution to prevent the impure milk from being sold, and many cities are enacting ordinances that prescribe the grade and quality of all milk that is sold for domestic purposes.

After the sanitary care of the milk and the utensils that are used in handling it, the next important matter for the dairyman to consider is the selection of a herd of healthy cows that will yield a profitable flow of milk that will test close to four per cent butter fat, and have them freshen at times during the year, so as to keep up about the same production every day in the year.

The Holstein and Ayrshire cattle are perhaps the best adapted to this line of the dairy business of any of the breeds, but it has been our experience that in order to keep our test up to a four per cent standard it was necessary to keep about one third Jerseys or Guernseys. The sending of all the milk to the city makes it necessary to purchase to the best possible advantage the cows that are needed to replace the ones that are sold from the herd.

We find, in selecting cows for the herd, that we must take those that we can buy at the time they are needed most. We are compelled to buy when we find them, re-

gardless of breed, color, size, age, etc., and select as nearly as possible in regard to what they will do when fed to very near their full capacity and well cared for. The man who is buying cows to put in his dairy, and who needs the milk for immediate use, does not find it possible to buy just what he wants and at just the time he needs them most.

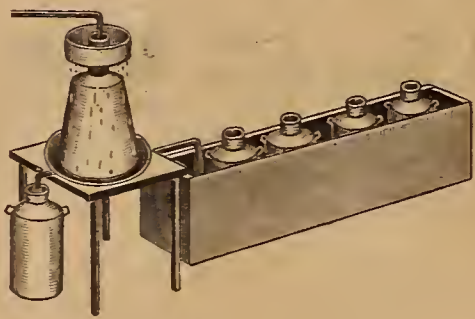
The next important step after we secure the cows is to plan our system of feeding. We find that the man who is feeding his cows for city milk must follow different plans from the man who is making butter or some other kind of dairying his business. He is compelled to depend less upon pastures and more upon feeding in the stable or soiling his cattle to supply them with forage or roughness, and right here is where the silo fills a long-felt want. It provides good, palatable and succulent food at all times of the year—either in the summer, when the pastures are short, or during the six or seven months when the cows are confined in the stable.

Clover hay and ensilage are the best rough feeds for producing milk, and the grain foods for the cows must be to some extent composed of the by-products from the mills, gluten feeds and oil meal, if we form balanced rations that will prove both palatable and economical food for the cows.

Our experience has been that pasturing cows on clover and other fields has been more dangerous and expensive than growing and putting the ensilage in the silo.

When we are marketing a uniform amount of milk during the whole year we must not make any sudden changes in our line of feeding or we will find our milk a number of gallons short some morning when we are ready to ship it to the city.

A supply of good, pure water is fully as essential as the feed, and a system of automatic water basins will reduce the cost of the production enough to pay



MILK AERATOR AND TANK

their entire cost in a few months. The cow that is turned out to drink ice water every day, and then comes into the stable and shakes and shivers for an hour, cannot be expected to give good results at the pail.

I am satisfied that if any man will conduct his dairy with the knowledge that the causes of the physical and chemical changes in milk are the result of exposure to bacterial dirt, he will be forewarned and forearmed and will be better qualified to work in an intelligent manner.

Volumes of good advice could be written about producing good milk for the city trade, but I am speaking from the standpoint of the farmer who is expected to produce a good article at from twelve to fourteen cents a gallon and still make a profit on his investment and home-grown feeds. We have many articles on sanitary milk, but when we try to produce such milk the increased cost puts it out of the reach of the common people, who form the larger portion of the trade that we are to supply.

W. MILTON KELLY.

## ECONOMY IN WINTER FEEDING

All kinds of feed are going to sell for a good price the coming winter. Corn is now at a figure that is making many a farmer smile. Oats, hay, straw and other feed stuffs are high. Bran and middlings are away up with cotton-seed meal and oil cake. Farm animals and fowls are not going to wallow in corn and other rich foods next winter, while the town animal is going to have his food measured or weighed to him. I believe that most farmers can, by putting a little more work on the preparation of the food given their horses and young stock, make quite a saving in their feed bills.

I have been not a little amazed at the way many farmers feed their work horses in the winter when they are doing very

THE FRAME OF THE PUMPING AERMOTOR HAS REMOVABLE ARMS FOR CARRYING THE MAIN SHAFTS. THE BEARINGS ARE MADE BY TURNING A HIGH GRADE OF BABBITT METAL INTO THE ENDS OF THESE ARMS. THIS BABBITT METAL IS OF MUCH BETTER QUALITY THAN IT IS POSSIBLE TO USE IN LOOSE BUSHINGS. BABBITT FOR SUCH BUSHINGS MUST BE SOFT AND TOUGH OR IT WILL BREAK. THE BABBITT USED IN THE AERMOTOR ARMS IS TWICE AS DURABLE AS THE BABBITT NECESSARILY USED IN LOOSE BUSHINGS. THE AERMOTOR ARRANGEMENT NOT ONLY COMBINES ALL OF THE ADVANTAGES OF THE SPOOD BOX AND THE LOOSE BUSHING, BUT IT CASILY MULTIPLIES THOSE ADVANTAGES BY SIX BY USING BETTER BABBITT AND BY MAKING THE ARMS SO THAT THEY TURN IN THEIR SOCKETS, THUS PROVIDING THREE PERFECT WEARING SURFACES IN EACH IF THE BEARINGS EVER BECOME WORN IN ONE PLACE THROUGH NEGLECT OR OVERLOADING, IT IS ONLY NECESSARY TO LOOSEN A NUT AND GIVE THE ARM ONE-THIRD OF A TURN TO SECURE NEW AND PERFECT BEARINGS FOR THE SHAFT. THIS CAN BE REPEATED IF NECESSARY, SO THAT EACH ARM PROVIDES THREE SETS OF BEARINGS WITHOUT REMOVING ANY PART OF THE WINDMILL MAKE THE SO EASILY THE EFFICIENCY WILL BE GREATLY INCREASED. ANOTHER GREAT FEATURE OF THE AERMOTOR IS THAT THEY ESCAPE FROM THIS POGKEY EXCEPT OVER THE BEARINGS NEXT TO THE OIL POCKET AND THE BEARINGS ARE ALSO PRACTICALLY DUST-PROOF.

ANYONE WITH A WRENCH CAN CHANGE IN FIVE MINUTES. THIS IS DONE THAT IT WILL BE DONE AND CENCY AND LIFE OF THE WINDMILL GREATLY INCREASED. ANOTHER FEATURE OF THE AERMOTOR IS THAT THEY ESCAPE FROM THIS POGKEY EXCEPT OVER THE BEARINGS NEXT TO THE OIL POCKET AND THE BEARINGS ARE ALSO PRACTICALLY DUST-PROOF.

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THE FOLLOWING ARE THE FUNDAMENTAL QUESTIONS TO KEEP IN MIND: WHICH IS THE CHEAPER WIND OR GASOLINE? WHICH IS THE SAFER TO HAVE AROUND YOUR PREMISES, OR TO MONKEY WITH? WHICH IS EASIER TO START UP AND OPERATE. AN ENGINE OR A WINDMILL? WHICH REQUIRES THE MOST ATTENTION WHILE IT IS WORKING? WHICH IS THE SAFER IF LEFT BY ITSELF TO RUN ALL NIGHT? WHICH WOULD YOU RATHER HAVE THE CHILDREN PLAY WITH?

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THE TRUSSED TRIPOD TOWER GIVES  
**HEAD ROOM**  
**PUMP ROOM**  
**STOCK ROOM**  
**TANK ROOM**

little work. While calling on a neighbor one day last winter I went to the barn to see his stock. As it was very near his regular feeding time, he proceeded to feed his nine horses. He said he fed his idle animals only twice a day in winter. He gave each horse about half a peck of oats and ten ears of corn, then filled their mangers with hay. Either the oats or the corn alone would have been an abundance of grain, with the hay he gave them. Yet he thought he was feeding closely and economically. I told him that he could cut down the feed one half with benefit to the animals. That if he would entirely shut off the hay and substitute straw they would reach spring in better, healthier condition. He said he fed closer than any of his neighbors, and sometimes felt that he was rather stingy with his feed.

I have seen lots of horses wintered on straw and five ears of corn a day, and they came through in far better condition for spring work than animals that were fed like hogs. I am well satisfied that more horses on farms are overfed than underfed. The condition of the animal should be the feeder's guide in feeding all kinds of stock. Idle horses should be kept in just fair condition. They can do better work and more of it in spring without an ounce of surplus fat on them than if loaded with it.

Another thing farmers should remember is that the warmer animals are housed in severe weather the less food will they require to keep them up, and no time should be lost in getting stables and sheds into good shape for winter. Don't put this matter off until snow flies and you can't half do it; go at it right now, while you can handle boards, felt and tools with some comfort.

FRED GRUNDY.

## WEANING PIGS

Weaning the pigs is a crisis most variably considered by farmers at large. In the minds of many it has been considered sufficient to allow the sow and pigs to run in a pasture, and after a while to get the pigs up and shut them in a pen to squeal for a few days.

We have found that as soon as the pigs are farrowed they should be rushed on to a successful weaning by giving the sow plenty of milk-producing feed. By the time a pig is three weeks old he will easily drink a quart of skim milk a day if the litter is provided with a "creep" near the sow's feeding place. This creep should be provided as soon as the pigs show signs of drinking the sow's slop. By increasing the pigs' ration with skim milk and middlings slop they will practically wean themselves.

Never confine pigs in small pens and bare yards—young pigs will die on that kind of treatment. Plenty of protein slop for the sow after farrowing, skim milk and the "creep" for the pigs, and the clover pasture after "weaning"—these mean success with the pigs.

GEO. P. WILLIAMS.

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## Live Stock and Dairy

### FEED RACKS AND TROUGHS FOR SHEEP

Of divers styles are the feed racks in use by the small shepherd. Some of them waste too much feed, while others do not permit the wool to be kept clean.

The worst for wasting roughage are those made of slats and two long poles—the same as a ladder—and fastened slantingly against a wall. The sheep pull out

The described racks are for feeding roughage. Cut roots, such as turnips or potatoes, and grain and ground feed must be given in troughs.

They should not be made V-shaped, as is generally done. The animals can then take big mouthfuls of the feed and will not chew it enough. That's bad for the thorough digestion and assimilation of whatever is fed. The trough should be made about six inches wide at the bot-



ROYAL DREAMER

This ram was bred by T. S. Minton, one of the foremost English breeders of Shropshires, and was one of the thirty-five grand yearling rams shown in the International Stock Show of 1906. Although the photo was taken after much of the face wool had been rubbed out, it shows him to be beautifully woolled over and to have a mutton form which is rarely excelled. Nor is good individuality without the support of a good pedigree. His sire is "Royal Mock," first prize yearling ram at the Royal Show of 1904. Sire of dam, "Mars," a ram famous in his day. The list also includes "Bonny Beau," and "Montford Dreamer"—the ram sold by Minton for \$875.

the hay between the slats and more than half of it will fall down and be trampled upon by them. It may be good roughage, but a sheep will not eat it after being trampled upon, unless compelled to by hunger.

Another form is made like a trough, the sides being constructed of upright slats, which are placed several inches apart. This form has several faults, which, however, can be overcome so as to conform the rack to my ideals.

In the first place, the racks are made wider at the top than at the bottom. When eating from such a rack, bits of roughage are more likely to fall into the neck wool than if the rack were just the reverse—that is, wider at the bottom than at the top. It is easier to put the roughage into the former kind of rack; but then this is no great advantage over the better form.

Another mistake made is in having the perpendicular slats far enough apart to admit the sheep's heads and necks. The wool can't be kept free of bits of hay and other roughage fed. Several cents a pound less is paid for wool in this condition.

Having enumerated the faults of this form of rack, I will describe how it can be modified so as to overcome them. The length must of course correspond to one's room in the stable. The width should be from fifteen to twenty inches at the bottom and two or three inches less at the top. The perpendicular slats may be either round or one by two inches. If the latter, they should be rounded off somewhat—that is, the edges taken off.

And now comes an important part: Put the slats only far enough apart so the sheep can get their heads in between the slats as far as their ears. Different breeds of sheep have different sized heads, so it is best to measure the heads of one's sheep at their widest parts and construct the racks accordingly.

As the sheep cannot reach to the center of the bottom of the rack, it should be made higher in the middle, so the leaves and other bits of roughage will fall toward the sides.

The upright slats are to be nailed to a two-inch strip, both at the top and bottom running the length of the rack. The bottom strips should be set on the edges of the rack bottom, and the perpendicular slats either set on this or nailed in the side. The ends of the racks could be made open, too, but I prefer them made solid with boards.

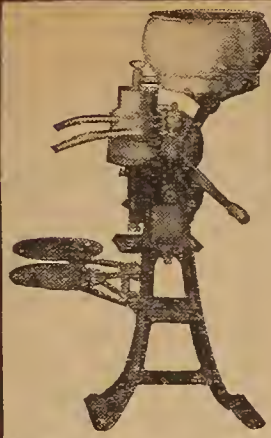
tom. Then the sheep are compelled to take small mouthfuls. They will then masticate their food properly.

F. A. STROHSCHNEIN.

Clean milking means more milk.

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## DR HESS STOCK FOOD A TONIC

in the grain ration. This is the prescription of Dr. Hess (M.D., D.V.S.) and contains bitter tonics, iron for the blood and proper nitrates to cleanse the system. It acts upon the digestive organs, correcting any tendency toward indigestion and enabling the animal to assimilate great quantities of food; hence compels rapid growth and permanently fixes the feeding habit.

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Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

Free from the 1st to the 10th of each month—Dr. Hess (M.D., D.V.S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time for the asking. Mention this paper.

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**ABOUT ADVERTISING**

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/4 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Mr. J. O'Donnell, of Onondago County, New York, sends FARM AND FIRESIDE these words of appreciation:

"Your article, 'The Advantage of the Forty-Acre Thorough Farmer,' may be applied to every trade in the land. It is timely and well placed. I shall take pleasure in reading it at our next state meeting of master plumbers."

Reversing his point: The same sound business principles that apply to any trade or business apply to farming, and it is up to the farmer nowadays to study and apply them.

\* \* \*

The district-school teacher is a pretty important person these days. From September to June she occupies a prominent position in our life. To her is largely entrusted the future of our children, which means the future of our country. Few people realize what an important influence upon their children a school teacher may have. Most of us think that all our children get from her is a little reading, writing and arithmetic. We never stop to consider how her association with them influences their lives. We never think of the effect she has on them morally and socially. But as a matter of fact it is perfectly possible for a school teacher to do more harm than good unless her moral and social influence upon the children is of the right kind. Show the trustees of your district that the kind of teacher you want for your children is one who not only has a good education, but is also in sympathy with farmers and farm life. City-bred school teachers, who are continually giving their pupils pearly visions of city life, and running down the farm, are one of the greatest social evils with which farmers have to put up. See that your district has the right kind of a teacher. Get one who loves the country, and who will inspire in your children a love for it, too, if they don't love it now. Invite her to your home that you may know her and that she may know your children better. Keep her in sympathy with farm life by helping her enjoy it. If you can get this kind of a teacher and will treat her in the right way, she will have an influence for good upon your children far beyond what you have ever before realized a teacher could have.

◇

**THE THRALDOM OF THE PRESS**

In a notable address before the State University of Missouri, Mr. Samuel Bowles, editor of the famous Springfield "Republican," accurately described some of the dangers menacing the independence of the press. Formerly the press was under the bondage of politics; in this day of greedy commercialism it is under the dominance of the advertiser in the most dangerous and insidious manner.

"It is not the local advertiser," he said, "who is the menace to the independence of the press. If he is in the mercantile class he wants his little notices from time to time. But they are comparatively harmless, and he is on the whole the natural loyal supporter of the home paper, profiting richly by the liberal use of its columns in appealing to the public for custom. It is the so-called foreign advertiser spending hundreds of thousands of dollars in promoting public demands for his goods who seeks to hold a whip hand over the newspapers as a condition of his cash payments. He always requires a preferred position, and his announcements as a rule either startle the reader into attention by their grotesqueness or deceive him by the method of their construction into the idea that he is reading news matter. A complete surrender to such demands from many advertisers makes the newspaper a horror of typography and a patchwork of fraud in substance.

"Again many general advertisers seek to influence or control the publisher of newspapers in the management of their editorial or news columns.

"There is also the publicity that is not paid for, issuing from the press associations which offer what truly may be called stuff at three dollars a page, and who find their account as press agents for a more definite payment. These syndi-

cates tend to destroy the individuality of the press, to discourage strong, clear and condensed newspaper writing, to weaken the character and independence of the publications which depend upon them.

"There is also the insidious influence of wealth, direct and indirect."

\* \* \*

Mr. Bowles speaks from the standpoint of a daily newspaper man, but his keen criticisms apply with equal force to farm papers.

Few readers of farm papers know of the tremendous pressure brought to bear on the publishers by advertisers who want to exploit the farmers. Application of the square-deal principle means the loss of a large amount of advertising to the paper, but it means protection to the subscriber and to the fair-play advertiser.

◇

**FARMERS AND WALL STREET**

From far-off southern California Mr. Cristadoro sends this keen-breeze letter to the editor of the New York "Sun":

"Sir:—Time was when if Wall Street sneezed it sent the farmers of the country to the banks to beg that their mortgages be not foreclosed. Now Wall Street sneezes and yells and shouts and kicks up a devil of a fuss—in Wall Street—and the farmer follows the plow, the wheat grows, the chickens lay abundantly, the stock increases, all Nature smiles in peace and plenty, and the farmer buys autos and gives not a rap for Wall Street.

"The wires are broken. The farmer is not interested, for Wall Street has ceased to be the barometer of the nation's prosperity. The barometer has been moved elsewhere. Wall Street drops three billions in values and the farmer reads of such 'terrible doings' with a chuckle and says, 'Things are droppin' some in Wall Street and no mistake, b'gosh!'

"No better time could have been selected to thrust the lance into the Wall Street ulcer; and no better period for the good of the public could have been chosen. It is, of course, hard upon the innocent investor, especially the 'common investor,' who bought wind and water and nothing else; but it was a case of caveat emptor. The man at the White House—well, has he not done the national body a good service, just as does the surgeon to the body when he cuts a boil that is ripe for lancing? It had to come."

Back of the humor of this communication is sound sense and a correct appreciation of the feelings of farmers all the way across the country from San Diego County to Manhattan Island.

Intelligent farmers all over the country now have their eyes on the frantic efforts of the "Interests" through their press bureaus and advertising agencies to change public opinion and stay the just enforcement of law against the great transgressors who have been persistently violating the law and defiantly disregarding the decisions and orders of the courts.

◇

**IMPROVE THE INLAND WATERWAYS**

In his St. Louis address, while on his way to attend the Inland Waterways Convention, President Roosevelt said:

"From every standpoint it is desirable for the nation to join in improving the greatest system of river highways within its borders, a system second only in importance to the highway afforded by the Great Lakes; the highways of the Mississippi and its great tributaries, such as the Missouri and Ohio. This river system traverses too many states to render it possible to leave merely to the states the task of fitting it for the greatest use of which it is capable. It is emphatically a national task, for this great river system is itself one of our chief national assets.

\* \* \*

"Within the last few years there has been an awakening in this country to the need of both the conservation and the development of our national resources under the supervision of and by the aid of the federal government. This is especially true of all that concerns our running waters. On the mountains from which the springs start we are now endeavoring

to preserve the forests which regulate the water supply and prevent too startling variations between droughts and freshets. Below the mountains, in the high, dry regions of the Western plains, we endeavor to secure the proper utilization of the waters for irrigation. This is at the sources of the streams. Farther down, where they become navigable, our aim must be to try to develop a policy which shall secure the utmost advantage from the navigable waters. Finally, on the lower courses of the Mississippi, the nation should do its full share in the work of levee building; and, incidentally to its serving navigation, this will also prevent the ruin of alluvial bottoms by floods.

\* \* \*

"Our knowledge is not sufficiently far advanced to enable me to speak definitely as to the plans which should be adopted; but let me say one word of warning: The danger of entering on any such scheme lies in the adoption of impossible and undesirable plans—plans the adoption of which means an outlay of money extravagant beyond all proportion to the return, or which, though feasible, are not, relatively to other plans, of an importance which warrant their adoption. It will not be easy to secure the assent of a fundamentally cautious people like our own to the adoption of such a policy as that I hope to see adopted; and even if we begin to follow out such a policy it certainly will not be persevered in if it is found to entail reckless extravagance or to be tainted with jobbery. The interests of the nation as a whole must be always the first consideration.

\* \* \*

"This is properly a national movement, because all interstate and foreign commerce, and the improvements and methods of carrying it on, are subjects for national action. Moreover, while of course the matter of the improvement of the Mississippi River and its tributaries is one which especially concerns the great middle portion of our country, the region between the Alleghenies and the Rockies, yet it is of concern to the rest of the country also, for it cannot too often be said that whatever is really beneficial to one part of our country is ultimately of benefit to the whole. Exactly as it is a good thing for the interior of our country that the seaports on the Atlantic and the Pacific and the Gulf should be safe and commodious, so it is to the interest of the dwellers on the coast that the interior should possess ample facilities for the transportation of its products. Our interests are all closely interwoven, and in the long run it will be found that we go up or go down together.

\* \* \*

"Take, for instance, the Panama Canal. If the Mississippi is restored to its former place of importance as a highway of commerce, then the building of the Panama Canal will be felt as an immediate advantage to the business of every city and country district in the Mississippi Valley. I think that the building of that canal will be of especial advantage to the states that lie along the Pacific and the states that lie along the Gulf; and yet, after all, I feel that the advantage will be shared in an only less degree by the states of the interior and of the Atlantic coast. In other words, it is a thoroughly national work, undertaken for and redounding to the advantage of all of us—to the advantage of the nation as a whole."

◇

**A BANKER ON REBATERS**

Bankers who attend strictly to legitimate banking business and are not mixed up with speculators and promoters of high-finance schemes take a broad view of the present business situation. In a recent address before the Kentucky Bankers' Association, Mr. Henry Clews, of New York, gave his opinion that the administration's intention to prosecute the men guilty of illegal practices in the management of corporations would prove a benefit instead of a detriment to business.

"The true remedy," he said, "for rebating and other wilful violations of law is not to be found in the infliction of heavy

penalties on the guilty corporations, but on the responsible and guilty officers of those corporations, and not alone by fine, but by imprisonment. Heavy fines inflicted on corporations fall finally on their stockholders through a corresponding loss of dividend-paying power, and the lowering of market prices for their stocks. The proper remedy is punishment behind bars.

"Through overtaxing their capacity, their working capital and their credit, to keep up with it, the national prosperity has proved a two-edged sword to many corporations as well as individual firms, and the greed for excessive profits among them led to much of the corporate dishonesty, illegal acts and methods and wholesale graft in high places which we have seen exposed. These excesses and irregularities are now being corrected.

\* \* \*

"No wonder that their exposure from time to time gave blow after blow to public confidence, and kept investors from buying stocks, and turned their attention and speculative enterprise in other directions and into other channels. These exposures and violations of law naturally aroused severe public criticism and indignation and called for investigation by the federal government. In this President Roosevelt took the lead for the purpose of correcting maladministration, the abuse of power and the illegal practices that had been exposed.

\* \* \*

"It was far from his intention to disturb public confidence among stockholders of the railway and other corporations, that, through their officers, had been guilty of illegal and fraudulent acts, particularly rebating. His real object was by extirpating abuses to secure honest and lawful methods of management, and so protect and benefit investors in bonds and stocks, and secure justice and equality for shippers of produce and merchandise of all kinds, with the same rates for all, small and great, rich and poor, without special privileges to any, great corporations being compelled to respect the law as well as small ones. The righting and correction of wrongs practised in violation of the interstate and anti-trust laws of Congress would have had no disturbing effect upon investors and the public mind, if properly viewed, and it requires a stretch of imagination to hold Mr. Roosevelt even indirectly responsible for the \$29,000,000 fine, the immediate cause of the disturbance in Wall Street that followed it."

◇

**TRAVELING FARM SCHOOLS IN SPAIN**

A novel and significant feature of the new agricultural movement in Spain is the traveling farm school, recently established by government order. The launching of this enterprise, which has for its object the instruction of the remote agricultural districts in the principles of scientific farming, has a real commercial significance for the American people, since it will probably develop a demand for better agricultural implements. In a recent consular report made by our representative at Barcelona, Mr. B. A. Ridgely, these facts are stated:

The government order referred to provides for a course of experimental and practical instruction to be given every year by itinerant lecturers, selected from among the agricultural engineers at the district schools of agriculture. In the months of January and February of each year the directors of these schools are required to report to the department of agriculture at Madrid, giving the program of the lectures intended to be given during the ensuing twelve months, with an estimate of the cost, including traveling expenses, and remuneration of the teachers, and transport of the agricultural machinery or appliances which it may be considered advisable to carry to those remote villages where the practical instruction is to be given. So far only the schools of agriculture at Zaragoza, Jaen, Palencia, Badajoz and Barcelona and the two stations at Haro and Villafranca del Panadés are referred to in this order, but if the movement proves a success it will no doubt be extended.



On a Two-Cent Fare

BY WILLIAM J. BURTSCHER

I ain't done no trav'lin'  
T' amount t' much,  
The fare has been t' high  
Fer me t' touch;  
But I've been layin' off  
T' go somewhere,  
Since now I kin travel  
On a two-cent fare.

I'm goin' t' San Francisco,  
An' swing on the Golden Gate,  
I'll stop off in Utah,  
An' see the Great Salt Lake;  
I'll do the Yeller Stone Park  
An' see them Guysers rare,  
Fer now I kin go some  
On a two-cent fare.

I'll fly t' New Orleans  
When Mardee Graw comes 'roun',  
I'll stop off in Kaintuck  
By that hole in the groun';  
I'll run t' ole Virgin'  
Cross the nat'ral bridge that's there,  
An' travel like a gentleman  
On a two-cent fare.

I'll jump t' Chiggergo,  
T' hear the wind a-blowin',  
I'll jump agin t' New York,  
Jes' t' be a-goin';  
I'll take in Bosstown, too,  
Fer I cert'nly do declare  
A feller oughter scoot some  
On a two-cent fare.

It ain't what y' make, nohow,  
But what y' save all the while,  
An' here I'll save a dollar  
Ev'ry hundred mile;  
So I'll keep on movin'  
Till I've been ev'rywhere,  
Then go home an' be content  
On any kind o' fare.

Mysterious, Jolly Hallowe'en

**H**ALLOWE'EN, the time of all times when supernatural influences are supposed to prevail, dates more parties, perhaps, than any day on the calendar, and, with the exception of Christmas and Fourth of July, the thirty-first of October is more eagerly looked forward to by American young folks than any day in the whole year.

Hallowmass, or All Saints' Day, is associated with an ancient pagan celebration of great antiquity, and from this older rite many of its curious and singular observances are derived. Hallowe'en is the vigil of the feast of All Saints, and the custom of its elaborate observance is general everywhere, though its greatest development has been reached in Scotland.

The leading idea of Hallowe'en is that it is the time of all others when supernatural influences are strong, and charms, therefore, will not fail to work. Spirits, both good and evil, walk abroad on this one mysterious night, and divination attains its highest power. All who choose may avail themselves of the privileges of the occasion with the certainty that their questions will be answered.

The feast of All Saints was introduced very early by the Christian Church, because of the impossibility of keeping a separate day for every saint. In the fourth century, when the persecutions of the Christians had ceased, the first Sunday after Easter was appointed by the Greek Church as the day for commemorating the martyrs generally.

In the Church of Rome a like festival was introduced about 610 A.D., this being the time when the old heathen Pantheon was consecrated to Mary and all the martyrs.

The real festival of All Saints, however, was first regularly instituted by Pope Gregory IV., in 835, and appointed for the first day of November. It was admitted into England about 870, and probably about the same time into Ireland and Scotland. The festival is common to the Roman Catholic, English and Lutheran branches of the church.

In the days when the "hallow fire" was kindled, various magic ceremonies preceded its lighting. These exorcised the demons and witches and rendered them powerless. When the ceremonies were finished, the fire was lighted and carefully guarded by the men of the family from the depredations of certain



societies which were formed, sometimes through pique and at other times for fun alone, for the purpose of scattering these fires.

The first ceremony of Hallowe'en was pulling the kail (stalk). By its shape and size the young women determined the figure and size of their future husbands, while any "yird," or earth, sticking to the roots meant fortune. The taste of the "custoc," or heart of the stalk, showed the temper and disposition, and finally the stems, or "runts" are placed above the door, and the Christian name of the person whom Fate sends first through the door gives the name of the gentleman.

The vigil and ringing of bells all night long upon All Hallows was abolished under Henry VIII., but in spite of this, half a century later, under Elizabeth, a special injunction forbade all superfluous ringing of bells. Evidently the laws were not enforced then any more than now, and the nerves of the people were tried as they are in these days. It is our door bells, however, not church bells, that keep us on edge, with the small boy at the button.

Nuts furnish the principal means of reading the secrets of the future, and in some parts of England the night is known as "nut-crack night." Indeed, one of the most delightful ways to entertain the children on Hallowe'en is to invite them to go nutting at your home. Soon after arrival each child should be presented with a charming little basket for the purpose. The baskets should be different in design, as attractive in shape as possible, and gaily adorned with ribbon, for when filled they will be carried home as souvenirs.

Before the little guests arrive you must hide the nuts in every conceivable nook—behind books, under rugs, in vases, behind pictures, etc. Then at the proper moment turn the children loose to "go nutting" in your parlors. At the summons of a bell every one must stop and the nuts counted. Appropriate prizes should of course be awarded to the most successful hunters.

The games in which figure the apples, the pumpkins, the candles, the glasses of water, the walks around a given square, the telltale looking glasses, the three dishes in a row, naming nuts and placing them on the bars of the grate, Hallowe'en cake baking, nut charades, peanut grab, magic pills—all these and many more will go to make up many happy hours throughout our broad land on the last evening of this month.

A Veteran Traveler

**M**RS. WILLIAM BUTLER, of Boston, a woman eighty-six years old, has just recently returned from a trip around the world, covering a period of exactly eleven months from the day she started. The prime motive of Mrs. Butler's trip abroad at her time of life was that she might attend the jubilee celebration of the Methodist Episcopal Mission in India,

founded by Mrs. Butler and her husband, Dr. William Butler, in the year 1856. Mrs. Butler believes herself to be the only American survivor of the Sepoy Rebellion and the only American woman who gazed on the faces of the last of the great moguls and his empress.

Mrs. Butler and her husband crossed the great desert fifty-one years ago with a train of seven hundred camels, and thirty-five days were required for the journey. Some of the dangers this brave woman and her fearless husband faced and escaped would make thrilling chapters in their life history.

While on her journey Mrs. Butler spoke to twenty-one audiences in different parts of India, and spoke to a large audience in London. On her return to America she spoke to another large audience at Carnegie Hall in New York. She made a complete tour of India from Ceylon to a point in the Himalayas eight thousand feet above the sea. Speaking of her trip Mrs. Butler said, on her return to Boston:



MRS. WILLIAM BUTLER, MISSIONARY, WHO AT THE AGE OF EIGHTY-SIX COMPLETES A TRIP AROUND THE WORLD

"It was most gratifying to me to be received so well and after my many years absence from India. In the fifty years of its life the mission at Bareilly has gained ninety thousand communicants and a quarter of a million adherents. It has five great mission presses, so that its pamphlets are issued all over the northwest provinces. At one great meeting there were three thousand native Christians present, as well as delegates from China, Japan, Asia, Mexico and sixty from the United States."

Mrs. Butler made the entire trip without a day's illness, and reached Boston very happy over her achievement of going around the world at her great age.

California's Walnut Industry

BY CHARLES ALMA BYERS

**C**ALIFORNIA as a fruit-growing state is known everywhere, but the fact that it produces each year a crop of English walnuts that yields an income of more than two million dollars is a matter of news even to many native Californians. The growing of walnuts, in fact, in the past few years, has become an industry of great commercial value to the state, and having so much to commend it to the investor of moderate means, indications may be said to point to its becoming an important rival to the citrus crop, of which Easterners are now hearing so much.

The growing of walnuts in California dates back to the days of the Spanish priests, as also does the introduction of grapes, olives, oranges, lemons and limes. The walnut of those days, however, was of the black, hard-shell variety, which to-day, though recognized as good and still of value, has been relegated somewhat to the background.

In its stead has come the soft-shell, called the English, walnut, although in reality introduced in this country from Chili, South America. The first consignment of these nuts was received in San

Francisco about fifty years ago, and consisted of only three sacks. These were used as seed, and from them, in the vicinity of Santa Barbara, sprung the first orchard of soft-shell walnuts in the United States.

The growing of walnuts is an industry that requires very little attention, and yet a good profit is yielded to the grower. The trees need very little care in the way of cultivation, and the walnut is said to live the longest of any orchard tree. The harvesting of the crop, in fact, is really the only work of any great importance attached to the industry, and even this part of it is light when compared with the growing of oranges and lemons. The co-operation of the growers has simplified the work of harvesting and marketing the crop to a very great extent by the establishment of association packing houses. This makes it necessary only for the rancher to pick, wash and haul the nuts to one of these places, where the grading, blending, bleaching, packing and shipping is attended to for him at small cost.

The English walnut as it comes ripe from the tree is too dark for the market, and to make it lighter in color it is dipped by machinery in a chemical bath, and then immediately washed. After the nuts are thus bleached, washed and graded they are passed by elevators to large bins, from which they are sacked and shipped. The sacks used are imported from Calcutta, India, and more than fifty thousand are ordered each season.

The walnuts grown in California are shipped to all parts of the United States, and the bidding of buyers for the crop is always brisk. The acreage and yield have been rapidly increasing for the past ten years, and yet the growers have not been able to supply the demand. In fact, there seems to be little danger of an overproduction of soft-shell walnuts for many years, and even when the demand in the United States is supplied, there remains the export trade to consider.

The prices of English walnuts vary from year to year, but the grower is always certain of a good margin of profit for his season's work. The past year's crop was marketed at the following prices: eleven cents a pound for first grade; ten and one half cents a pound for standards, and three cents less a pound for second grades. The cost of marketing the crop, everything considered, is, on account of the association idea, barely one per cent of the crop value, and some seasons it has even fallen below one half per cent.

There are twelve different associations of walnut ranchers in California, with a total membership of about one thousand, all of which form, when united, what is known as the Walnut Growers' Association of Southern California. These organizations, which represent three fourths of the annual supply, put upon the market each year about six hundred carloads of English walnuts.

The walnut harvest time is during October and November. The cool, damp nights of these months cause the husks of the nuts to become loosened, and there is a continual fall of husks and nuts. Men, women and children, mostly of Mexicans and Indians, are employed to gather them up and prepare them for the packing houses.

There are several points about the growing of walnuts that every rancher must learn before he can hope for success. First, the soil must be deep, at least ten feet; second, the location must be where frost is seldom known; third, irrigated land is to be preferred, although not absolutely essential; fourth, the trees must be well distanced from each other. Walnut trees set close together will bear when young, but experience has taught that as they grow older they cease to produce if set too close.

The walnut tree, to look into its history briefly, is a native of Armenia and northern India. Later, but many centuries ago, it was introduced into Greece, Italy, Spain and France, and still at a much later date into England. It flourishes to-day in all of these countries, and in France it is cultivated very much the same as it is becoming to be in southern California.



GROVE IN EARLY SPRING SHOWING IRRIGATION



WALNUT ORCHARD AT WHITTIER, CALIFORNIA



A TYPICAL GROUP OF WALNUT PICKERS



# Number 9 Church Walk

BY GEORGIAN GRIER

## CHAPTER I.

"Lot 1313," shouted the auctioneer. "One dollar, dollar fifteen, dollar twenty-five, dollar fifty, dollar sixty, dollar seventy-five, two dollars, two ten, two fifteen, two twenty—" The prices rattled off in quick succession. "All done? Yours, sir—the gentleman with the gray Derby over against the wall, Tom."

The gentleman with the gray Derby handed over two one-dollar bills and two dimes, and took the big manila-paper bag with the United States Dead-Letter Office stamp at the top left-hand corner.

The articles it contained were written on the outside in bold, legible hand: Four handkerchiefs, three gent's ties, cheap pocket knife, briarwood pipe, ash tray.

Roger Walford, attracted by the crowd, had dropped in at Uncle Sam's annual Dead-Letter Office sale. The briarwood pipe and ash tray had appealed to him, so lot 1313 became his. Now he was endeavoring to get out from the mob again.

He sauntered along Pennsylvania Avenue for a time and then returned to his room, where he opened the big envelope, and looked over his purchases. The pipe and ash tray he placed on the mantelshelf. The knife was cheap indeed, and he tossed it contemptuously on the table. The ties looked rather gaudy, but one was white, an immense made-up affair, and as he examined it a small photo dropped out from its folds.

"Thrown in for luck, I guess," soliloquized Roger, as he picked it up.

The photo had evidently escaped the observation of the postal people, tucked away, as it had been, in the folds of the tie. It was the likeness of a young girl in evening dress. It was mounted on a plain piece of cardboard, without name or address.

"Amateur," commented Roger, "but, by Jove, she's pretty!"

He took the photo towards the light: "She certainly is," he reiterated, as he laid down the likeness of the fair unknown, and taking up the pipe, started to fill it—"to break it in," as he muttered.

He took a few pulls, and then walked over with the picture once more toward the light of the gas. Then he stretched himself out in the Morris chair, and as the blue wreaths of smoke ascended ceilingward, half dozing, in quiet contentment, he held the photo before him, building up a fabric of conjectures as to the personality of the girl in the picture.

Her eyes met his fairly and squarely. It mattered not at what angle he held it, the girl's eyes followed him. Inadvertently he enveloped her in smoke, and then caught himself apologizing for making the break.

That night the Hotel Tillard was burned out, and the only effects Roger Walford saved were a few of his samples, his suit case and the little photo of the unknown girl.

A year later he was in a railway wreck out West, and still he escaped with his life and the little four-by-five picture tucked away in his breast pocket.

"She's my mascot," he commented, and the girl in evening dress became yet more precious to him.

In the fall of that year Roger Walford went to England to introduce some labor-saving devices manufactured by his firm. His territory took in Bristol, Cardiff, Gloucester and other western towns of the old country, and the day before Christmas found him at the fashionable watering place of Cheltenham, a town of some fifty thousand inhabitants. The place is comparatively new, being almost unheard of until old George III. journeyed there to drink the waters, but there is an old church right in the center of the town which dates from the eleventh century. It is surrounded by a graveyard, and the houses of the modern town all turn their backs upon the grand old church, with its long, thin, tapering spire.

The graveyard is quiet, very quiet, although one can listen and hear the rumble of the traffic, and the "honk, honk," of the motor cars as they whizz along High Street, but it sounds very far away, for the houses shut out the sound.

On Thursday nights and on Sundays the bells peal right merrily, and on King's Birthday and other red-letter days they "fire." It is a grand, impressive sound,

that "firing," when the eight bells all peal simultaneously, and then echo away into muffled silence, only to break out again in a few seconds into clanging, musical hubbub. And then the bell-ringers will change off into hymns, and from the old steeple will sound forth "The Old Hundred" or some other well-known tune.

Roger Walford, his business in the town concluded, wandered away from the noise of the High Street into the old churchyard. The bells were firing noisily, welcoming in the Christmas in true old English style. He leaned against the iron railings and gazed out across the burying ground, with its forgotten stones, all toppling this way and that. An immense marble cross, some twelve feet high, rose up in the dim light between him and the somber old church. He went toward it, and seating himself upon the steps of its base, listened to the bells.

He had been there but a few minutes, when suddenly he saw the form of a woman running rapidly across from the opposite side. She passed close to him; he could hear her shortened breath as she dashed past, and a moment later a man followed, running hard.

In an instant Roger was up and giving chase. There was no time for thought; he simply followed his instinct. The man heard him racing behind him, and half turning, motioned him back with a repelling wave of his hand. It would have taken more than that to have stopped the American just then. He was on even terms with the man in a few strides.

"What's up?" he shouted.

"None of your business," came the tart, panting reply.

"Then I'll make it so," snapped back Roger.

By this time the farther end of the churchyard was reached. The girl was fumbling hurriedly with the big, iron gate, endeavoring to find an exit. The man grasped her by the shoulder.

"Don't be a fool, Laura!" he cried.

"Come back!"

"With you!" the girl screamed almost hysterically. "Never!" Then, for the first time, she saw the American standing beside her pursuer. "What do you want?" she demanded.

"I want to see fair play done," said Roger. "What's the trouble, anyway?"

The girl looked at him almost beseechingly. "Take him away," she

screamed, pointing to her late pursuer.

"With pleasure. Is he annoying you?" Then, shaking the fellow by the shoulder, "Get away," he ordered. "You are annoying the lady, don't you see?"

"I tell you to attend to your own business," roared the man.

"I'm going to mind the lady's for the time being. Just clear off, she doesn't want you."

For answer the man made a wild swing at Roger. The American ducked, and closed with him. In another moment he would have thrown him, when suddenly a broad beam of light was flashed in their faces, and a gruff voice challenged:

"Now, then, what's the row?" and the burly British guardian of the peace loomed up before them.

"Why," explained Roger, "this lady was being annoyed by this fellow, and I just stepped in and stopped it."

"What lady are you talking about?"

"Why this— Why, she's gone!"

"So are you gone—gone in your top works, I think. You are drunk, that's what's the matter. Now move along or I'll run you in."

The man who had been pursuing the lady sneaked off without another word, but Roger tried to explain things to the policeman. It was useless.

"There wasn't no lady here," the policeman maintained, "and it isn't no good saying there was."

"But don't I tell you she was here a moment ago, and that chap was chasing her? I saw her, and I ought to know," argued Roger.

"Yes, you ought to know, but you don't," summed up the officer of the law. "Now, it's Christmas Eve, so don't say nothing more about it, but just move along, and go steady now, or you'll be seeing more things before morning."

It was no use trying to make the thick-headed officer understand. Roger said, "Good-night, officer," and made his way back toward his hotel. The clock in the steeple struck eleven o'clock and the bells burst out again into a merry peal.

"Good-night, sir," replied the policeman, "and a merry Christmas to you."

Roger Walford made his way back to "The Lamb," his hotel, thinking over the strange event of the evening.

Things were running merrily there that evening. The tap was crowded, and song and music filled the air. The glasses

clinked and the rosy-cheeked barmaids were busy. It was after midnight when Roger finally took his bedroom key from the clerk. He passed out into the hall on his way upstairs, and as he sauntered along he heard one of the boots chuckling with his mate over something.

"She thought it was a bloomin' family hotel," laughed the one.

"Must 'ave done. Where she go?" replied the other.

"They send her down to 'The Lansdown.'"

"Who was that?" demanded Roger sharply.

"A lady as just come here, sir—she's taken the tram for 'The Lansdown.'"

Without another word Roger Walford took back his key. "I'm going out for another stroll," he explained, and hastily left the hotel. Something told him the lady who had recently left the hotel was the one whom he had recently encountered in the old churchyard.

The last tram had just passed, but he hailed a passing cab, and instructed the driver to catch up and keep behind the car.

"All right, sir—it's a shilling hextra hafter twelve."

"Go ahead, do as I tell you, and it's half a crown."

The man whipped up his horse, and half way up the Promenade was close behind the tram. Then he slowed down to a walk, occasionally urging the horse into a trot to keep up with the car.

At "The Lansdown Hotel" a lady got off and made her way up the front entrance of the hotel. The American paid his cabby and followed her. He stood close behind her at the desk and heard her ask timidly for a room.

"There's ninety-three on the third floor, miss. Will that suit you?"

"Perfectly."

"Any luggage, miss?"

"N-no; it will arrive in the morning, but I have my little grip," and she made a pretense of fumbling under her long Newmarket.

The clerk did not notice her very evident confusion. "Take the lift, miss. Here, John, take the lady's bag."

"Thank you, I prefer to carry it," and she took her key and went toward the lift, while Roger Walford made his way in a daze out of the hotel and back toward his own.

The lady he had seen assigned to room ninety-three was the one he had encountered in the old churchyard, and the face he had caught a glimpse of for one brief moment, as it was upraised to the brilliant electric light, was the face of the girl in evening dress—the face of the girl in the photograph he carried in his breast pocket; and had he fancied it, or did she really flash a look of recognition at him as she passed along the reception hall?

## CHAPTER II.

THERE is little business done in England on the day after Christmas. It is "Boxing Day," and John Bull is out for a good time. The public houses are running full blast from six in the morning until midnight, and all the world and his wife is abroad. The pantomime starts in with a flourish, and in the homes of the rich receptions and balls are the order of the day.

So Roger Walford found himself with a clear program and no business engagements. Boots rapped on his door at eight o'clock, and brought his shaving water and shoes. He breakfasted in the commercial room at nine, looking over his mail, as he did so. Then, undetermined exactly what to do, he sauntered out and along High Street toward the Promenade. The hounds were to meet at eleven at the "Queen's Hotel" and then proceed to Carly wood to throw off. It was an annual event, and big crowds of people were on hand to watch the fine pack of forty-odd couples of dogs, with the scarlet and black coated men and the voluminous skirted ladies.

The American watched it all with languid interest, and then, as pack and riders disappeared at a trot under the long vista of chestnuts and elms, almost unthinkingly his steps led him toward Lansdown Road and on toward the hotel of that name.

There was a little tap room at the rear



"I want to see fair play done," said Roger. "What's the trouble, anyway?"



of "The Lansdown." It is frequented mostly by cabbies and wheelchairmen from the near-by stands. Roger Walford entered the low-roofed structure and called for a "shandygaff." He seated himself at a little round table in a dark corner and sipped the drink slowly, turning over in his mind again and again the events of the past night, and trying to determine on some course of action. He had sat there the greater part of the previous day, after having discovered that the lady who had registered at the hotel as Miss Laura Durrant had not yet left. He might sit here all to-day, he argued to himself, with no different results. To-morrow business would claim his time and attention; he must do something now.

He slipped away from the barroom and made his way around to the western entrance of the hotel. He inquired for the lady and sent up his card. He was shown up into the reception room, and in a few moments the lady of the churchyard, the lady of his picture, entered.

"You wish to see me?" she inquired, apparently without a sign of recognition. "Yes. You will excuse my seeming intrusion, I hope, but I wanted to know if I could be of any assistance to you. You will perhaps recollect that it was my good fortune to be allowed to help you on Christmas Eve, and if—you are, I think, a fellow-countrywoman of mine—I can be of any use to you now, please command me. It is perhaps the fact that you are from 'God's Country' that makes me bold to offer my services. You have my card. My home is New York, and I am here on business for my firm. Please don't think I am endeavoring to make myself a nuisance; I simply want to help you if you are in need of help."

He looked straight at her with his honest, manly face as he spoke. There could be no doubt of his sincerity and straightness of purpose. The girl understood. With the quick intuition of her sex, she knew that the man before her was one of Nature's gentlemen. She colored slightly under his calm gaze, and then, indicating a chair, said:

"Please be seated, Mr."—glancing at his card, which she held in her hand—"Mr. Walford. I appreciate your kind offer, and I feel that it is only natural that you should consider my conduct, to say the least of it, odd; but I have had a most strange and extraordinary experience, and I freely confess that at the present moment I am quite at a loss to know what to do or where to turn."

She stopped, evidently unable to make up her mind whether she should take this stranger into her confidence or not. Another look at the man before her apparently determined her, for, speaking rapidly, almost nervously, she resumed:

"My name you know. My father was General Ammon Durrant, and he commanded a brigade during the operations of the Army of the Potomac. He died but five months ago. My mother died when I was a baby, and I have no near relatives alive. Upon the death of my father I inherited his fortune, which, though not large, was yet considerable. A part, a large part, if it consisted of investments in Welsh coal mines, and the lawyer, Mr. Moss Ewing, considered it necessary to make a visit to England in connection with this investment. He was an old and experienced attorney, and I had every faith in him. He suggested that I accompany him, and I saw no reason for not doing so. We arrived in London late in November—scarcely a month ago—and there a terrible thing occurred: Mr. Ewing was taken suddenly ill at our hotel, and died in the night."

"The day, previous to his death we had been to a lawyer's office in Padmester Row, and my affairs had been gone into. It was natural, therefore, that I should take this lawyer's advice, and, upon his suggestion, I came to this little watering place to wait while he arranged my business. A week ago he came on here, bringing with him some papers that he wished me to sign. I am not much of a business woman, but I saw at a glance that it would be unwise for me to place my name to them, as by doing so I was giving him practically the entire handling of all. He wanted me to give him power of attorney and allow him to act for me in everything. I refused, telling him plainly that I should prefer some one better known to me to be my lawyer. He was insistent, however, and finally, upon my refusing point blank to do as he wished, became abusive; but seeing that I remained firm and was not to be intimidated, he apparently yielded the point, saying that as I had no confidence in him, he would withdraw from the case, and suggesting that I employ another attorney. I told him I would, and made arrangements for leaving my hotel that night, intending to catch the next boat for America, which sailed the next morning. I settled up, and was seated in my room just writing a form to telegraph to engage passage, when a maid knocked and informed me that a lady was below wishing to see me. I told her to show the

visitor up. Her name on the card was given as Mrs. Helen Durrant, the same name as my own.

"When she entered I noticed that she was dressed in deep mourning, and carried a small bag. She was a person of good address and appearance, and at once began to explain that she was my aunt, and had only recently heard of her brother's death. The lawyers in London had told her of my arrival, she said.

"Now I knew positively that my father had no sisters, and at once I suspected her of being an accomplice of the attorney. When I commenced to tell her that my father was an only child, she drew a handkerchief and began to cry. She laid her head on the table and sobbed pitifully, trying to explain between her sobs that my father for some reason or other would never own her. I really felt quite sorry for her, and bending over her, tried to comfort her, and as I did, suddenly the whole room seemed to swim before my eyes. I tried to get up, but I reeled and staggered. I almost reached the bell rope, but the woman stopped me, and then I became unconscious and knew no more until I awoke and found myself in bed in a mean little room overlooking that old church. My head was aching horribly, but I at once arose and dressed. Then I tried the door, but it was locked. I rapped on it and stamped with my feet, but no one responded. It seemed to me I was in an empty house, for not a sound could I hear. It was almost dark, so I endeavored to light the single gas with which the room was provided, but it would not light. I felt like crying; but I realized that it was no time for tears, so going to the window I looked out. I was apparently on the third floor at the back of the house. I saw a man walking along one of the drives of the churchyard, and rapped on the window, for I could not open it, as it was screwed down. He did not hear me, but at that moment I detected the sound of feet approaching on the stairs. I flew to the door and hammered upon it. A key was inserted and it swung open. There before me stood that wretched little lawyer, Hickins, as he had called himself.

"Fear gave me courage, and in a bold voice I demanded of him an explanation of what it all meant, for I knew he was at the bottom of it all. Without a word he entered the room and closed the door after him.

"Now, my dear young lady," he began in his nasty, oily voice, "you are exciting yourself unduly; be calm, I beg of you. What has been done has been done because it was best for you. Believe me, I have your interests at heart." And then he went on a long rigmarole about looking out for my interests, and a lot of other nonsense.

"I cut him short by telling him that he must allow me to leave the house at once, but he shook his head and explained that was impossible just then. After a lot of talk, he came right down to it and said he would not let me go until I had signed the papers he had with him. He had a witness in the house, he said, and if I would consent he would call her up, and then I could come on to London by the night express, and everything would be all right. I told him 'No' most decidedly, that I would not consent, and he got very mad, and finally stalked out in a passion, slamming and locking the door after him.

"I was in a terrible fright, but determined at once to get away if I could. I went again toward the window and tried to get out the screws. I suppose they heard me, for in a short time he came in again followed by the woman who had said she was my aunt, and despite my struggles and cries, fastened me up to the foot of the iron bed by my wrists with an iron chain. See!"

The girl held out her wrists, on which nasty red scars were visible.

"The cads!" muttered Roger, his blood boiling within him.

"I don't know how many days they kept me thus," continued the girl. "At times the woman would unlock my hands and allow me to wash or eat, but always she fastened me up again. It was hopeless for me to think of resisting, for she was a large, powerful woman, and could easily have overpowered me. Once, indeed, I did break from her and made a dash for the hallway, but she caught me and dragged me back again. And all the time the same words were flung at me: 'Sign, sign.'

"I believe I must at last have given in, for I was fast getting past caring for anything, when one night—I know now it was the evening before Christmas—my opportunity came. The woman was out, and that wretched little Hickins came into the room. He talked soothingly to me, and unlocking my wrists, bade me sit in a chair and 'be reasonable,' as he expressed it.

"I made a pretext of sitting down, but suddenly turning about, made a dash at him. I suppose I caught him entirely unawares, for I toppled him right over, and ran quickly toward the door. As

good luck would have it, he had locked the door, but left the key on the inside. Before he could recover himself, I had unlocked the door and flung it open; then I fairly leaped down the narrow stairs. He was right behind me, but I ran as I never ran before, and gaining the street, raced across the old graveyard, and then—and then—you know—you saw me. I thought at first you were another of my enemies, and oh, how thankful I was when you spoke as you did. When the policeman came up I was so scared I scarcely knew what I did. I remember running through the walk on into a lighted street and of trying to get a room at a hotel, but they said they had none empty. Then I went where they told me, to—this place, 'The Lansdown.'

"But why didn't you go to the police?" demanded Roger.

"I don't know. I hardly know what I did or what I shall do now. I have my pocketbook, for they did not touch it; it contains some twelve pounds, and I am thinking what is best for me to do. I don't want any notoriety, and besides, I am afraid if I go to the police they will not believe me—it is such a very extraordinary story I have to tell. Do you think they would?"

"By Jinks, somebody's going to sit up and take notice, for I'm going to see you through with this thing, if you will allow me," replied Roger warmly. "Why, it's an outrageous thing. You will let me take care of you until you get in touch with your friends again, won't you?" he appealed.

"Oh, if you will, if you will, please," stammered the girl. "I am completely unstrung and scarcely know what to do."

"Don't do a thing," said Roger. "Just leave it all to me. Stay at this hotel—it's a nice place, and you'll be quiet here. I wouldn't see any one, man or woman, except in this public reception room. But I want to ask you one thing before I go. Can you give me some description of this house where you were confined?"

"I didn't see the outside of it, but I should know if I was placed in that room again. It looked out on that side of the church where there is a little porch entrance, and to the right of that is a large, circular, stained-glass window."

"All right," said Roger. "Now cease worrying—just leave all to me; I'll see things are righted. I shall call again tonight and talk matters over with you. Don't be afraid, I shall do nothing hastily; I'm going to think it out before I move. Good-by, Miss Durrant."

He bowed himself out, and a minute later was walking rapidly down Lansdown Road.

[TO BE CONTINUED NEXT ISSUE]

### The Part the Old Man Played

BY E. W. CREEK

I WAS young then, and headstrong. The serious side of life appealed to me, and I was a firm believer in luck. I had little dealings with my neighbors, and they came to regard me as a negative kind of man.

I had purchased a quarter section of land, paying one half down and going in debt for the remainder. Soon cotton fell in price to the cost of production, and it seemed that the Fates were against me.

I had been married five years, and three little girls had come into my family.

With a "calico outfit" on my hands, for this term I applied to my wife and children, and the low price of farm products incited me to sell the farm for what I could get out of it and abandon farm life. Just here the tact and intuitive judgment of my life's partner came into play, and I must give her credit for the greater amount of my happiness to-day. All along she admonished me to be more neighborly with those living around us, to read more magazines and papers, to mingle with my fellow-citizens, and to take life easier. I would reply that the Divinity that shapes our ends, letting us do the rough hewing, alone was responsible for my serious nature and nagging disposition.

One day a letter from a far-off Northern state came. It was from a great-uncle of my wife, and stated he desired to make his home with us. He was all alone in the world, and it was likely that since he had passed his seventieth milestone that his days on earth would be few. When I returned from the field one day, tired with my battle with weeds and grass, the letter was read to me. In disgust I merely remarked that I thought I had about as many mouths as I could well feed and that the poorhouse was the proper place for the old codger.

My wife insisted, and I reluctantly gave my consent for him to come.

"Yes," I remarked, "I have heard of the old mossback. What a grand weather prophet and general prognosticator he must be. I suppose he cannot move unless the moon is in her correct phase; and his ideas about things in general are about as much out of date as would be those of Moses."

In due time the old fellow came. Perhaps he was more spry than I anticipated, for within a week he was familiar with every nook in the farm. But I did not like him, and figured that he would soon hie himself away to other parts, for I treated all his remarks with the utmost indifference.

After a few weeks I was forced to admit that the old gentleman was probably earning his board. Always busy; doing numerous chores; mending gates, fences and such like; devoting much time to the garden and the henery; in fact, going at every piece of toil with zeal and earnestness, I frankly admitted to my wife that her kinsman was a wonderful machine and a great help about the place. I did not interfere with any of the old man's work, but let him use his time as he saw fit. He was always full of various suggestions and generally carried into execution any plan that entered his head.

Perhaps the collars did not fit the horses. He soon adjusted them. If I left my harness in the sun or rain I found them under shelter. No kind of implement was allowed to take the weather, and each spring the wagons, cultivators and plow stocks were all treated to a coat of paint. I found my blacksmith's bills greatly reduced every year, for in spite of his years this old man could handle hammer and tongs or saw and plane with alacrity.

So I came to give him more respect. He might be old-fashioned and out of date, yet he had assimilated the dear lesson of experience. Many working plans that would have required me hours to execute were by him often changed and shifted to be finished in a few minutes.

My life was a busy one and mainly confined to the hard labor in the field. The old man usually attended to the work closer to the house. I noticed that the chicken houses were always clean, and our table never lacked for fried chicken or eggs. Our garden was always clear of weeds, and back of it was a fine melon patch—the pride of the farm. Rats and English sparrows had become very numerous, but by means of traps and poisons he kept down these pests. I considered my time too valuable to spend on an orchard. Trees and vines grew too slowly. Now we have four acres in vineyard and orchard, most of which was set and cared for by the old man; and he enjoyed much of the delicious fruit borne.

Only a short time after taking up his residence with us the old fellow made many friends throughout the neighborhood. On Saturday night he would creep to the village schoolhouse, and soon became a leading figure in the Farmers' Union and Debating Club.

To my own little ones he was more than a father, and they loved him devotedly. As they gathered around, many were the spicy tales told them at eventide. During school days he assisted them in preparing their lessons for the morrow. It was the pride of his heart that my little daughters always shared the prizes for excellency in different studies.

In four years I had almost cleared the mortgage on my farm, but adversity in the form of a late spring and an attack of slow fever threatened to overwhelm me. Here the old man played another important part. "Don't you worry," he had said a hundred times. "I will care for the crop."

And he did, for with a little hired help there was a bounteous yield. With a riding cultivator he had cultivated the crop thoroughly while carrying out one of his dictums. "Keep everlastingly at it when trying to keep down the devil and his imps."

Time rolled on. The old man had become a necessary addition to the working force of the little plantation. At last, ashamed of the indifference with which I had accorded him, I began to treat him with veneration, and always gave ear to each and every suggestion offered by him.

Twelve years passed, and, Moses like, the eyes of the old man had not grown dim nor had his strength waned to any great extent. Yet the demands of Nature must be complied with; the course was finished, and the old man slept.

Not many days after I sat before the fire, gazing at the coals, buried in thought. Rousing from my lethargy, I broke the silence by asking, "Maud, do you remember how uncompromising and crabbed my disposition was when Uncle Bill came to live with us?"

"Yes, Tom, I well remember."

"Well, do you know that in these twelve years that old man came very near taking all the independence out of me?"

### Look Out for "The Impostor"

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## The Early Bird

BY BARBARA WILLIS

THE old proverb about the early bird being the one who caught the worm will apply very nicely to Christmas shopping at this season. The ladies who have plenty of money can afford to wait for the very latest novelties enterprising shop keepers will display just before the holiday season, but the thrifty buyers with "short" purses and long lists are quietly picking up an article or two every chance they have. While I would not miss the delightful rush and bustle of shopping at the last critical moment, yet I find it profitable to make a little collection of gifts all the year, particularly at the end of summer and the beginning of winter. It is such a delightful time to visit the stores—not warm enough to be uncomfortable, and still pleasant enough to do without wraps. There are many people who argue that the things to be purchased in summer are not suitable for Christmas gifts, but the people who receive my "bargains" always assure me that they are genuinely pleased.

To begin with the things that delight the women folks—why is it that the ladies think of pretty dishes first?—there are bargains to satisfy the most fastidious. If you only have ten cents to spend for a gift, it is possible to buy a pretty little plate, a cream pitcher, a pair of salt and pepper shakers, a glass dish, a Jap pin tray and many other pretty things. One lady has a beautiful set of thin Jap cups and saucers that were given her by different friends at different times, and they were only ten cents each. The shape is the same, but the colors and decorations are different. For twenty-five cents the display widens. A pretty chocolate pot in my collection cost just twenty-three cents, and it is a beauty. It is thin enough to satisfy any one, but not too good for the morning cocoa in any home. Salad dishes, more cups and saucers, thin tumblers, jelly dishes and dozens of other pretty and useful things are on the list.

Before the rush of holiday shopping begins is also a good time to buy such things as little Indian baskets, vases, books, handkerchiefs, marbles, brushes and other articles. A mirror that was displayed last Christmas in a certain window for two dollars and fifty cents went the following summer for just half that amount. It was a triple affair that was just the thing for shaving, and the wise woman who did not part with her money when it was too expensive now has it for the coming season. All children enjoy books, and it is possible to pick up many bargains out of season. Of course it is not good policy to buy fly-specked or damaged volumes, but if care is taken, clean ones are just as common in summer as winter, and even more so, since careless shoppers finger the holiday books ruthlessly.

In the dry-goods stores the bargains are legion. A little girl who has wanted a white parasol all her short life will have her dream realized on Christmas morning. For seventy-nine cents her doting aunt bought a dainty little affair that will delight her heart. Not a suitable gift for winter time? I should like to know why not, since this dear little girl will enjoy it all the time in anticipation until warm weather comes, and then blossom out like a butterfly in all the glories of realization. Hair ribbons for a song, bargain handkerchiefs, fans, beads, turnover collars, fancy linens, aprons, silks and countless multitudes of pretty things are on sale. A lady who had several elderly people on her Christmas list bought a remnant of silk that she made into work bags for the old ladies to carry their work in when they went visiting, and so earned their everlasting gratitude. Another bought several bright remnants of silk and wool to cut into "quilt pieces" for her aged friends, and one old lady cried for joy. Every one gave her sober browns and grays and blacks for her precious quilt, but when she saw the vivid reds and gay tints she felt her cup of joy overflowing.

The jewelers are also busy disposing of their old stocks to make room for holiday goods. Special sales are common and the last year's novelties are much reduced. While it is never advisable to buy silver trifles that are worse than useless, there are always pretty and substantial gifts in this metal that every one is glad to receive. Spoons, thimbles, forks, fruit knives and umbrella markers never go out of style and always make pretty gifts. One sterling teaspoon or an individual fruit knife should always be given the preference over a dozen cheap ones or a whole set of worthless knives in choosing gifts of that sort. It is money thrown away to buy cheap plated articles. Necessity compels using poor substitutes for the genuine sometimes in house-keeping when the purse is limited, but when one is making a present it is folly to throw money away on trifling things.

Even the house-furnishing stores are selling out their goods at a reduction to make way for holiday stocks. Rugs, fine kitchen ware, cushions, hampers and other articles can be picked up if a useful gift is sought. No one need ever be afraid of offending a housekeeper by giving her a set of paring and kitchen knives, a double boiler, a good crumb brush and tray or any other fine article for use in the kitchen. One woman clasped the basket of household conveniences, consisting of egg beater, measuring spoons, dippers, cooky cutters and other things that should be in every kitchen, from the collection of Christmas gifts spread out before her in her arms, and then waved it aloft in her joy. "I have wanted these things for years," she said solemnly, "and Santa has brought them at last."



## The Housewife

So while there is time to study the individual likes and dislikes of the family and friends, it is well to have an eye open for bargains. Remember, it is the early bird that catches the worm.

## Hickory-Nut Dainties

BY ALICE M. ASHTON

THE hickory nut or walnut is found in many parts of our country, and may be had for the picking or for a very reasonable sum indeed. It reaches its perfection about the holiday season, and many are its culinary possibilities. The following recipes are exceedingly good, and any of them will be an acceptable addition



CROCHETED STAR

to the Christmas dinner or form a wholesome variety in the months to come.

**NUT LOAF CAKE**—One half cupful of butter; one and three fourths cupfuls of sugar; one cupful of sweet milk; three cupfuls of flour; two teaspoonfuls of baking powder; two eggs; one teaspoonful of vanilla; one cupful of chopped nuts.

**CREAM NUT CAKES**—One cupful of sour cream; one cupful of soft sugar; one egg; one and one half cupfuls of flour; one teaspoonful of soda; salt; a little nutmeg; one cupful of chopped nuts. This amount will fill twelve patty pans. They should be eaten fresh without icing.

**NUT CAKES**—One cupful of butter; two cupfuls of

sugar; the yolks of six eggs; one cupful of milk; four cupfuls of flour; four teaspoonfuls of baking powder; the whites of two eggs; two cupfuls of chopped nuts. Bake in little cakes. Cover with vanilla icing, on which arrange large nut meats.

**NUT ICING**—One coffee-cupful of sugar; cream of tartar the size of a bean; one fourth of a cupful of hot water. Boil until it spins a thread, then pour over the well-beaten whites of two eggs, and beat until smooth. If used for a layer cake, divide; in one portion place three fourths of a cupful of chopped nuts, and use between layers, and use the other portion for the top and sides and decorate with whole nut meats.

**NUT COOKIES**—One cupful of butter; two cupfuls of sugar; one half cupful of sour cream; one half cupful of sour milk; one egg; one teaspoonful of soda; one teaspoonful of vanilla; one cupful of finely chopped nuts; flour enough to roll. Sprinkle with sugar, and press a large nut in the center of each before baking.

**NUT HERMITS**—One cupful of butter; one and one half cupfuls of sugar; three eggs; one cupful of raisins and currants; one cupful of chopped nuts; one teaspoonful of soda; one teaspoonful each of cinnamon, cloves and allspice; flour enough to roll, making them only just stiff enough to handle.

**ROCKS**—One cupful of butter; one and one half cupfuls of sugar; three eggs; one cupful of raisins; one cupful of nuts; one fourth of a cupful of water; one scant teaspoonful of soda; one teaspoonful of cinnamon; two and one half cupfuls of flour. Drop into unbuttered pans to bake.

**NUT SANDWICHES**—Pound hickory nuts in a mortar until reduced to a paste. Add a little melted butter, salt and mayonnaise dressing, and spread between medium slices of white bread. A little finely cut cress or celery is an addition to these sandwiches, which are very substantial and excellent for school or picnic luncheons.

**NUT SALAD**—Two cupfuls of nuts; one cupful of the inner tender stalks of celery cut in half-inch pieces; one cupful of tart apples chopped. Serve with mayonnaise dressing.

**STUFFED APPLES**—Remove the core from large sour apples, and steam the apples until tender. Make a sirup of granulated sugar, and flavor with a little vanilla. Fill the apples with finely chopped candied cherries, citron and orange peel and an equal quantity of chopped nuts. When the sirup is thick, pour over the apples. Serve very cold with whipped cream.

**VANILLA CREAM**—A pleasant change from serving a plain vanilla cream is to make a thick sirup of maple sugar, add a quantity of nuts broken in rather small pieces, and pour over the cream. This is especially nice for a cold-weather ice.

**NUT ICE CREAM**—Beat two cupfuls of sugar and the yolks of eight eggs for ten minutes. Place in a double boiler with one quart of milk, and cook until thick and creamy. Stir in one cupful of sugar, and cool. When ready to freeze, add two quarts of sweet cream, the whites of the eggs beaten stiff, one quart of nuts pounded to a paste and salted slightly, and two table-spoonfuls of vanilla.

## Crocheted Star

CHAIN eight stitches for a ring.

First row—\* 1 long tr (thread over hook twice) in ring, 7 ch; repeat from \* seven times.

Second row—3 ch, fasten with a s c in center st of 7 ch, 3 ch, 1 s c on top of long tr; repeat from beginning of row, around.

Third row—3 ch, 1 s c on s c of previous row, 4 ch, fasten in same place, 3 ch, fasten on long tr; repeat around.

Fourth row—4 long tr in 4 ch loop, 11 ch, 4 long tr in next 4 ch loop, 11 ch; repeat.

Fifth row—1 d c in every st of row, or make 11 d c under 11 ch, and 4 d c over 4 long tr, either way.

Sixth row—1 tr in every st of row.

Seventh row—\* 8 tr (arrange these so 4 tr will be directly over the 4 long tr in fourth row and 2 tr on each side, as shown), 7 ch, 1 long tr in center of the 11 ch of previous row, 7 ch; repeat from \* around.

Eighth row—\* 1 tr on the third, fourth, fifth and sixth tr of the 8 tr, 7 ch, 1 tr under 7 ch of previous row, 5 ch, 1 tr under next 7 ch, 7 ch; repeat from \* around.

Ninth row—\* 1 tr on the second and third tr of the 4 tr of previous row, 7 ch, 8 tr separated by 1 ch, all under 5 ch; repeat from \* around.

Tenth row—2 tr on 2 tr, 5 ch, 3 long tr in 1 ch space, work off only two loops of the long tr, then draw thread through the four loops on hook at once to make the 3 tr come close together at top, 3 ch, repeat 3 long tr six times, 5 ch, 2 tr on 2 tr; repeat around.

Eleventh row—6 ch, fasten it on the first of the 2 tr, 6 ch, fasten on next tr, \* 3 ch, 1 tr on top of long tr, 6 ch, fasten in top of tr just made, repeat from \* six times, 3 ch, s c in first of the next 2 tr, 6 ch, fasten in same place, 6 ch, fasten in next tr; repeat from first star. These crocheted stars can be used for doilies, or they may be joined to form tidies, etc. The illustrated model is made of No. 24 thread and measures five inches across.

MRS. J. R. MACKINTOSH.

## Fig Sandwiches

REMOVE stems from figs, and chop fine. Put in double boiler, add a small quantity of water, and cook one hour. Season with lemon juice, cool, and spread between slices of buttered bread.



DAUGHTER TRIES THE LATE CORN

Photo by A. B. Wainwright



**Trimmings in Double Shadow Work**

ALMOST every needleworker is familiar with the shadow embroidery which has been so popular for the past year or two. Just now this work is taking on a somewhat different form, equally charming and merely an adaptation of the same stitch—the old-time herring bone.

This new mode of embellishing thin materials is known as double or French shadow work, and is illustrated herewith.

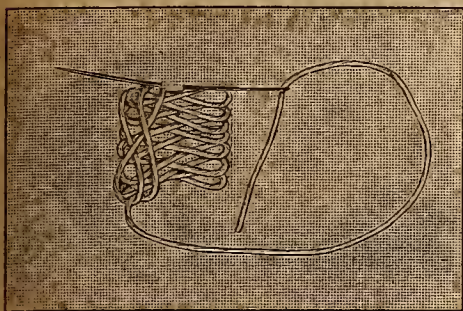


FIG. 1

In the original shadow embroidery the design was stamped on the wrong side of the goods. The same plan may be followed in the double work, or threads of the fabric may be withdrawn to guide one in keeping accurate forms where the design is of a block pattern, as is usually seen.

In one or two of the illustrations the lines show where threads were withdrawn. If the work had been done directly on an article for wear instead of a sampler, these threads would have been removed only for the space to be covered, but in the sampler we wished to make the idea as clear as possible.

When the guiding lines are placed, whether stamped or otherwise, the work proceeds as in ordinary shadow work, except that all four sides are covered. The shadow or herring-bone stitch is carried back and forth on the wrong side across the space, as in Fig. 1, thus making what appears to be small back stitches on the right side. When two sides are thus wrought the work is turned and carried directly over these stitches at right angles.

Various combinations of blocks, bricks and the like are seen, making particularly effective trimmings for those who prefer simple designs to the highly ornate ones frequently seen. These may be in insertion or band style, as shown in Figs. 2 and 3; or medallions, similar to Fig. 4, are equally pleasing arranged in groups or rows to suit the worker.

This mode of decorating is delightful for little girls' dresses and aprons or for

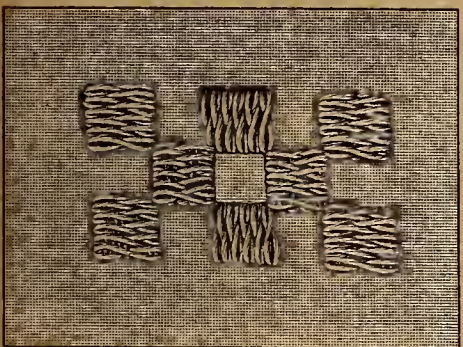


FIG. 2

baby clothes, as well as for the waists, tub gowns, kimonos, collars and ties of young maids and matrons. Dresser covers and pincushions outlined in such patterns are also pleasing over a colored background, or the work itself may be in a favorite color.

Many of the new waists made of chiffon, silk mull and such diaphanous textures are in colors, worked in self or harmonious shades, and used over linings which match the material in color, though perhaps a trifle darker, and are exquisite for dressy wear.

MAE Y. MAHAFFY.

**Pancakes from Porridge**

TAKE one and one half cupfuls of cold porridge, one and one half cupfuls of sour milk, one egg, flour to make an ordinary pancake batter, and one teaspoonful of soda. Or, if made with two cupfuls of sweet milk, omit the soda and add two teaspoonfuls of baking powder to the flour.

**How to Make Good Nut Loaf**

IN ANSWER to a request of one of our subscribers for making nut loaf, we print the following from the "Boston Cooking Magazine":

Crumble the inside of stale white bread, and cut the crust fine. Then dry the whole slowly for two hours in a warm oven. Use a granite pan, and stir the crumbs occasionally. Dry the crumbs without browning them. To three pints of crumbs, measured before drying, add

one teaspoonful of salt, one tablespoonful of minced parsley, one tablespoonful of dried sage leaves crumbled fine before measuring, one half teaspoonful of black pepper, one fourth of a teaspoonful of cayenne, one eighth of a teaspoonful of summer savory, one pint of celery (cut fine or ground), and one sour apple in thin bits. Melt one third of a pound of butter, and in it fry for five minutes one onion of medium size chopped fine. Pour this over the other ingredients, and mix thoroughly. Beat three eggs, add one pint of milk, and pour over the mixture. Let stand to soften the crumbs, while three cupfuls of nut meats—pecans, filberts and Brazil nuts—are ground fine. Reserve one tablespoonful of the ground nuts for the sauce, and mix the rest into the crumbs. When the whole is well mixed, shape it into a loaf four inches wide and three or more inches thick. Butter a perforated tin sheet, set the loaf upon it, and set to cook in a rather slow oven. Bake one hour and a half, basting often with butter melted in hot water. Serve on a hot platter. Garnish with slices of orange and parsley. Serve the sauce in a separate dish. This will serve about a dozen people.

**SAUCE FOR NUT LOAF**—Melt three tablespoonfuls of butter in a hot omelet pan. Add one teaspoonful of chopped onion and half a sour apple cut in thin bits. Then add two rounding tablespoonfuls of flour, and cook to a clear brown. Add one pint of milk and one cupful of hot water in which the glaze from the baking pan has been melted. Stir until boiling.

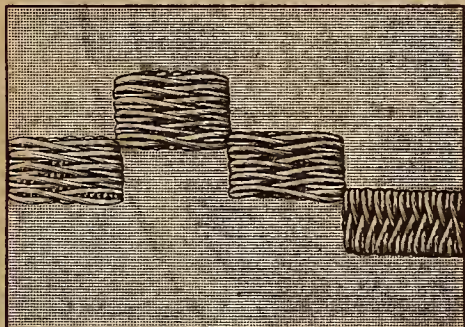


FIG. 3

Then add the tablespoonful of chopped nut meats left for the purpose, one tablespoonful of lemon juice and one half teaspoonful of salt.

**How to Keep Soft Yeast**

READ is very much nicer where soft yeast or sponge saved over from the last baking is used in setting the sponge.

Many housekeepers say they are unable to keep this soft yeast. It can be kept in a perfect condition, even during the hottest weather, if it is put in a bowl and covered with sugar and salt. The sugar and salt will melt, and thus the yeast will keep perfectly.

Sprinkle one tablespoonful each of sugar and salt over the sponge, cover and set away in the cellar. S. E. B.

**Pop-Corn Brittle**

AFTER you have filled a large dish pan with pop-corn, make a sirup composed of one cupful of New Orleans molasses, one half cupful of granulated sugar, a piece of butter the size of a walnut and one tablespoonful of vinegar. Boil slowly until the mixture spins a hair, or until it is brittle when dropped on snow. Pour it, little by little while hot, over the corn, mixing it lightly with the kernels until every one has a light coating and there is enough to adhere lightly to the mass. There should be two persons to do this—one to poise the kettle, the other, armed with two long-handled spoons, to keep the corn turned over from the bottom. The more careful the handling, the more

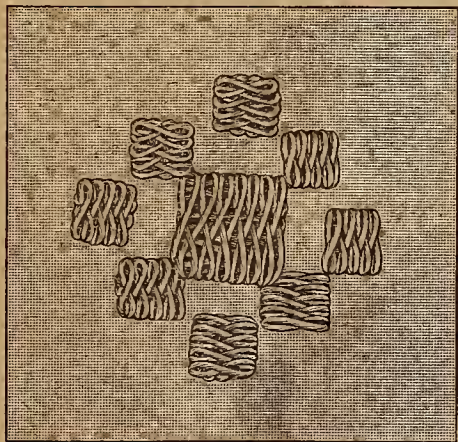


FIG. 4

delicious and delicate the crackle will be. It should not be pressed into a cake or into balls. When it is coated, turn it into an oiled punch bowl or other big dish, and put it where it will get cold and brittle. This is at its best the day it is made.

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# Madison Square Fashions

- By Grace Margaret Gould



No. 1007—Waist With Pointed Skeleton Yoke  
 Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of twenty-two-inch material, or two yards of thirty-six-inch material, with one half yard of inserted tucking for chemisette and one yard of silk for trimming



No. 1006—Panel Waist With Mousquetaire Sleeve

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, six yards of twenty-two-inch material, or four yards of thirty-six-inch material, with one and one fourth yards of velvet for trimming

The long panel front both at the back and front of this waist gives the model a new and distinctive style. The full-length mousquetaire sleeves are another new feature. These are the sleeves we have not seen for some time, and are gathered from the wrist to the shoulder at the inside seam.



No. 1005—Jumper Waist With Large Armhole  
 Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of twenty-two-inch material, or two yards of thirty-six-inch material, with three and one half yards of all-over lace for guimpe and cape sleeves

THERE is no longer any uncertainty as to the continued vogue of the separate waist. Paris is showing more fetching waists than for many seasons past.

The waists illustrated on this page show new ideas in sleeves, yokes and trimmings. All sleeves are growing longer, and the mousquetaire sleeve, which has been out of date for some time, is back again in fashion. Many of the waists emphasize the large armhole; sometimes it is merely simulated by the adjustment of the trimming. The seven-eighths sleeve is seen in a number of the silk models, the sleeve being generally in the form of a puff finished with a deep cuff.

Waists with pockets are among the new French novelties, and a very odd as well as convenient little touch do they give. Broadcloth and lace are combined in many of the new waists, as well as satin and filet net. A lace blouse made with a skeleton yoke of broadcloth, velvet or satin is extremely smart, having a chemisette of fine lace or tucking, which is adjustable.

OUR new fall and winter catalogue of Madison Square patterns, larger and more up to date than ever, containing Miss Gould's latest Parisian designs and London fashions, will be sent for two two-cent stamps. When ordering patterns alone address Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. Orders for patterns in connection with subscriptions and renewals should be sent to Farm and Fireside, Springfield, Ohio.

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.

When ordering be sure to give bust measure in inches for ladies' waists; 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.



Numbering from left to right—Nos. 1004, 1005, 1006, 1007, 1008



No. 1004—Waist With Adjustable Vest

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-six-inch material, with one yard of contrasting material for vest and cuffs

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No. 751—Princess Petticoat-Drawers

Pattern cut for 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 38 inch bust, five and one fourth yards of twenty-two-inch material, or three and one half yards of thirty-six-inch material



No. 749—Princess Petticoat

Pattern cut for 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, six and one half yards of twenty-two-inch material, or five yards of thirty-six-inch material, with three and one half yards of embroidery for ruffle



No. 1008—Box-Plaited Shirt Waist With Plaited Trimmings

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and three fourths yards of twenty-two-inch material, or three and three fourths yards of thirty-six-inch material, with one and three fourths yards of silk for plaiting



# Miss Gould's Dressmaking Lesson

## The Mannish Shirt Waist. How to Overcome Its Difficult Points

**T**HE mannish shirt waist, whether it be made of heavy wash materials, wool batiste or silk, is really the most appropriate waist to wear with the new fall walking suit. The woman who makes her own clothes, and has an idea that because these waists are severe they are more easily made than the elaborate blouses, is very much mistaken.

There is more study required and care to be taken in one of these plain tailored waists than any other, and the novice is likely to find many a stumbling block in the course of its construction. This dressmaking lesson, however, explains the more difficult points very clearly, and if the instructions are followed carefully the waist should be perfect when completed.

The pattern of the Plain Tailored Shirt Waist, No. 1017, may be purchased from the Pattern Department of the FARM AND FIRESIDE, 11 East 24th Street, New York City. Price of pattern, ten cents. It is a plain shirt waist, the special feature being the shirt sleeve finished in mannish style with straight-cuff and upper and under laps.

The pattern envelope contains eleven pieces. Each piece is designated by a letter, which is perforated through it. The front is lettered (V), the back (T), the belt (X), the pocket (E), the neckband (H), the collar (L), the collarband (Y), the sleeve (K), the cuff (J), the upper lap (A) and the under lap (I).

Smooth the pieces of the pattern out carefully and pin on the material. Lay the edges marked by triple crosses (xxx) on a lengthwise fold of the material. Place the other parts of the pattern with the line of large round perforations in each lengthwise of the goods. Cut the right front like the pattern. There is no box

Send all pattern orders to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. In ordering, give number of pattern and bust and waist measures required. In ordering children's patterns, mention age. The price of each pattern is ten cents. Send two two-cent stamps for our new fall and winter catalogue.

and as the joining comes below the waistline it will not be noticed. Some materials have no nap nor "up and down," and in this case the pieces of the pattern may frequently be reversed and fully three fourths of a yard of material saved. Be sure to mark each perforation and cut out each notch before removing the pattern pieces from the material.

Join the under-arm seams as notched. Turn a one-inch hem on left front. Turn a hem on right front by notches, and stitch one half inch in from the edge of the hem. Crease the fronts on lines of triangle perforations, and stitch one half inch in from the edge of each crease to form the tucks. In stitching the first tuck on the right front be sure to include the loose edge of the hem in the tuck. This forms the center box plait.

Finish the pocket. Turn the lap on pocket by line of small round perforations and button to position. Arrange the pocket on the left front, bringing the upper edge of pocket to line of small round perforations on front, and stitch flat.

Gather the waist at waistline between double square perforations. The waistline is indicated by lines of square perforations. Arrange the belt on the under side along waistline using plenty of pins in arranging and baste securely before removing pins. Match centers of waist and belt back and front and bring the large round perforations in belt to the under-arm seams. Join the neckband to neck by notch. Lap the fronts, bringing the edge of the left front to the center line of large round perforations in the right front, and fasten through the box plait with buttons and buttonholes.

Join the collar to collarband as notched. Arrange the collarband around the neck, and join to neckband, back and front, by means of collar buttons. Lap the front ends of collarband, matching center lines of large round perforations.

The neckband, collar and collarband, as well as the cuffs, are cut double. These 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. If they are made in this manner both pieces will shrink in exactly the same way when the waist is laundered. If, however, the upper cuff is cut properly and the under cuff is bias or on the length of the material, it will be a difficult matter to iron them smoothly. The collar, collarband, neckband and cuffs are interlined with one or more thicknesses of linen, according to the individual desire for soft or stiff collars and cuffs.

One illustration shows how the separate collar and collarband look, while another shows just how the neckband is arranged around the neck.

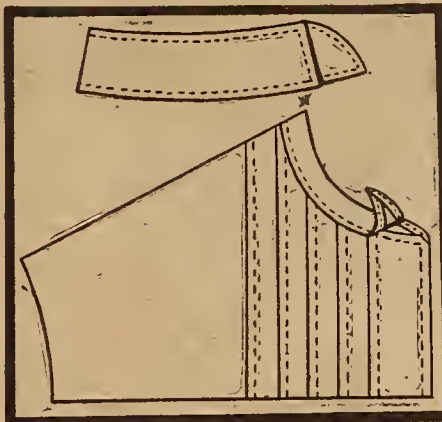
The most important part of a tailored shirt waist, and the most difficult one, too, is the making of the sleeve. The first step is to finish the slashed opening with the laps. Crease the under lap and join to the under edge of the opening as notched. Then join the upper lap to the opposite side of opening by notches, and stitch. Fold the lap on line of large round perforations, turn in the edges three eighths of an inch, and stitch flatly to position on the sleeve.

Two illustrations are given of the lower edge of the sleeve. One shows how the upper lap is first joined to the opening. The other shows how this lap is folded over and stitched to position, also how the under lap looks when properly adjusted. Now gather the sleeve at upper and

lower edges between double crosses. Finish the cuff at lower edge, but leave the upper and side edges open. Slip the sleeve between the upper and under cuff and arrange the fulness in sleeve to under side of cuff as notched. Then baste the upper side of cuff to position.

An 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.

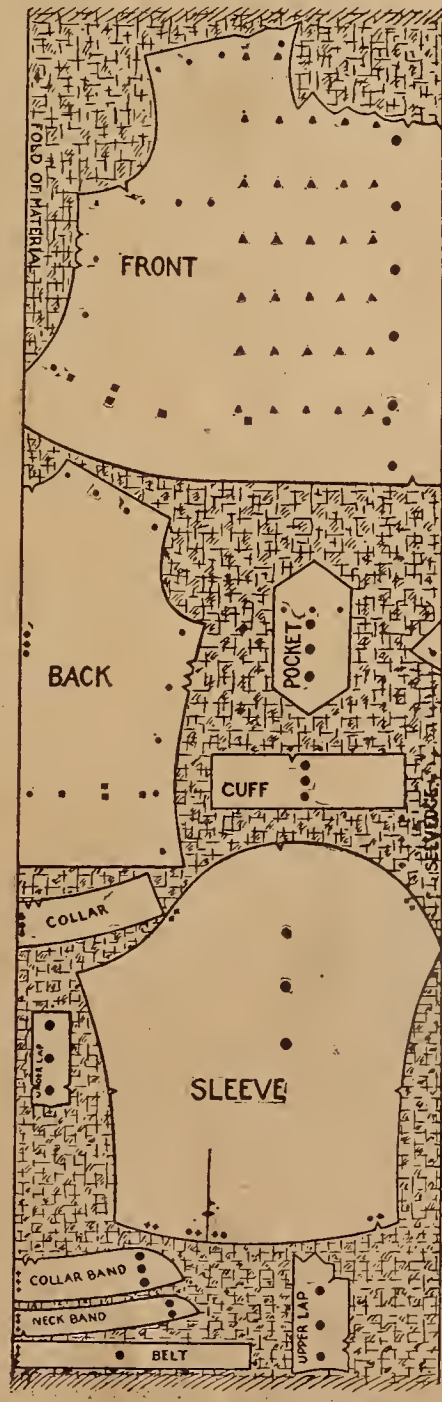
Pin the sleeve in the arms-eye, placing front seam at notch and top notch in sleeve at shoulder seam. Pin the plain part of the sleeve smoothly into the arms-eye, holding the sleeve toward you. Draw the fulness up to fit the remaining



This Picture Shows How to Correctly Join the Neckband to the Neck, and It Also Illustrates the Separate Collar With Collarband

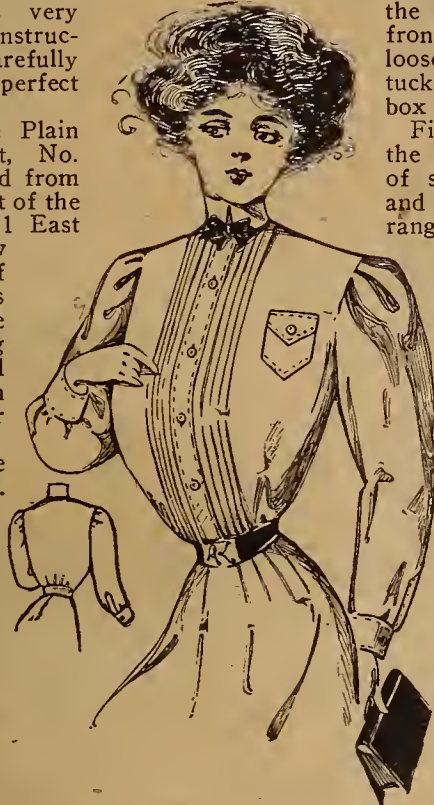
space. Pin and distribute the gathers carefully before basting firmly.

Three-eighths-of-an-inch seam is allowed on all edges of this pattern, except at the shoulder and under arm, where one-inch seam is allowed, designated by lines of small round perforations. As most of the fitting in a waist is done on the shoulders and under the arms, this additional inch is allowed at these two points as a safety outlet. Of course, after the waist is properly fitted these wide seams should be cut off and only three-eighths-of-an-inch seam be permitted to remain.



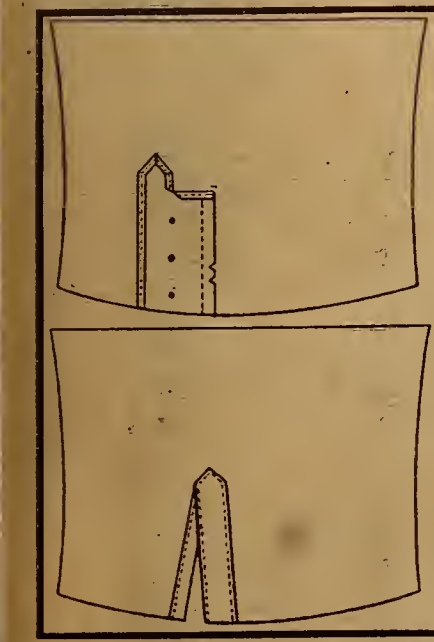
The Most Economical Way of Placing the Pattern Pieces of the Shirt Waist on Material Forty-Four Inches Wide

Showing How a Band Cuff is Finished and Attached to the Lower Edge of a Shirt-Waist Sleeve



No. 1017—Plain Tailored Shirt Waist

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, two and three fourths yards of thirty-six-inch material, or two and one eighth yards of forty-four-inch material. The price of this pattern is ten cents. It can be ordered from the Pattern Department, Woman's Home Companion, Madison Square, New York City.



The Upper Drawing Shows How to Join the Upper Lap to the Opening in Sleeve; the Lower Drawing Illustrates the Finished Opening With the Upper and Under Laps Stitched to Position

plait on the left front, so it is cut off by line of large round perforations.

One illustration on this page shows how the pieces of the pattern may be placed most economically on material forty-four inches wide. The material folded is not quite wide enough to cut two fronts, but the tiny three-cornered piece may be neatly joined to each front,

# MAKE MONEY

## 6 Doz. Post Cards SENT FREE YOU FREE

We Set You Up Post Card Depot at Home. Everyone is post-card crazy the world over. People can't get enough Pretty Post Cards only when they go to large cities, where Post Card shops are on every corner. If you had Post Cards at home to show, you know your friends and neighbors would buy lots of them. We have quantities of Pretty and Comic, American and Foreign Souvenir Post Cards. We will trust you with 12 assortments to sell; all you do is to tell your friends about them and they will come and look them over and buy them. They come assorted six cards in an envelope and sell at 15c. or 25c. doz. We send you the twelve lots free. You will find, if you talk about them, they will sell quick; no risk to you. Order them today. When sold, send money collected, and we send you your choice: A fine American-made Watch, a fine Ruby, Emerald or Opal Stone Ring in Gold Setting warranted for years, or a Pair of 9 ft. Lace Curtains as a Premium for your trouble. If you had rather earn cash you can send us half of the money, and keep the balance, for your pay. Anyway you will find one lot of cards will not supply your friends, as they use so many they want every week; so you can establish a regular Post Card Branch for us and make money right along selling Post Cards. Many women and girls send for second and third assortments and go about with them displaying them in a Post Card Album, and let the people select what they want in that way. When once the business gets established, we will furnish you with a Nice Post Card Album Free, and a lot of extra cards for samples, after you show us you can sell the first lot of Cards and are competent to manage a Branch Post Card Depot for us, either on salary or for commission on sales. Send for the first lot today, before others get the business. Address SUB. POST CARD CO., Box 915 Augusta, Maine.

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The Kings County Hospital Training School for Nurses is desirous of greatly increasing the nursing staff. The course is two years with two months' probation. During this probationary term candidates are maintained; after this term \$10.00 per month is allowed. Uniforms and books are supplied. There is a comfortable nurses' home which is pleasantly located. For further particulars apply to **Miss M. O'Neill, Superintendent of Nurses,** Kings County Hospital, Brooklyn, New York.

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**SALUS MEDICINAL COMPANY, London, Ontario, Canada**



# Ten Beautiful Ponies

For  
Our  
Boys  
and  
Girls



Five  
Handsome  
Harrington  
Pianos Like  
the One Below  
Are Also  
Offered as  
Prizes

## You Can Be a Winner!

Every person who enters this greatest of all great pony contests, and becomes enrolled as a contestant, is sure to be a prize winner, because absolutely every contestant enrolled will get a valuable prize. This great contest is far different from any contest FARM AND FIRESIDE has ever conducted heretofore. In this contest \$10,000 in ponies, prizes and rewards will be divided among our boys and girls, and just think, as soon as you become enrolled as a contestant, you are **sure** of your prize—**absolutely sure!** We guarantee that. And besides all the ponies and other prizes, we will pay every contestant liberally in cash for every subscription obtained. In addition to the valuable prize that absolutely every contestant enrolled will receive, and the cash commission for every subscription obtained, we offer our boys and girls

**Five Handsome \$750 Harrington Pianos  
Ten Beautiful Blooded Shetland Ponies and  
Five Hundred Magnificent Grand Prizes**

Just think what fun you could have hitching up "Dixie," the pony pictured above, and taking your friends for a drive! "Dixie" with his pretty cart and harness will be sent absolutely without cost right to the door of the boy or girl who wins second prize, unless a piano is preferred. And you can ride "Dixie," too, for all of the ponies are broken both to ride and to drive. They are gentle as kittens, and a baby would be safe with any of them. Every pony is guaranteed sound subject to veterinary examination. This is the best and easiest time of the year to get subscriptions, and just think, the ponies will all be given away next March, when winter is over and you have a whole spring and summer of pleasure ahead of you!

And the pianos are just as good as the ponies. They are the regular \$750 Harrington Upright Grand, as pictured below, and come from 138 Fifth Avenue, New York, where the executive offices of the E. G. Harrington Piano Company are located. Five of these handsome pianos, finished in either fancy mahogany, walnut or oak will be sent absolutely without cost right to the doors of the first five winners in this contest, if they prefer a piano rather than a pony.

## What To Do Now

Of course you want to know all about the ten beautiful ponies, the five handsome pianos, the five hundred magnificent grand prizes and all the other prizes. Sign your name and address on the coupon below (or a postal card will do), cut it out, and send it to the Pony Man, Dept. B, Farm and Fireside, Springfield, Ohio, right away to-day, if you can. It will not bind you in any way, and just as soon as I hear from you I will send you a fine picture of Archie Roosevelt, the President's son, on his pony "Algonquin," pictures of all the ponies, pianos and other prizes that will be given away in this contest, and it won't cost you a cent. I will tell you just how you can get one of these fine prizes and will send you lots of other things besides.

If you want to make sure of a prize the first thing, don't wait to hear from me, but get twelve of your friends to take FARM AND FIRESIDE, or renew their subscriptions for one year at 25 cents each. This will give you \$3.00.

Keep 60 cents for yourself (five cents from each subscription), and send the other \$2.40 to the Pony Man. Then you will be a full-fledged contestant anyway, and entitled to your share of \$5,000 in prizes and rewards the very first thing. Don't wait. Send me your name right away, and then start hustling. Remember, you are a prize-winner *sure* just as soon as you become a contestant—the sooner, the better. "Get in the saddle" right now. That's the way to win! Good luck to you!

Yours for a Pony or a Piano,

*The Pony Man*  
DEPT. B  
FARM AND FIRESIDE  
Springfield, Ohio



Five of These Handsome \$750 Harrington Upright Grand Pianos Are Offered as Prizes to Our Friends in This Great Contest. You Can Get One For Your Very Own if You Hustle!

DEAR PONY MAN:—  
I am very anxious to get either a pony or a piano.

Please send me by return mail all the pictures of the ponies, and pianos, and of Archie Roosevelt. Also tell me just how all the ponies and other prizes will be given away, and how I can get one. Please save a place for me in the contest.

**FOLD AND TEAR OR CUT HERE, SIGN AND MAIL TODAY!**

Name.....  
Rural Route.....  
Town.....  
Date..... State.....



THE GRAY LEAPER

YOU all know me with my gray fur coat and my shining green eyes. You have often watched me stalking my game on the sunny south piazza while you swung leisurely to and fro in your hammock.

I never trouble myself to weave webs or spin snares. How I should hate hiding in the corner of my web, or hanging behind my white ladder, hour after hour, waiting for my breakfast to put in an appearance! Why, I should starve to death! A hunter bold am I, and a life of stirring adventure is the one that suits me.

There is only one time when I am really unhappy, and that is when the days are



THE GRAY LEAPER

cold and gray, and especially when it rains, for then no sweet little bugs come forth to be caught, and I have to creep into a crack, curl my eight legs around my body and dream of the fine dinner I will have when the sun shines once more.

THE GARDEN SPIDER

EPEIRA, being rather lofty minded, has reared her castle high up in the woodbine that hangs from the piazza roof. She wears a pinkish gown with brown and white trimmings, and believes in the maxim, "All things come to him who waits."

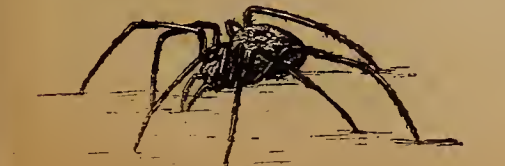
Being of a wily nature, and also very hungry, she decides that the smile will be much more for her advantage than the frown, and cordially invites him to come in; but like the fly, he ne'er comes out again.

"He made a fine breakfast," she remarked as she carried out the empty shell of his body and dropped it down behind her web. "A suitor a day would be none too many for me."

THE MEADOW SPIDER

LADY ARGIOPE makes her home near the brook that flows through the meadow. See the beautiful web she spun last night, between a stalk of goldenrod on that side and a wild rose bush on this!

Ah, here comes Miss Katydid, gaily hopping along in her green gown! Oh, what a fatal leap was that right into the middle of Argiope's web!



THE GARDEN SPIDER



In Spider Land

By Margaret Wentworth Leighton

"Katydid! Katydid! Katydid!" screams the victim, but her cries are soon muffled, as the last fold of the winding sheet is drawn about her. Lady Argiope bears her back behind the ladder, which is really a sort of screen, and takes a drink or two of refreshing green blood.

CALYPSO

CEANUS, you know, was the father of all the nymphs who lived in the sea; the lakes and the streams. Down in the meadow lives Calypso, named after one of the river nymphs, because, like her, she prefers to dwell beneath the water.

Like all spiders, she is a fine spinner and weaver. Down among the rushes, far below the sparkling ripples, she weaves her bottle-shaped house of waterproof silk. When it is finished she runs up her rush walk to the surface, and procuring a bubble of air, she holds it with her hindmost pair of legs while she descends and carefully puts it into her house.

A week later, if you should peep into her chamber, you might spy a bunch of eggs, on which Calypso keeps an eagle

eye. Here in this snug little house, as dry as yours or mine, she will bring up her forty-nine children, with little fear of troublesome enemies.

THE HOUSE SPIDER

ARANEIDA doesn't believe in the benefits of outdoor air and sunshine. A dark corner in the attic is much more to be desired, thinks she, and here she has spun her silken snare, a closely woven blanket stretched from one wall to the other in a gray triangle, with a cozy corner at the apex.

Like her sister spiders, Araneida is as neat as a cat, and spends a deal of time combing herself all over, to remove the particles of dust which may be clinging to her. She carries her brush and comb on her leg, and it is a comical sight to see her sitting up on seven legs while with exceeding dexterity she makes her toilet with the eighth.

When Araneida's infants first leave their eggs they are the tiniest, palest atoms of life you ever beheld, but every one can spin a silk thread as long as he wishes. In a few days they have outgrown their swaddling clothes, and each, hanging himself on a silken rope, kicks and struggles until his dress splits up the back and down the front and he can draw out his head and his eight little legs.

When spring arrives, the brown paper wasps, who also occupy the attic, will awaken to active life. Then indeed will Araneida be surrounded by a horde of deadly enemies, for if one of these bold fellows should thrust his stiletto into her soft body, no more would the garret know its little gray tenant.



CALYPSO



HOUSE SPIDER'S COZY CORNER

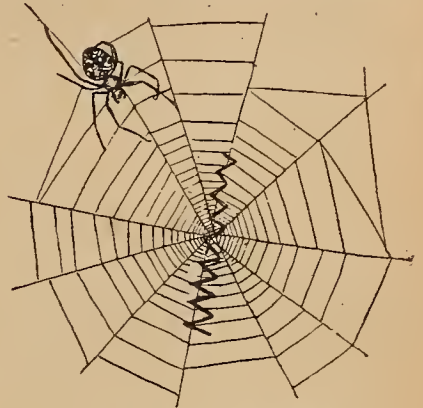


LEG COMB ENLARGED

ball bounced along after her as she journeyed. "It would never do," thought she, "to leave my precious eggs anywhere, for fear harm might come to them in my absence." So she carried them along wherever she went, securely fastened to the hind end of her body.

About a week later I met her in the road one morning, and a curious sight she was. Her egg ball was no longer visible, but on her back she carried ninety-seven tiny wolf spiders.

"What do you think of my children?" said she. "Haven't I a fine family?" "You have indeed!" I answered. "Don't you find it quite a load?" "Oh, no," she replied. "There were a



THE MEADOW SPIDER

dozen more in the first place, but some days hunting was poor, and so we ate a few, the rest of the children and I," she continued, without even a blush. "It takes a deal of food to fill ninety-seven hungry mouths, not to mention oneself."

The next time I met the Lycosas fifteen of the little fellows were ranged on the highest rail of the pasture fence. The wind was blowing and they were spinning out long silken streamers. All at once the breeze caught some of these threads, and away the little fellows sailed, each clinging to his silken rope.

"It's great fun to go a-flying!" they cried out. "Don't you wish you could?" I felt at the moment as if I would almost like to change into a little black wolf spider for the sake of taking a trip over the tree tops.

THE SPIDER GENERAL

THE name spider, which seems to be a corruption of spinther, refers to the well-known spinning powers which these animals so cleverly exercise.

They are found almost everywhere upon earth, especially in warm countries, and are of much importance in checking the multiplication of insects.

A few tropical forms, notably the bird-catching spiders, exceed two inches in length of body, but the majority measure only some fraction of an inch.

As regards the sense of spiders, it seems that few have much power of precise vision. What are known, however, as the hunting Saltigrades have been observed to stalk prey from a distance of ten inches, but that this is regarded as exceptional shows how limited the ordinary power of vision is believed to be. The lurking spinner feels rather than sees the insect tangled in its snare or web.

All spiders feed on insects, which they entangle in their snares, or stalk, or catch after patient lurking. In most cases they kill their prey with their poisonous fangs. The mouth is small, and behind the gullet there is a powerful suctorial region that acts as a suction pump.

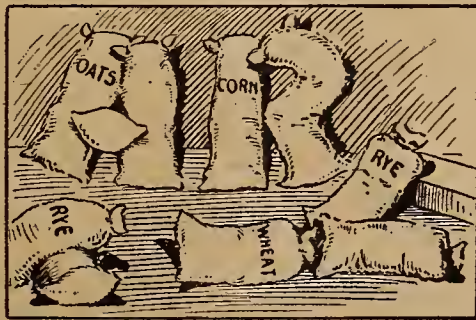
No structure made by animals, not even the nests of birds, the homes of bees, or the hills of the white ant, are more marvelous than the webs and snares of the spiders. The framework is so delicate, yet so effectively firm, so clever in its construction, so sensitive, we may almost say, in its mechanism, that it ranks highest among the works of instinctive art.



THE WOLF SPIDER

THE PUZZLER

Perhaps the Pictures Below Will Suggest to You Some Things About the Farm that Need Repair



Answer to Puzzles in the October 10th Issue: Charade—Innocent—inn-o-cent. Transpositions—1. Memorable; 2. Suppression; 3. Unromantic; 4. Satellite; 5. Mythographer; 6. Pedestrian; 7. Insecurity; 8. Dreaminess



# The Grange

BY MRS. MARY E. LEE

## SOCIAL SERVICE IN THE COUNTRY

**D**URING the General Assembly of the Presbyterian Church, which convened in Columbus, Ohio, this summer, the question came up, session after session, "Why is it that young men do not enter the ministry? Why, in a time when there is such a moral awakening and people are turning their thoughts to the duties and responsibilities of citizenship, why do not young men seek the ministry as a means of social service?"

Dr. Washington Gladden, the revered Congregational minister, answered the question as follows: "I have asked the same question of many young people, and their answers are almost uniform. They believe that one can enter business or professional life, and by just dealing and high moral purpose support the church work and inject higher ethical ideals into business. There are so many organized agencies for helping humanity that they can do work in these channels and not interfere with their business while getting support from the business."

I believe this is the truth of the matter. Everywhere men and women are turning to organizations that help humanity in a very present way in its struggle to attain the ideal. I conceive that this social service will very soon make the church even a larger factor. The problem of the country church is a hard one, and means must be found to increase its effectiveness and maintain it as one of the most powerful factors for good.

The country offers rare opportunities for social service. I know young people who pine to do the work that Jane Addams made her name by taking up the work at hand and seeking to better the conditions of those about her. That is the secret of effective work, doing the work at hand. The country has just as great opportunities for social service as the city can possibly present. The problems are entirely different in nature, but none the less important. Their results will be farther reaching than any that can be done in the city. Every one acknowledges the value of country life in character forming, but pure air and good living alone do not make sturdy men and women who are capable workers. Pure air and country surroundings all work for better things if wisely employed.

It's only the thousandth man or woman that is fit for solitude, and while the telephone, trolley and rural mail delivery have brought farmers together in some sections, yet there is a waste of energy and of time that is appalling. We could have things so much better than we do, know so much more, and knowledge brings happiness of the highest sort, have so much more beautiful and artistic homes, better schools, churches, roads, and all that contributes to a better life, if we would only set about to accomplish it. We must get together, organize, work in harmony and with the united wisdom of a community. Then will that community be able to take part with other communities all over this great land of ours, working together for the common good of mankind.

Oh, young men and women, the Grange offers opportunities for service as great as the city can offer, and the rewards are a thousand times greater. Leaders in all activities must come from the farm. It's not the farm itself, but the training thereon, that counts. Rewards? Labor itself is reward enough, and if you think of that all the time, this is not for you. Effect follows cause. You cannot escape the effects of idleness and indifference. Neither can you that of labor and service. Choose the better part. Go to work. Justify yourself to your Creator for having created you. Every desire for good, for advancement, be it ever so faint, is a divine command to seek that good. If you heed it you will be recompensed with joy. If you heed it not you will be recompensed with sadness.

## AGGRESSIVE WORKERS IN THE GRANGE

If I were ambitious for social service, to do something that would benefit human kind, and to take an honorable place among the world's workers, and lived in the country or in a small town, I would go into the Grange. If I lived in a state where the work was alive, where the Master was alert and a good leader, where he had the qualities that brought him in contact with leaders in other organizations as a leader among them, then I would recognize that here indeed was a person of rare type. It means much to the farmers to have one of the sort who

is looked upon by educators, business men and all industries as one of transcendent ability and unswerving integrity. I would want to get in as close touch with such a man as possible, learn from him, and seek to make my life as great and helpful as possible.

On the other hand, if I lived in a state where there was a Grange organization that was doing nothing save live on the reputation of what the Grange at large was doing, to be State Master of which is not more than to be Master of a Pomona in Ohio, Michigan, Pennsylvania, or some other Eastern state, then I would go in, organize Granges, secure charters for them, and go to work on a grander scale. Such a man or woman will some day become State Master and place the Grange in that state in the hands of aggressive leadership.

"The old order changeth, yielding place to new,  
And God manifests himself in various ways."

There is no place where this is so true as among farmers. Take my own state, where every important organization or group of men seeks the Grange to find how it stands on a question, and to get in line with Grange thought. Take Maine, with one out of every twelve citizens organized, with a State Master who holds the respect of all classes; or New Hampshire, with a Grange in every town and some to spare; or Vermont, which Governor Bell took with six thousand membership and brought to eleven thousand in an incredibly short time, membership of the best blood in this country; or Massachusetts, Connecticut, Pennsylvania, with nearly seventy thousand each, New York with above eighty-two thousand; in each state named the Grange plays a leading part in all public and civic matters. Ah, it means something to be connected with such an Order.

I would make my state a factor to be reckoned with. I would seek only the very best farmers and families, conservative men and women who are not hurtled about with every wave of opinion, but of stern, uncompromising integrity, and I would bind them together in the blessed ties of a fraternal organization. I would expect a lot of hard work and disappointment, and would find more than I could ever expect, but it pays, it pays a thousandfold. There is no fun so great as being in a lively scrap to bring good things about, to change the old, where it is evil and hurting, to the new, that is better and more in accord with divine law. You can't get a living by it, but you can make life more worth the living for self and humanity. If the ability is in you for leadership, it will come to you. If not, you will help to push another who can lead, which is just as good. It's the person who can do the work best that all should get behind and push.

Some time go to the National Grange, that parliament of states where men and women from the North and the South, the East and the West, come together to deliberate on the policies that shall be pursued by this great organization that speaks for every farmer in the land, whether he is a part of it or not, and you will feel the mighty thrill of great powers and interests working together for a common cause, the uplifting of agriculture. The soul not stirred by the spectacle of a National Grange session can have little noble within it. If the experience gained does not pay a thousandfold for all the hardship, then the Lord pity you. But get to work. You were not meant to sit idly by while others were striving. If you do, you miss the sweetest part of life, for sweetness comes only to the brave.

## LABOR SITUATION IN SAN FRANCISCO

Speaking of the industrial conditions in San Francisco, a gentleman living there said that the labor conditions were a menace to material progress. The labor unions refused admittance to membership to those coming from other cities, even if they brought membership cards. Applicants for work were told that there was a sufficient supply of labor, and conditions were made intolerable for those who had been attracted by high prices paid in rebuilding the unfortunate city. The domination of the labor trust was retarding development.

In its final results there is little practical difference between a financial corporation in restraint of trade and to raise prices and a labor trust with the same end in

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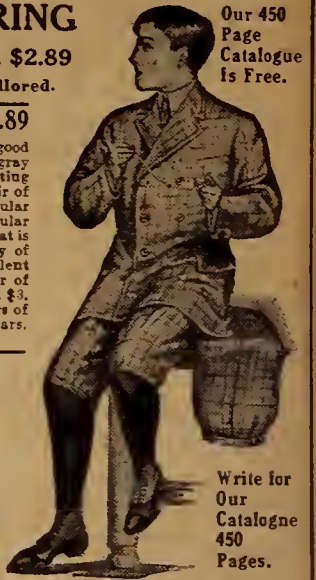
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view. Pooling of interests either by labor or capital may not always be an economic wrong, but when a financial corporation or a labor union reduces output in order to advance prices beyond a reasonable profit they become a menace to society.

Farmers are suffering in a thousand ways from the exactions of the labor trust as well as from financial corporations, but yellow journalists shriek only about the latter. If the farmers are ever to be freed from the conditions imposed they must fearlessly and earnestly study the situation and seek legislation along correct economic lines. In a time when wages are higher than ever before, when immigrants are pouring in great hordes from foreign lands, the appalling labor shortage on the farm should apprise thoughtful farmers that they have been following wrong policies and that their only salvation lies in getting down to basic economic principles.

I do not despair that farmers of the present generation will become sensitive to falseness in economic policies, but they will not by listening to appeals to prejudices. Men must learn their relations to their fellow-men, must consider questions in their relations to the individual and to society, must seek exemplification of the Golden Rule. When men get correct ideas of the relations of each to each, and refuse to be inflamed by the demagogue's appeal, then, and only then, will they reap rewards commensurate with effort expended.

## THE OBSERVATORY

Maine State Grange maintains a home for girls at Good Will Farm. This is a charitable institution where girls without homes are given an opportunity to secure a useful education that will fit them for doing well the work in life, and Maine Granges are to be congratulated on their far-sighted generosity.

National Master Bachelder, National Lecturer Gaunt and Past Master Jones are doing a good deal of picnic work in the Eastern states. Several national organizers are also at work in Vermont, New Hampshire, Massachusetts and New Jersey. Large gains in membership are reported from each of the states.

Past Master Westgate, of Kansas, was one of the speakers at a Grange picnic and Old Settlers' Day at Manhattan recently. The event was to celebrate the fiftieth anniversary of the coming of John Warner to Kansas. The picnic was held on his beautiful farm. He furnished a four-hundred-pound barbecue beef, which was done to a turn. It was a great day for Manhattan and vicinity, and hundreds of people were in attendance. The grove was profusely decorated with flags and bunting. Mr. Westgate held his large audience as he spoke of the splendid work yet to be done in behalf of progress and the part that the American farmer is to play in the future. He predicted that, even great as had been the part the farmer had played in times of war in behalf of his country, it was not to be compared to that which he would do in times of peace through organization and education for the duties before him. The address breathed forth high patriotic sentiment and was greeted with hearty applause.

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**PROSPERITY OF THE BUSINESS OF AGRICULTURAL IMPLEMENTS**

One of the most interesting and conservatively progressive branches of American industry is the manufacturing and export of agricultural implements. Bulletin No. 75 of the Bureau of the Census, recently issued, gives the statistics of the industry in 1905, compared with 1900, as follows:

	1905	1900
Establishments	648	*9.4
Capital invested	\$196,740,700	24.8
Officials, clerks, etc.	7,199	*28.3
Their yearly salaries	\$7,572,646	*9.5
Wage earners	47,394	1.7
Their yearly wages	\$25,002,650	11.4
Miscellaneous expenses	15,178,098	33.2
Cost of materials used	48,281,406	9.9
Value of yearly product	112,007,344	10.7

Ranked in the order of the value of yearly product the leading states are:

Illinois	\$38,412,452
New York	13,045,891
Ohio	12,891,197
Wisconsin	10,076,760
Michigan	8,719,719
Indiana	8,060,575

The heaviest classes of manufacture in 1905 were:

Implements of harvesting	\$30,862,435
Implements of cultivation	30,607,960
Miscellaneous	19,534,114
Seeders and planters	11,225,122
Seed separators	6,639,883

Illinois holds supremacy in harvesting implements, and it also leads in production of implements of cultivation as to value. Together New York and Illinois produced 73.6 per cent of the total value of harvesting implements manufactured.

The United States leads the world in the exportation of agricultural implements, with the United Kingdom as its principal competitor. In the fifteen years ended 1905 the extension of trade to foreign countries has been remarkable. In 1905 agricultural implements formed 18.5 per cent of the total value of products; in 1900 the per cent was 15.9, while in 1890 the proportion was only 4.7 per cent. Russia's purchases in 1905 were nearly four times as much as in 1900, and Argentina increased its purchases by 178.7 per cent.

Here are the export figures and leading buyers in 1906 and 1907 fiscal years:

	1906	1907
Total exports	\$24,554,427	\$26,936,456
Russia	3,851,455	5,152,101
France	2,895,243	3,724,959
Argentina	5,963,714	3,808,232
Canada	2,281,448	3,223,390
Germany	2,016,894	2,349,185
Other Europe	1,781,342	2,192,746
British Australasia	863,350	1,148,566
Great Britain	1,019,317	888,981

**THE GRAIN CROP IN EUROPE**

According to the "Crop Reporter," France has this season rather less acreage under the principal grains than last season. Here are the figures:

	May 15th, 1907	May 15th, 1906
Wheat, winter	15,691,000	15,546,000
Wheat, spring	436,000	496,000
Total wheat	16,127,000	16,042,000
Oats	9,500,000	9,498,000
Rye	3,085,000	3,081,000
Barley	1,779,000	1,763,000
Maslin	242,000	372,000
Total acreage	30,733,000	30,756,000

Spain's yield this year will not be equal to that of last year. Similar advices come from Italy: "Good yield, but below the average of 1905-1906." Austria's crop prospects have brightened considerably. Forage crops give fair promise, the condition of wheat and rye is not far below an average, and the spring crops are satisfactory. Colza will yield low, but linseed has come up well. Latest reports from Russia as to this season's crops show improvement over prior reports. Seven provinces report as to the spring crops: "Bad or below the average;" eight provinces report; "Good," while the remaining provinces, except eighteen, say "Satisfactory." Commercial reports from Rumania seem to agree that the wheat crop cannot exceed one half of last year's record yield. Corn, which is the chief food of the country, occupies a larger area than usual this year. From Bulgaria, Servia and Turkey reports received are conflicting. Some say: "Poor yield of wheat, fair crops of barley and oats, and a very satisfactory corn yield."

**LAY IN YOUR COAL SUPPLY EARLY**

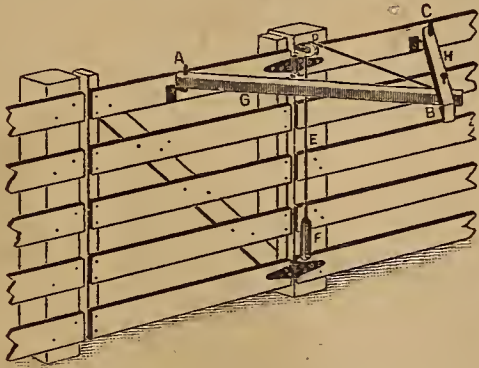
For over twenty years I have not failed to secure my winter's supply of coal early in the fall, usually during September. Then the roads are almost invariably good and coal plentiful. I make it a point to secure enough to last until the following May, and sometimes I have about fifty bushels left at that date. Gradually all my neighbors have adopted the same plan, and while many people are waiting for coal in winter, and using for fuel every scrap of anything that will burn, we have plenty.

If I lived in a section of the country where coal is difficult to obtain, I would get a neighbor or two to join with me and have the dealer order a carload for us at the time of year when he could obtain it without difficulty, and get it into the coal house. There is no necessity for farmers suffering from lack of fuel if they will get in a supply when it can be gotten. There are times when the railroad companies find it almost impossible to get freight, like coal, along their routes, because of the enormous quantities of grain and other stuff that they have contracted to haul. Then in winter there are snow and ice blockades that absolutely stop all traffic for weeks, sometimes, and then is the time those who live on the ragged edge of famine all the time suffer. Don't let the coming winter catch you without a full supply of fuel on hand. This is one of the things that should not be neglected.

F. G.

**A HANDY GATE HOLDER**

The illustration shows a handy device for holding a gate shut. This is made by taking two pieces, G and H, about eighteen inches long, and making a hinge joint at B. Fasten the end of piece G on gate at A with a hinge motion, then fasten the end of piece H to the board on the fence at C. Place a small pulley on the post between the gate and the fence



at D. Run a small rope or wire from the hinge B over the pulley at D and down on the inside of the post, and place a weight, F, on the end.

When the gate is opened the joint B moves away from the post D, drawing with it the rope E, with the weight F attached to the end.

C. A. KRABILL.

**SELECTING SEED CORN IN SOUTH CAROLINA**

The methods of selecting seed corn that I read of in FARM AND FIRESIDE I have no doubt are very good, but my plan is a little different from them. I live in Newberry County, South Carolina. We don't cut our corn off and shock it as they do in the North and West. We strip off the fodder of early planted corn in August, and by the middle of October the corn is dry and ready to gather. I then go to my field and hunt out stalks that have two or three ears. I take but one ear from a stalk, but try to get the best one. I gather as much as I want in this way, and put it in sacks, then put the sacks of corn in my crib. There they remain all winter. The rats don't bother the sacks, for rats can't get into my crib.

A few weeks before planting time I open the sacks, shuck out the corn, pick out the best ears, and shell off some of the little end and the crooked grains off of the butt ends of the ears. Then I shell the corn, being very careful to see that no bad grains go in. I then wind it, to get all the fuzz off of the cobs out of it. I then put as much as I can stir well into a tub, put some coal tar in, and stir it with a paddle until the corn is thoroughly black; then I sweep a clean place on the ground, spread out the corn, let it lay a few hours, then sprinkle some fine dry sand over it, after which I gather it up and put it in sacks, and it is ready to plant. This can be done weeks or months before planting time, if so desired, and if any is left over from planting it will come up the next year just as well as new corn, for no insect will bother it.

The crows may pull up a few stalks, but will soon fly to other fields where there is no coal tar. The ground moles won't bother it. Early planted corn will not rot in the ground in cold, wet weather, as the tar on the corn is like paint on wood—it keeps out the water. I have planted the same kind of corn forty-one years, and have never failed to get a good stand.

J. E. QUATTLEBAUM.

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"Any un-numbered section of Dominion Lands in Manitoba or the Northwest Provinces, excepting 6 and 26, not reserved, may be homesteaded by any person the sole head of a family, or male over 18 years of age, to the extent of one-quarter section, of 160 acres, more or less."

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# Your Very Last Chance

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This is absolutely your last chance to get one of the magnificent polychrome reproductions of Mr. Earl Stetson Crawford's \$1,500 oil-painting, "Mother and Babe," pictured and described below, free with a renewal or subscription to FARM AND FIRESIDE.

This painting has become the most admired and best known of any painting in recent years. Thousands of these polychrome replicas have been given away by us during the last two months. So great has been the demand, that our supply is rapidly being exhausted, and after November 15th we shall have to withdraw these offers absolutely and forever. We cannot afford to give them away after that date. They are too costly.

We own the original of this famous painting, for which we paid Mr. Crawford \$1,500. We control its reproduction entirely, and these beautiful polychrome replicas are reproduced in such a way that all the delicate shading and color values, all the deftness of technique and lightness of touch of the original painting have been preserved. They are 10 1/2 x 16 1/4 inches and are already to frame and hang up in your sitting room. No picture equal to this reproduction has ever before been offered by FARM AND FIRESIDE. If we allowed them to be sold, they would bring from \$2.00 to \$3.00 in any art store in the country, but they can't be bought at any price. We won't allow them to be reproduced except for our own readers.

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We think this great painting of Mr. Crawford's is so beautiful that we want one of the handsome polychrome replicas of it to be in every FARM AND FIRESIDE home, because they are just like the original painting. In order that our big family might get them without having to pay high prices for them, we bought the original painting for \$1,500, and had a special FARM AND FIRESIDE edition of the polychrome replicas reproduced.

We are going to give one of these magnificent reproductions to every person who subscribes or renews his subscription before November 15th, as a reward for promptness. If your subscription hasn't expired, renew and we will set it ahead a year from the time when it does expire. No matter if you are a subscriber or not, we extend these offers to you until November 15th, when they will positively be withdrawn. These polychrome replicas are too costly for us to continue to give them away absolutely without cost for more than a limited time.

It is worth something to you to subscribe or renew before the price of Farm and Fireside goes up, and it is worth something to us to have you come with us now when we can give your subscription all the attention it deserves, and before the busy winter season.

That is why we can afford to make these very liberal offers. Read this page all through—every word of it—and then send us your subscription right away. Don't wait! Remember we can't afford to continue these great offers after November 15th. This is your very last chance!

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What prettier or more tender sentiment could be expressed in a painting than a mother with her babe in her arms longingly waiting at the window for the first glimpse of her husband as he returns home in the evening! No wonder the famous artists on the committee of award thought this picture one of the most beautiful they had ever seen! It is a masterpiece in every sense of the word—one of the world's greatest paintings. Surely you want this great masterpiece in your home when it doesn't cost you a cent!

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You cannot buy this masterpiece. You cannot buy even a reproduction of it for love or money. But you can get one before November 15th absolutely without cost, by accepting any one of the offers on this page. Don't wait. We can't afford to give away these expensive polychrome replicas much longer. Send your subscription now.

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The offers below are made to you whether you are an old subscriber or not, because we want you in the FARM AND FIRESIDE family. We will give you a royal welcome, and you will find it the biggest, happiest farm family in the country. Three million people are reading every issue of FARM AND FIRESIDE! We wouldn't have so many good friends unless they thought a lot of their paper. Won't you join them? You will think a lot of it too, for it is going to be better next year, than it ever has been.

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**PARENTS SHOULD INSIST ON SPECIAL TRAINING**

I take it for granted that you take some general interest in the rural school of the district in which you live, and that you will encourage the teachers who are faithfully working to teach what are known as "Nature studies" or those relating to rural life and its betterment. By far too many parents fail to visit the school and encourage the teacher. A well-known farmers' institute worker, who recognizes the importance of co-operation on the part of parents and teachers alike, presents the following questions for reply:

Are you one of those who think it a waste of time to have the pupils taught something about birds and butterflies, or seeds and flowers? Are you one of those who think that teaching should be confined to reading, writing and arithmetic? Did you ever think that the "three-study system" exerts an influence at variance with an inherent love for the beautiful in Nature and rural pursuits? How many of you have encouraged your boys and girls to plant flowers and shrubbery around your home and theirs? How many of you have made it a point to visit the public school, to see that the rooms are rendered more pleasant and attractive? How many of you have ever taken your boys to a farmers' institute? How many of you have ever thought that it might make your boys better satisfied with life on the farm if during harvest time, when the work is hardest, you paid them half the wages of a hired man, so that they might have a little money with which to buy books or clothes, or to spend in any other useful way? Have you ever given your boys such a chance as this, or the girls a share of the eggs gathered by them, that they might have some spending money of their own with which to buy some desired article that they would otherwise have been compelled to do without? Has it ever occurred to you that there is no surer way to make the boys and girls discontented with farm life than to deprive them of a chance to earn something that they can call their own?

Some plan should be devised to lessen very materially the exodus of farmers' sons and daughters from healthy homes in the country to the overcrowded cities, where there are now so many young men and women who do not know how to do some one thing as well as modern methods demand. If these young men and women had been trained to work with both head and hand at the same time, they would not now have to hunt for paying positions, as employers are constantly on the lookout, and are advertising in our daily papers, for young men and young women who have fitted themselves for special lines of work.

The nation that leads all others is the one which gives its children the most effective training in some one of the varied pursuits of life. Every child is entitled to such training. Such an education will enable the possessor to use his or her hands deftly, to observe accurately, and make life a success.

The boy or girl who has no aim in life or no fixed purpose to excel in some special line of work for which he or she is mentally and physically adapted will make a failure in life. Determined and persistent effort, on the other hand, will develop strength, and opportunities will be multiplied if strict attention is constantly centered upon the object to be attained.

W. M. K.

**CONCRETE CONSTRUCTION**

There are several reasons why large quantities of cement will be used in the near future in concrete construction. Some of these are the already high and rapidly advancing prices of lumber, the high wages demanded by skilled labor, a desire for better methods of construction than were formerly used, and the possibility of securing cement at a moderate price. Of course, the fact that on many farms the other materials needed can be readily obtained also tends to make this method of building more popular.

Much of this work will be done by the farmers themselves with the help of such unskilled laborers as are to be found on the farm, so a few hints and suggestions may be of value to them. While it is a simple matter to use concrete, when one understands a few of the more important details there are some precautions which must be observed if good results are secured.

Use only a good grade of Portland cement and be sure that it has not been stored in a damp place.

The sand should be clean and coarse: Its cleanness may be tested by rubbing some between the hands—if they are left clean the sand is all right; if not clean, the sand may be washed, as may also the gravel, if necessary. But this adds to the expense, and it would be more economical to haul these a reasonable distance, in order to get that which is clean, than to wash them. By coarse sand is meant that in which a large proportion

of the grains measure nearly one sixteenth of an inch in diameter.

Where a fine gravel, or gravel mixed with sand, can be obtained, it is the correct thing to use, as the finer part may be screened out by using a screen having a one-fourth inch mesh. This fine part will take the place of sand, and the coarser part will be all right for the remainder of the aggregate, though the addition of some broken stone, or even some small cobbles, might improve it.

If it is necessary to use fine sand, a larger proportion of cement must be used to make a good mixture. When broken stone or cinders are used, they should be screened, to remove the dust. Do not use any soft sandstone or slate. Bricks, broken terra cotta and other substitutes are often used in place of stone or gravel for the aggregate. They are all right under some conditions, but are not to be recommended.

Do not figure that one bushel of cement, three bushels of sand and six bushels of gravel will make ten bushels of concrete. This is about the right proportion of the different materials to use for many kinds of work, but in mixing them together the sand and cement simply fill up the spaces between the gravel, so that the mixture will measure but little more than the gravel did before the other materials were added to it.

The materials must be carefully measured. If the cement is in sacks, this is a convenient unit of measure. A good plan is to make a box two feet square and ten inches high, with no bottom. This when set on the mixing platform and filled with the sand or gravel, will hold three times as much as a sack of cement. By having no bottom to it you can lift it up, and so save emptying it.

Concrete should be mixed as near as can be to the place where it is used. This saves labor and delay in using it. It should be mixed in small batches, so it will not need to stand long before being used. One or two bags is enough to mix up at once.

For mixing, make a smooth, tight platform some eight feet square if you have a large job. After measuring the sand, spread it out in an even layer; on this spread the cement, and shovel them over three or more times. Then wet the coarse material, and throw it around on top of this; mix thoroughly, turning the whole mass with shovels at least three times, and adding the water a little at a time, until a mushy mixture is obtained. Have the mixture just thin enough so it will pack well. Do not slight the mixing, as the strength of the concrete depends to a great extent on its being well mixed, so that every piece of stone and sand is coated with cement.

Fir, yellow pine, spruce or other green timber is best to use for forms. It is a good idea to grease the inside of the forms with soap or crude oil, to prevent the face of the concrete having a rough surface. The molds can be made in any shape desired, and after the concrete has set they may be removed and again put into position.

JOHN UPTON.

**BARBED-WIRE STRETCHER**

The accompanying cut represents a stretcher to use in building barbed-wire fences. It might be called the crowbar stretcher. It is simply a round bar of wrought iron four feet long and one and one fourth inches in diameter. To one end is welded a block of iron two inches thick and eight inches long, ending in a claw-like projection; the other end has a fork.

Affix the wire in the opening at the big end, push the other end of the bar



around the post, and you can get all the lever power you may wish, even to breaking the wire.

The crowbar stretcher can tighten wire when the posts are forty feet apart. It is not advisable to place the posts this distance apart, however, as the effect of the sun in summer will cause the wire to sag, and the cows will push through. Eighteen feet is the proper distance to put the posts, and set them two and one half feet in the ground. Let the corner posts be three feet in the ground and well braced.

W. H. ARMISTEAD.

**MY SWEET-POTATO PATCH**

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People in Texas do not, as a rule, have early sweet potatoes; neither do they employ early methods with early varieties.

I had my crop ready for market by July 1st this year.



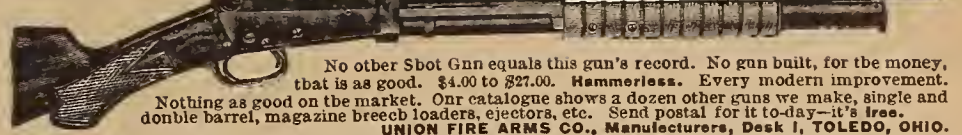
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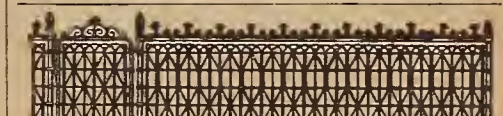


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## COMMERCIAL FERTILIZER

**I**N ORDER to realize most profit from our investment in commercial fertilizer we must have an understanding, first, of the nature of the soil to which we propose to apply the fertilizer as to what elements of fertility it already contains. Not only must we have a knowledge of what our soil contains, but we must know whether the plant food is available for crop growth in the soil we propose to cultivate. There may be large quantities of unavailable fertility in the soil which cannot be used by the growing crop until it is in some way made soluble in water. As cultivators of the soil, we have a complex problem to solve. We must not only know how to apply fertilizer economically, but we must also so manage our soil as to render available the latent fertility already in the soil. We also must have some knowledge of the lacking elements that are necessary to make the soil produce good crops.

Second, we must have some knowledge of the kinds and amount of plant food that crops which we propose to grow will take from the soil. We also must consider the condition in which the crop will leave the soil when the crop is removed.

Third, we must have an intelligent understanding of the amount and kinds of plant food contained in the fertilizer which we propose to buy, and also the relative commercial value of each element of plant food contained in the fertilizer.

In view of these facts it will be my object to briefly call attention to some important facts that the average farmer in the rush of his work seems inclined to overlook. The soil is Nature's workshop, where plant food is prepared and laid up for the use of the growing plant. It is not only a workshop, but it is also a great storehouse, where vast quantities of raw material is laid up to be made available for the use of the plant by natural methods. The successful cultivator works in harmony with Nature in rendering latent fertility available rather than in opposition to it.

The soil contains many minerals that are absorbed to some extent by plants, but the elements of plant food that are absolutely necessary for growth and development of crops are nitrogen, potash, lime, magnesia and phosphoric acid. Unless a soil contains all of these it cannot support plant life. The soil must not only contain all of the necessary elements of plant food, but it must contain them in an available form. This gives rise to two general classes of fertilizers—direct and indirect. A direct fertilizer must furnish some necessary element of plant food, and as it is usually the case that nitrogen, potash and phosphoric acid are the only elements that are lacking in the soil, a direct fertilizer must contain some one or more of these elements. An indirect fertilizer does not necessarily furnish any plant food to the soil, but its use is to render available the plant food already in the soil, to correct acidity or in some way to improve the condition of the soil. Lime, gypsum or land plaster and salt are examples of indirect fertilizers. Some manufacturers and dealers in agricultural lime advertise it as a fertilizer or a substitute for fertilizer, but its action is of an indirect nature rather than the furnishing of necessary plant food.

Of the direct furnishers of plant food which is produced on every farm where live stock is kept, stable manure should be considered first, since it is a by-product and contains all the elements of plant growth. It is not only a complete fertilizer, but it also furnishes humus to the soil. It is not only a direct fertilizer, but it is also an indirect fertilizer, since the humus increases the water-holding capacity of the soil, furnishes material for soil bacteria to work on, and aids in rendering available the latent fertility already in the soil. It is a good plan for the general farmer to use commercial fertilizer with a view to increasing the stable-manure crop as well as to directly increase his farm crops.

A commercial fertilizer may contain a single element of plant food or it may contain any two of the elements or all three mixed in different rations. A complete fertilizer must contain all three of the elements—nitrogen, potash and phosphoric acid—but the term complete fertilizer as it is generally used does not necessarily mean that the fertilizer is a well-balanced compound and that it will furnish all the elements of plant food in the ratio in which they are used by the growing crop. Neither do the so-called special fertilizers meet the demands of the growing crops fully as the name seems to imply.

The special fertilizers made to suit a certain crop, no matter what the condition of the soil, is a delusion and an imposition on the farmer. They are as unreliable as the patent medicines which claim to cure all manner of disease to which human flesh is heir. Special fertilizers have a tendency toward making the user rely upon brands of goods rather than

the plant food contained in the fertilizer. Often I have heard farmers say that a certain brand of fertilizer has been counterfeited, since it has failed to grow as good crops as formerly, when in reality the fault was with the user rather than with the fertilizer.

The farmer must be able to judge to some extent from the nature of the soil and from the appearance of plant growth produced on the soil as to what class of fertilizer is needed in order to improve the crop-producing power of the soil. A dark-colored humus soil usually contains plenty of nitrogen, but is often lacking in potash and phosphoric acid. A clay soil usually contains plenty of potash, and the crop is likely to be improved by an application of nitrogen and phosphoric acid. A yellow, sickly look in the leaves of plants indicates a lack of nitrogen. A rank growth with weak straw and a tendency to grow straw rather than grain indicate an excess of nitrogen and a lack of potash and phosphoric acid. These are all indications and should have due consideration when deciding what fertilizer to use; but results are what we are after, and it is only by experimenting and carefully calculating the costs and comparing results that a true and sure indicator of the most economical fertilizer is secured.

It is a most excellent plan to try different kinds of fertilizer on the same field and crop, then carefully note results. A few experiments of this kind will be worth dollars to the farmer. These experiments may be conducted without much extra trouble by laying off one plot where no fertilizer is to be used; on the next plot use phosphate alone; on the next use phosphate and potash, and on the next use a complete fertilizer. The result when carefully calculated with special reference to cost of fertilizer and value of increase of crop from the use of each fertilizer is all footed up is a pretty accurate indicator of the most economical fertilizer to use. Potash is found in largest quantities in the straw, stubble and roots of plants, and nitrogen and phosphoric acid are inclined to collect in the grain or seeds of plants. When the grain is sold from the farm, more of the nitrogen and phosphoric acid is lost to the farm than is the case with the potash. Nitrogen is a constituent of protein, and when we know how much protein there is in a given quantity of farm products we may find the amount of nitrogen in the product by dividing the protein content by 6.25. This is of importance when we desire to calculate the fertilizer value of feeds which we buy or sell. For example, if we purchase 100 pounds of cotton-seed meal containing 44 pounds of protein we practically buy 7 pounds of nitrogen, since  $44 \div 6.25 = 7+$ , and the nitrogen is nearly all saved to the farm in the manure if it is carefully handled and applied to the soil.

Phosphoric acid is an economical fertilizer to apply with stable manure, since it is usually lacking in the soil and is also most lacking in stable manure. The phosphate may be applied to the soil with a common grain drill, or it may be sprinkled over the manure pile from time to time. If common dissolved bone or phosphate rock is used it is economical to sprinkle it on the manure, since it will act as a preservative of the manure. It absorbs ammonia, it furnishes phosphoric acid, and also this class of fertilizer contains about sixty per cent of gypsum, which is a good indirect fertilizer.

Of recent years it is the custom with many good farmers to use finely ground phosphate rock, called floats, to sprinkle over the manure—for the purpose of absorbing and holding the ammonia of the manure from escaping into the air, and also for furnishing phosphoric acid to the manure. The floats do not cost so much as dissolved bone, according to the amount of phosphoric acid contained, and the manure helps to render available the phosphoric acid in the floats, so that each is improved by the other when mixed, and the cost of having the floats treated with sulphuric acid, in order to render the phosphoric acid soluble, is avoided.

By arranging a short rotation of crops in which leguminous crops are grown frequently, the general farmer may dispense with the purchase of nitrogen, the most costly element of plant food. Legumes will appropriate nitrogen from the air and leave a part of it in the stubble and roots which are left on the land, and if the crop is fed to stock on the farm leguminous crops will greatly enrich the manure produced in nitrogen, which when again applied to the soil will in return increase the capacity of the farm for growing live stock. Then such crops as red clover, alfalfa and cow peas send roots deep down into the subsoil and perforate the soil, so that the air can penetrate the soil to greater depths. The roots feed on potash and other mineral foods, which lie too deep in the soil for ordinary farm crops to reach, and decompose and furnish humus, thus increasing productiveness not only by furnishing these substances, but by deepening the soil and rendering latent fertility available. A. J. LEGG.

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# FARM AND FIRESIDE



AN ILLUSTRATED FARM AND FAMILY JOURNAL

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## The Farmer's Fruit Garden

By John Craig, Professor of Horticulture, Cornell University

I do not intend to discuss under this head the commercial plantation. The orchard area designed for the exploiting of the commercial possibilities of peach, apple or pear growing is one thing, while the area designed to furnish the farm home with fruits in season is quite another thing. The one is a money-making enterprise, the other is a comfort and health bringing project.

Is a fruit garden worth while? It costs something to maintain; it requires more or less continuous care and watchfulness on the part of the owner; and it occupies land which ought to be good land and which might be put to other uses. Well, I think the farmer's fruit garden may be advocated from several standpoints.

There are those who say that fruit is a necessary part of the diet of every one. I do not subscribe to this statement, because there are people who cannot eat fruit at all, or only in the most limited amounts, because of digestive peculiarities. But as a general rule it should be regarded not as a mere luxury, but as a necessity. If one goes to the tropics he will note that among the poorer classes a vegetable diet sometimes largely composed of bananas or rice, or a combination of both, is the rule and not the exception. In the farmer's bill of fare it too often happens that the fat and heat producers are used to excess. A heavy regimen like fried pork or salt beef, with potatoes often fried in fat, are too generally staple items on the bill of fare. Fruit added to this will do much to balance it and make it wholesome.

There is also the possibility of making the farmer's fruit garden a real source of revenue. I have often noticed that the farmer's fruit garden occupied the same position in the economy of the plant department that the poultry house occupies in the animal department—namely, that of a regular producer. The eggs from the poultry department often supply the home with the little things in the way of groceries and dry goods. The fruit garden can be made to do the same thing, provided the same watchful care is given it. The strawberries, the raspberries, the early apples and the pears are usually grown in quantities greater than are re-

quired for consumption in the home, and these can be disposed of to less provident neighbors or at the village store.

The third reason for having a fruit garden is more indefinite, but certainly fully as important as the two previously stated. This is the influence of such a farm department on the home life. Such an influence cannot be described as bearing directly upon moral, or, directly upon intellectual, nor yet exclusively upon the sentimental; but certainly it has an influence upon all three of these factors. It builds up an appropriate atmosphere around the home. The early memories of childhood should be associated with these finer products of Nature's creations. What is it that calls the Western pioneer back to his Eastern home? Assuredly his people, his

contrast to that in New England or of the East. In the Middle West, formerly the Far West, the great cereal crops, the great stock interests of the country, dominate. These are the primary factors in farming, and these hold sway. The interests of the farmer are away from the development of the fruit garden, and this department is often established only by the personal efforts of the mother in the household.

### THE AREA

This will vary in size in proportion to the interest, taste and size of the family. It often happens that the fruit and vegetable garden are combined. This plan has advantages as well as disadvantages. In the case of the circumscribed area, with its fences and boundaries, it usually turns out that it is worked by hand labor almost exclusively, and this hand labor falls on the boy and the girl and the mother of the household. This work, too, is often done after hours or as an additional chore. When done in this way it does not bring joy or greater happiness to the child. It is not the kind of training that engenders a love for country living.

The fruit garden should be laid out in such a way as to admit of horse labor. An oblong is better than a square. As a rule farmers are over-economical in the matter of setting aside land for the fruit garden and lawn. On the other hand, it is not wise to take in more than can be cared for. An acre of ground will accommodate quite a number of fruit trees and give some space for vegetables during the period when the trees are growing up; but it is probable that later on more ground will have to be taken in to accommodate the vegetables.

As to what we shall grow, the latitude will determine the range of fruits very largely. As we go north the number of classes of fruits which can be grown decreases. North of the forty-first parallel of latitude in interior regions the peach is eliminated, as a rule, and moving still farther north the sweet cherries drop out next with quinces. Then at forty-five degrees north latitude, away from bodies of water, only the hardier

[CONCLUDED ON PAGE 7]



THE LOMBARD, ONE OF THE MOST PROLIFIC OF PLUMS, AND EXCELLENT FOR CANNING  
(NOTE THE PEACH BLOSSOMS UNDERNEATH)

relatives, but not these only. The home and its exterior accessories are in themselves specific reasons for his coming, and in the surroundings, the trees and the plantations there is as much a personal quality as in the live stock and the buildings. We have seen farm gardens in which there was a tree for each member of the family. There was father's tree, and mother's tree, and one for each of the scions of the house. We have also seen families (after the Rooseveltian ideal) where in the carrying out of this plan quite an extensive orchard was developed. The Western homestead is often in striking



### FIFTY ACRES AND A FORTUNE

The instances of comparatively large returns obtained from limited areas in garden vegetables or fruits, cited in Bolton Hall's "Three Acres and Liberty," are not only matched, but often by far outdone by some of the happenings and conditions in the famous fruit district of western New York, especially in this season. Instances of a farmer being paid from three thousand to five thousand dollars for his apple crop are so common as to scarcely excite comment. Albert Wood, Orleans County's noted fruit grower, is said to have been offered ten thousand dollars for his apples, pears and plums, and Willard Hopkins, one of the leading fruit producers of Niagara County, on the banks of the lower Niagara, estimates his crop of peaches to reach ten thousand baskets, which sold at from one dollar to one dollar and twenty-five cents each, and in some cases perhaps higher, while the sale of plums, pears and apples will swell his returns to thirty thousand dollars or upward.

Instances of this kind might be multiplied. What I have told here are facts, without exaggeration or embellishment, although it may sound like a fairy tale from the "Arabian Nights' Entertainment." No doubt there is a gold mine on many of these farms, and fortunes can be dug out of the soil here by means of fruit trees. I doubt whether Willard Hopkins would consider for a minute a proposition to trade his farm for the best position in the gift of the people, not even for the governorship of the state. He can live more comfortably, far more peacefully and with far less worry than our strenuous President at Washington. His income is large every year, even if in other normal seasons it does not come near this year's figures.

But even in earlier times we have had instances of big incomes from a few acres of orchard. The late John Burdette, of "Long John strawberry" fame, then a neighbor of mine, once sold his peach crop in the Buffalo markets for eleven thousand dollars in the aggregate. After the peach trees died out, he sold the farm (an island) for ten thousand dollars. Even to-day the pear and apple and cherry crops on it usually foot up several thousand dollars annually. The place, however, could not be purchased to-day for a hundred thousand dollars. This is the fruit industry in a famous fruit region.

Yet don't all rush to western New York to engage in fruit growing! The right place is not always sufficient. It takes also the right man. Men like Willard Hopkins, Cyrus Hopkins (president of the Niagara Farmers' Club), Albert Wood, and many others that I could name, are the princes in the fruit industry, and they can live like princes, but not a life of careless ease. As the "Rural" says: "No man should imagine that he can go out into the country and develop such orchards without great labor and skill. Brain work and energy of the highest type are needed for such results."

Willard Hopkins and all the other leading fruit men can be found at every fruit growers' or farmers' club meeting, and they take a prominent part in the discussions. They read. They study. They call for and act on the stations' and on other expert growers' advice. They are thinkers and experimenters. The measure of their success hinges on their own efforts, and on their own executive ability. Without knowledge, without push and perseverance, their orchards would long since have succumbed to the attacks of the San Jose scale, and of borers, and the fruit crops would have been rendered of little value by insects and disease.

### THE PEACH BELT

Farms along the Niagara River or bordering on Lake Ontario, or at least not far from these bodies of water, are usually considered good and safe peach lands. There the crops seldom fail. But in a good peach section, even if a little away from the water, peaches when properly managed will yield good crops. Mr. Nichols, in the central portion of this county, with all his other fruits, also had peaches by the thousand baskets. All his orchards were well sprayed. When the scale made its appearance some years ago, he let one son take a course at Cornell Agricultural College, and instructed him to get all the information possible about

spraying and about the scale. The boy came back when through, and the spray outfit was secured and put in readiness. After some spraying had been done, the father thought it would be sufficient, and seemed to question the wisdom of being quite so liberal or wasteful, as he thought, with the spray liquid. "If you do not want to spray thoroughly," said the boy, "why spray at all?" The boy had his way, and the scale did not stay long or spread much.

Scientific methods and management have brought big crops and clean, handsome fruit, and a financial reward such as was hardly dreamed of before. Placed under favorable conditions any one may make a living from the farm. But for highest success it takes the combination of right place and right man. T. GREINER.

### COW PEAS FOR THE COMING SEASON

The trouble with the average farmer is short-sightedness, otherwise not looking ahead. Last spring I wrote one or two letters for FARM AND FIRESIDE about cow peas. I received more than a dozen letters from farmers who wanted some of the seed or wanted to know something more about them. It was too late in the season to send a sample of seed in time to be planted and the best results secured. However, I think I complied with every request, and I am sure a better result will be obtained under a fair test, though I have heard no complaints. The era of the cow peas has arrived. Unlike clover, they never make the land "sick," and consequently year after year they can follow crop after crop with profit. Another thing about them is their renovating qualities and the addition of so much humus to the soil as compared with the ordinary vegetable plant.

But seed is scarce. I would not advise farmers who have it to sell to dispose of it at present, but I would advise every farmer who has it to buy to purchase as soon as possible. The scarcity of seed and the enormous demand will put prices way up above the average of the past few years. The scarcity of labor to pick the seed in the South is partly accountable for the scarcity of seed, but the high price of cotton and the demand for cow-pea hay is also to be taken into consideration. The coming season will witness the highest prices on record, in my estimation, due to the fact that seed will be wanted in all sections of the country.

However, now is the time to study the

### UNDER THE OLD HICKORY TREE

"Hickory nuts are out, pa!" When the clear, piping voice of the Little Chick comes up to your ear with those words you know that it is time to get busy.

"Squirrels have found them, too!" Yes, it is time to hustle, for if you do not, the crop of nuts will be scanty; and that would never do, for of all the farm nuts, none is worthy of the attention that those are which grow on the old hickory. Chestnuts are all right, but they do not last very long. They get wormy quick; and then, what a lot of stomachache they give us if we are not careful! But the hickory nut never treats us that way. It is good the year round, too. Nothing pleases the good wife better than to have a grand hickory-nut cake away along in the spring months after the crop is gathered.

And so we start for the old hickory tree. The shucks are not all off the nuts at first. That makes business by and by, for now we gather them, shucks and all in the big bushel basket, and take them in to be pounded out at leisure.

Harder frosts come in a day or two, however, and then down come the lovely white nuts in showers. Then fun begins in dead earnest. What do you talk about as you and the boys, down on your knees, hunt the beautiful nuts out of the grass? I will tell you what the Chick, Laddie and I thought about on one of these days. Some of the questions they asked me that day I never have been able to answer. Perhaps you can. I never expect to do it. "What will we do with them all, pa? So many of them! Must be two or three bushels."

The Little Chick has a great appetite for hickory nuts himself, but he stands appalled by this splendid crop.

"Well, the man that lived on the farm before we came always likes a few quarts from this tree. You know he thinks these the nicest of all."

"But that will be only a few, pa. What shall we do with the rest?"

"We will save a plenty for ourselves, Little Man; and then, if there are any left, maybe you can sell some."

Eyes grow large at that. If anything makes the world seem big to the boys it is to think of going out into it and trafficking a bit in something that will bring a little money. Just now Christmas is coming, and there will be need of money then, sure.

"The folks down town would want

Thinking about the hurry and the worry and the everlasting noise that comes up to our ears every time we leave the still farm home and go down for the day to the big city, the boys and I wonder how anybody ever could be satisfied to give up the peace of the country for that. How can they do it? Life here is so big, so full of everything that helps a man to be kind and true and earnest! While that life down there—well, it does not seem as if there could be much to make one better or happier.

But they say, some of the people that go down to town, that they can make more money in one year than they can here in a dozen. Now, right there comes in a great question. Suppose they do make more. Do they save more? Laddie is right when he says, "They would have to buy hickory nuts then, wouldn't they?" Yes, and a thousand other things. Everything must be bought, and paid for at a good big price, too. No butter, no eggs, no potatoes, no sweet corn—nothing that does not come from the store. And the boys and I have thought it would be pretty hard lines to sit down to a meal of some things we have seen standing out in front of the city groceries. So wilted, so mussed, so miserable in every way! But they must have that or nothing.

And at the end of the year, is there really any more money left than there would be on the farm? And there is the matter of happiness. What about that? It must be dreadfully hard work to keep sweet down in the city. The boys and I have doubts about that. Could we do it? I don't know. I am not ashamed to say so.

A breeze brings down a shower of the pure white nuts, and there is a grand scrambling after them. By and by question number two:

"Can money make a fellow happy?"

We think of some that have tried it, and found out how miserably poor a thing a little money is when weighed in the scales over against happiness. We can settle this question easier than we could the other one. It was only a year or two after one of our neighbors moved away that he died. How could he help it? Nothing to do except sit around and wander about among the houses in that wilderness of the big city. No wonder he grew pale and sick and oh, so sad looking, and finally took the best way he could to get out of it all. Another neighbor is still alive, but he makes frequent trips back to the old farm, and always tells how he misses the freedom of the country.

A little while longer and the question comes: "Well, why don't folks come back to the farm and stay there?"

Now I see that we are getting into deeper water than ever. I flounder about and get more and more beyond my depth, and find that I must get out right off if I ever am to save myself.

The baskets are full now. We swing them to the wheelbarrow and go home to report our success. But that last question is being answered, after all. People are coming back. God bless them, and give them the grace and the strength to get back before it is too late!

EDGAR L. VINCENT.

### A WARNING

Please put this in your paper. It may save some hard-working farmer from getting swindled out of some money. Last fall there came here a man claiming to be from Abilene, Kansas, who got

quite a few farmers to act as agents for him for a fence machine company to sell fence machines and molds to make cement fence posts, he claiming to have a patent on them. The agents had to sign a note, generally for one hundred and forty-four dollars, as he told them, just to secure the company, so that if they sold any machines the company would get the money. He appointed some general agents, and they had to give security notes. Some gave for over six hundred dollars. Now they all find that they signed regular notes, which the man sold to innocent buyers, and the signers of the notes are compelled to pay them. The man's name is Kubach; he can speak German, and I hear he is now working the game in Nebraska. WM. PAGE.

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A MIXED-VARIETY PEAR ORCHARD  
KEPT IN SOD, TOP DRESSED, AND PASTURED WITH SHEEP

crop. Don't wait until next spring to begin investigating the possibilities and making inquiries when cow peas ought to be planted. There are one hundred and fifty varieties, but five or six will be all that is needed. Take the Whippoorwill, the Clay, the Wonderful, the Iron, the Black and the New Era, and they combine practically all points needed anywhere in the country—the Wonderful for a great amount of vine, the Whippoorwill for seed, the New Era for earliness, the Iron for disease-resistant qualities and the Black for a combination of qualities, mostly being good for lay and seed and standing the weather without damage. A farmer will not have any trouble with starting them, but under all circumstances the Iron is best. Georgia. J. C. MCAULIFFE.

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some of 'em, if they knew how nice they are, wouldn't they, pa?"

"Surely, especially if they ever lived on the farm and knew about hickory nuts, and a great many have."

A little silence. Then question number one.

"What makes folks move away from the farm?"

I wish I knew! Sometimes they say they are tired of farm work. I am sorry for men and women that get tired of farming! It seems queer to the boys and me. Tired of farming. Why, that means tired of the best life there is in the world. Tired of the fresh air; tired of pure things to eat; tired of good men and women; tired of the brooks and the hills and the cattle; tired of listening to the voices of Nature as they come through whispering leaves and singing birds.

And then, sometimes men say they want better society—a chance to see what is going on in the world!



### TAKE CARE OF THE FARM TOOLS

I WAS at the home of a busy farmer a few days ago, and found him putting away the tools he has no further use for this season. He had just taken his scythe from the snath and was applying a little wagon grease to the blade. He then quickly put a coat of paint on the snath and hung them up side by side in the tool shed.

I noticed that he took almost all of his tools apart, greasing the steel, and in most cases putting a thin coat of paint on the wood parts. "I did not do this," he said, "until I saw S— (one of the best and wealthiest farmers in the locality) doing it. Then I decided that if he found it profitable to do it, I would, also."

He had more tools packed in a small shed than most men could get into a barn. Every part that could be handily taken off was hung up, or placed on the rafters overhead. He said he had found it cheaper to take the machines apart than to build more sheds. Then he said it was a sure way of finding out if any part was wearing unnecessarily or needed repairing in any way. Tools that he had used eight to ten years are almost as good as new, and will last at least fifteen years more. After one has taken a machine apart for shedding about twice it is as easy as opening a jack knife.

### HIGH PRICES AND THE TRUSTS

Among the letters that came to me the past week is a comical one from an Iowa farmer. Here is a part of it:

"During the past year you have thrown quite a number of bouquets at the farmers, and also a few cabbages. I liked both, because they seemed to fit in so nicely. Now I want to ask you about something a whole lot of us are very much interested in. For some time the papers have been pretty full of pictures, paragraphs and stuff telling us how the government was lambasting the Standard Oil Company, and how it had the octopus by the neck and was cutting it up into bologna sausage, and how Rockefeller, and all the other fellers connected with it are going into a decline from fear of the big stick, etc.

"What we would like to know is whether all this stuff is fact or a new kind of fable. If it is fact, and the octopus is busted, and the independent companies are now having an even deal in the markets, why don't some of them come on with their oil? Why do we have to pay the same old price that put nineteen dollars a minute into the profits of the octopus? If it is a new fable, we of course understand why. We are unable to see sense displayed in fining the company a lot of millions and letting it make the amount out of us. Will you kindly explain these things in FARM AND FIRESIDE and make us wise?"

As I am neither a stock broker, high financier nor ground-floor politician I am unable to solve this oily problem. Probably in the good time coming this farmer and his friends will be able to buy oil for a less price than they are now paying.

When the Standard was engaged in knocking out an independent company that had invaded our local market some years ago we got our oil for seven cents a gallon. When the independent company was compelled to give up the fight the price promptly jumped back to eighteen cents a gallon. It seems queer that nobody connected with the Department of Justice ever discovers that a big trust is destroying competitors by unfair means until all have been wiped out and the trust has cleaned up millions of dollars. Somebody has said that our officials care to hunt only the biggest kind of game, and that they want it fully matured before going gunning after it. If such is the case, we can understand the cause of delay in these matters.

If prices for farm products keep on soaring much longer farmers will not miss the few extra dimes they have to drop into the coffers of the trusts. Corn is up to a price that makes the corn grower smile complacently. Frost has held off until the crop throughout the corn belt is safe from harm, and every farmer who planted good seed in a well-prepared seed bed, and tended the growing crop right, is assured of a good yield. Wheat prices are up to a figure that is bringing many wails from buyers of flour, and inducing farmers to prepare their ground for next

year's crop with extra care. Oats, hay and all sorts of feeds are high in price, and butter, eggs and poultry are bringing prices that seem exorbitant. There will be much scheming by housekeepers the coming winter to make things go as far as possible in the preparation of food for the table. There will be as much more among townspeople, who keep one or two horses, to make a little feed go a long way.

FRED GRUNDY.

### THE FARMER'S WORKSHOP AND TOOLS

I shall not attempt to describe a model shop, for that would not be within the means of the average farmer, and it is my intention to show how the farmer can, by the investment of a few dollars, save many times the worth of a shop and equipment.

The first consideration should be the building, for good tools should be well taken care of. On many farms a shop may be improvised from some unused outbuilding, or a lean-to may be built to some other building. Unless a forge is used, the tools could be kept in or around the barn. If it is necessary to construct a new building, one that is convenient and ample for all purposes would be about twelve by fourteen feet, with cement floor and having double doors and two windows, one of the windows being composed of two sash sliding horizontally, while the other is a common perpendicular window. A work bench two by ten feet, made of two by twelve inch lumber, with legs made of two by six, should set under the horizontal window. The bench should be equipped with a good steel-jawed vise attached near one end, while a bench drill should be screwed on the other end. I like to have drawers and shelves under the bench preferably to the right of the center when facing the bench. A set of four drawers eighteen inches wide and six inches deep, one above the other, and a set of shelves a foot wide and a foot apart would make convenient receptacles for tools and material. Some of the drawers should be divided into compartments for holding small articles, as bolts, screws, etc. The shelves may be used for long bolts and pieces of good steel sorted out from the scrap pile.

Now as to the equipment. If only a few tools can be procured at first, let them be good ones. A twenty-six-inch No. 8 hand saw, steel-faced hammer,

bits, two-pound hammer, a pair of cutting nippers and tongs. If you wish to do your own horseshoeing, a kit of farrier's tools must be added. This will consist of knife, hoof parers, nail hammer, rasp, buffer and stone. The entire list of blacksmith and carpenter tools enumerated would not cost to exceed twenty dollars, and some on the list could be dispensed with, although I would prefer to add a few more that are often needed.

The best place to buy such tools is from the mail-order houses, and a postal will get their catalogue. After a little while any one with common mechanical ability can make repairs and many useful articles. Besides the blacksmith bills the farmer will often save much valuable time that would be spent in running to the shop. Twenty-five dollars will equip a shop that will answer the purpose of any farmer, and there is no like investment in tools that he can make that will prove to be so valuable.

HUGH F. GRINSTEAD.

### KANSAS AND HER ALFALFA

Kansas is unique in many things, but in none more than in the commanding position she occupies in relation to alfalfa growing. Her development in this industry has been one of the marvels of her prolific agriculture, and with alfalfa, as with winter wheat, no other state is her equal in its area and production. The alfalfa field of Kansas now approximates nearly three quarters of a million acres, and but three cultivated crops exceed it in annual area—namely, wheat, corn and oats. In combination with these alfalfa furnishes Kansans in abundance with perhaps the best and cheapest rations anywhere available for the maintenance of their live stock, for the excellence of which they are famed.

The credulity of the stranger to alfalfa, however fair minded, is invariably taxed by a recitation of the truth about this wonderful plant; even the facts cut in two leave him in a perturbed state of doubt as to the veracity of the narrator, but thoroughly convincing are the experiences of those who are actually its growers. It is a perennial blessing to those who are so fortunate as to have an area devoted to its culture; yielding annually, whether the season be wet or dry, its several cuttings of hay unsurpassed in tonnage and quality, it is indeed esteemed as a benefaction, and doubly appreciated in those portions where it flourishes, but

of 20.7 per cent over the area of 1906, 132 per cent more than in 1901, and a gain of 2058 per cent over the area of 1891. Alfalfa can be grown in every county in the state, and 103 of the 105 counties report greater or less areas devoted to it in 1907. Of the 103, ninety-two counties show increases aggregating 130,869 acres, while eleven report decreases aggregating 3,542 acres, making a net gain for the year of 127,327 acres.

In 1891 there were nine counties having one thousand or more acres; this year there are eighty-one. In 1891 there was one county, Finney, having over five thousand acres; now there are forty-four such counties, twenty-nine of which have ten thousand acres and upward.

In Kansas alfalfa growing was a prelude to prosperity, and is the steadfast promoter of her progress. From comparative obscurity it has steadily risen to the foremost rank of the hay plants, and has already resulted in quadrupling the state's output of tame hay. In 1890 the value of the tame hay crop was two million dollars, while that of 1905 was worth over ten and one half million dollars. The annual value of products of live stock in that time has been practically doubled, and alfalfa has made of Kansas, if not first, one of the foremost states in dairying—a most desirable branch of husbandry that intelligently and generally followed well-nigh ensures continued and enlarged prosperity. Alfalfa, it seems, supplied the one requisite Providence failed to provide in establishing the otherwise ready-made conditions for dairying in Kansas, and the attention being given this mode of intensive farming in nearly every locality is having its beneficial influence, commercially and socially.

As a hay there is none so good for all kinds of live stock as alfalfa, and for horses and hogs it is a most invaluable food either as a hay, a soiling crop or as pasture. As a meat maker, milk maker and money maker it is equally prized, and as a renovator and improver of soils it has no competitor. F. D. COBURN.

Secretary Kansas Board of Agriculture.

### TWO WAYS OF LOOKING AT THINGS

Not long ago I was traveling on the train, and directly behind me were two ladies from the city. They attracted my attention by exclamations of delight at the beautiful flowers along the road. "Oh, this is just grand. A perfect garden of flowers!" and "Oh, isn't this a beautiful place?"

I am a farmer's wife, and I looked at the beautiful tangle of mare's tail, queen of the meadow, goldenrod, wild artichokes, spanish needles, boneset, ironweeds and wild carrots without seeing their wild beauty. They are pretty to those not acquainted with them, probably, but to us who till the soil they have little or no beauty. We look at the hillsides and valleys covered with these golden, pink and white blossoms and call them weeds. Oh, how we hate them. And as we see the city excursionists pile off the train at some wayside station, and gather the goldenrod and mare's tail, and hear them rave over them, down in our hearts we wish they could have them all, root and branch.

As I watched the shifting panorama, the tangle of willows, weeds and vines, I wondered what is to become of the farms. I know this has been an exceptional year for weeds, but with the vast numbers of such a robust growth they will certainly leave behind a bounteous supply of seed for the next season.

One man can fight weeds constantly, but if his neighbors on all sides of him persist in raising them, he has a hard task before him. I would like to see a "weed commissioner," who would enforce the law, and compel the farmers, or people who own land, to see to it that no obnoxious weeds be allowed to ripen seed on their farms or along the roadsides. What is the use of having the laws, unless they are enforced? We have a weed law, but how can we compel it to be enforced?

I would rather see the beautiful green grass than a tangle of "weeds" blossoms that you couldn't wade through if you wanted to. And there is another thing besides weeds that is threatening the farmers in this section of Ohio, and that is the ailanthus tree, or, as it is sometimes called, the tree of heaven, which is rear-

[CONCLUDED ON PAGE 4]



OLD APPLE ORCHARD

steel square, set of bits and good ratchet brace, three or four chisels from one inch down, draw shave and mallet will make a good beginning, which can be added to from time to time. For finishing work you would need a set of planes—jack plane, smoothing and block plane—spirit level, spoke shave, and oilstone and grindstone for keeping the tools in order. The tools that I have mentioned will cost less than ten dollars, and the first mentioned will cost approximately five dollars—not more. For doing repair and blacksmith work the tools will cost a few dollars more. A forge sufficiently large to do common farm repairing and shoeing will cost five to eight dollars, and a steel-faced anvil will cost four dollars. Smaller tools that will be almost indispensable will be stock and dies for cutting threads, drill with assortment of

where the clovers do not prosper. Another feature, too, that the wide-awake farmer does not overlook or minimize is the improving effects of its roots, restoring and enriching rather than depleting the fertility of the soil in which they grow, to the great benefit of other succeeding crops. As is well known, alfalfa is one of the oldest forage plants, but to the husbandry of the American farmer it is of but recent acquisition.

The increase in its area in Kansas affords some, although no adequate, idea of the growing appreciation in which the plant is held. It is sixteen years since the crop was first thought of enough importance to chronicle its statistics, when the enumerators of the board of agriculture returned the area for the state as 34,384 acres. This year (1907) the area in alfalfa is 742,140 acres, or an increase



## HOW SHALL WE FERTILIZE?

CROPS differ in their needs of food, some requiring large amounts of nitrogen, others phosphates, and still others respond to applications of potash. They also differ in time of their needs according to circumstances, as the tomato for the early market needs nitrogen to force its growth and potash to round the framework then formed, while that coming later needs less nitrogen than the early part of the season. Clover crops and potatoes require different treatment not only because of the different nature of the plants, but also on account of the great difference in their manner of feeding. In proportion as we use intelligence to combine plant food as required by crops, and apply it as needed, shall we succeed.

We must ask the plant and soil what is needed, and apply the fertilizer that will supply what is wanting. He is neither scientific nor practical who knows not the constituents of the plant and supplies them in the fertilizer used.

Commercial fertilizer rich in potash is needed for fruit trees; it strengthens and builds up the wood and adds flavor to the fruit. When they get strong and vigorous apply nitrate of soda in the early spring.

The question of relative value of crops must also be considered if one is to profit from the use of commercial plant food. The grower must see which crops consume much plant food and which are of low commercial value.

Timothy, oats, corn, etc., are of low commercial value and high consumers of fertilizers, while fruits, asparagus, etc., are the reverse. You can afford to buy for them when you will get such large returns for money expended. The corn and grain is a case requiring intelligent judgment as to how much can be expended to advantage for fertilizers.

We sow clover, vetches and peas to preserve the nitrogen in the soil where the ground would otherwise be idle and offer opportunity for the seed to burn.

While a soil may produce crops from year to year, yet it may be almost deficient in one of the three constituents that are necessary for crop production, and as soon as any of these constituents becomes completely used up, then there will surely be a crop failure. It is not the abundance of any one of these three constituents—nitrogen, potash and phosphoric acid—but it is the presence of all three of them in such available form which gives the soil fertility. When barnyard manure is well made and properly balanced with the mineral foods, potash and phosphoric acid, there is little need of considering the deficiency of any of these constituents in the soil. While barnyard manure may be recognized as the main source of all these constituents, yet there are some other sources for each of them which it is well for the farmer to consider in his practise. A main source of nitrogen available to the farmer is clover, vetch or pea. These, in common with all plants belonging to the leguminous class, possess the power of storing up the nitrogen of the atmosphere and making it available in the soil through the agency of bacteria. Clover, peas and beans, and other crops of this kind, are valuable in a rotation for this reason, and especially so when they precede such a crop as wheat, which seems to be especially in need of nitrates. While the clover enriches the soil in nitrogen it must be remembered that it is at the same time decreasing the potash in the soil, and there is then the necessity of adding not only enough potash for the legume, but also for the succeeding crop. But as compared with the cost of the nitrogen, potash is relatively low, and the grower is therefore the gainer, for by the addition of low-priced potash to sustain this nitrogen-catching crop he has been able to fertilize his land with the far more expensive nitrogen.—George Wright in *The American Cultivator*.

## PRODUCING SEEDLESS TOMATOES

We have but begun to appreciate what may be accomplished by crossing plants, selecting the best of the results and heavily feeding plants with all kinds of plant food. At the New Jersey station the horticulturist has been trying to develop seedless tomatoes by crossing, and he has practically succeeded. Ordinarily a tomato contains hundreds of seeds, but the ones being produced at the station mentioned contain few seeds, and some of them are seedless. One variety has been named the Giant, on account of the very large size the plant attains. It was produced by crossing the Golden Sunrise upon Dwarf Champion, and selecting the best for a number of years. Attempts to cross this variety with others have failed.

At the Wisconsin station Professor Sandsten has been trying to reach the same end by feeding the plants a very large quantity of plant food. Most of

his trials were carried on in the greenhouse, where he fertilized at the rate of eight hundred pounds of nitrate of soda, six hundred pounds of sulphate of potash and one thousand pounds of desiccated bone to the acre. He found that he was able to get tomatoes with a smaller number of seeds than usual, and in some cases the plants produced fruit having absolutely no seeds. These had to be propagated by cuttings, but when they were grown outside of the greenhouse they produced larger fruit than inside the greenhouse.

Much is to be expected from this kind of work, which if it continues will flood the world with new varieties of plants. The tomato is a good plant on which to operate, as it is easily propagated by means of cuttings. Its rapid growth and great fruitfulness make it possible to carry determine results. There are quicker results obtained, because the tomato as we now have it is an artificial product, and so lends itself very easily to variations. But what can be accomplished with the tomato can be accomplished in a lesser degree on plants less subject to variation. In the production of the seedless tomato great truths are being enunciated and demonstrated.—*The Farmers' Review*.

## A PRACTICAL FARM SEWAGE SYSTEM

A good sewage disposal plant on every farm is absolutely essential for the highest degree of health. The cost of such systems, as a rule, is prohibitive, and probably as simple a system as has yet been devised is recommended by the Kansas Experiment Station. This system is to dispose of both the sewage from the house and from the outbuildings, especially from the dairy barns. Our first illustration shows a cross sec-



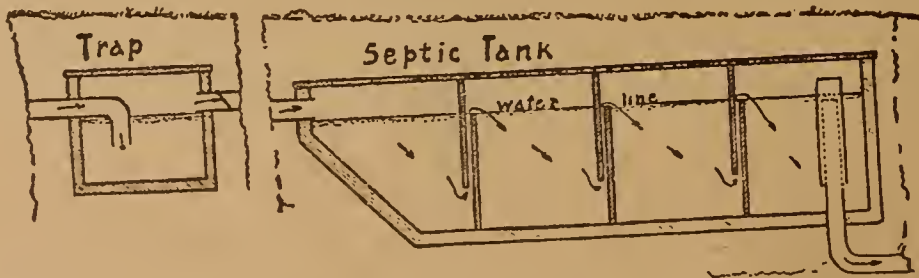
tion of the floor of the dairy barn, giving the location of the mouth of the drain tile in the gutter.

As will be seen, it should be as near to the back side of the gutter as possible, to prevent as much as possible the collection of solid manure on the grate which covers the drain tile. The second illustration shows the stalls and gutter of the stable and five of the drains which run into a common water-tight tile drain.

This drain leads to a trap some distance from the barn, where the drains from the different buildings deliver their contents. The outlet of this tile



is seen to be below the surface of the water in the trap, in order that gases from the trap may not escape through the drains back to the stables. The outlet of the trap is into the septic tank, which is some distance and in a depression sufficiently below the trap to allow of a good fall. The construction of the tank we have tried to make is self-



explanatory. Its dimensions, as recommended by the station, are fourteen feet long, four and one half feet wide and about the same depth. It is built of concrete, as also is the trap, similarly as a cistern would be made, and is covered over with planks. There are three compartments in the septic tank, connected, as will be seen, by partitions, which are double on a part of their faces and allow the sewage to thus flow from one tank to the next one until it finally passes out of the drain into the last compartment.

The plan of this tank is based on the fact that all sewage is largely organic matter and water, and decays rapidly.

The decaying process is very complex. However, we will state here that it is caused by bacteria which work upon the solid parts of the sewage, dividing the same into such a form that it soon becomes fluid. The septic tank must be air tight, or as nearly so as possible, in order for this kind of bacteria to exist. Thus the plan of the tank is to allow the liquid sewage to be discharged from one part of the tank into the other, always leaving the solid sewage to remain behind to be acted upon and disintegrated by the bacteria.

The last compartment may be emptied either by the drain, which is constantly open, or by the siphon method. In our illustration we show the latter plan. The advantage of the siphon outlet is that when the liquid sewage flows through the drain it carries any accumulation of foreign matter within it.

The manner of disposing of the sewage after it has been liquefied is of two kinds. The simplest is that of allowing it to discharge into a stream, in which case, however, the fertilizing constituents of the sewage is lost to the farm. The other method is that of irrigation, which may be by either the surface or the subsoil method. In the former the ground is ridged and the sewage is allowed to flow over it in shallow channels, when it finally filters away through the soil. In subsoil irrigation there is a system of underground porous tile which is sufficiently below the frost line to prevent being frozen up in winter. There may be one system laid within a foot or so of the surface, just below the line of cultivation for summer use. The sewage drains into these tile and seeps away into the soil.

The size of a septic tank depends somewhat upon the amount of sewage which will run through it. The station estimates the cost of a tank such as we have described at \$42.50. This, of course, represents only a part of the outlay required to put in a complete system of sewage disposal.—*The Homestead*.

## USE OF THE DIVINING ROD

Numerous devices are used throughout this country for detecting the presence of underground water—devices ranging in complexity from the forked branch of witch-hazel, peach or other wood to more or less elaborate mechanical or electrical contrivances. Many of the operators of these devices, especially those that use the home-cut forked branch, are perfectly honest in the belief that the working of the rod is influenced by agencies—usually regarded as electric currents following underground streams of water—that are entirely independent of their own bodies, and many uneducated people have implicit faith in their ability to locate underground water in this way.

In experiments with a rod of this type, one of the geologists of the United States Geological Survey found that at points it turned downward independently of his will, but more complete tests showed that the downturning resulted from slight and—until watched for—unconscious changes in the inclination of his body, the effects of which were communicated through the arms and wrists to the rod. No movement of the rod from causes outside the body could be detected, and it soon became obvious that the view held by other men of science is correct—that the operation of the "divining rod" is generally due to unconscious movements of the body or

in which ground water occurs in a definite sheet in porous material or in more or less clayey deposits, such as the pebbly clay or till in which, although a few failures occur, wells would get water anywhere.

Ground water occurs under certain definite conditions, and as in humid regions a stream may be predicted wherever a valley is known, so one familiar with rocks and ground-water conditions may predict places where ground water can be found. No appliance, either electrical or mechanical, has yet been successfully used for detecting water in places where plain common sense or mere guessing would not have shown its presence just as well. The only advantage of employing a "water witch," as the operator of the divining rod is sometimes called, is that skilled services are obtained, most men so employed being keener and better observers of the occurrence and movements of ground water than the average person.—United States Geological Survey.

## FALL PLOWING OF SOD

There has been unusual complaint during this last year of the ravages of insects. Wireworms have been worse than ever before in our recollection. Cutworms, grub worms and snout beetles have done great damage to the crop, largely because of the very cold and backward season for which this year has been noted.

We may have an entirely different set of conditions next year, but no matter what the conditions may be, the chances for freedom from the ravages of insect pests will be very greatly increased if the farmer who has sod land to plow will plow it this fall. These insects, which trouble the farmer in the corn on sod, have made this sod their home for years, especially if it has been in timothy or blue grass. The insects which prey on clover do not seriously affect corn. Hence there are few cutworms, grub worms or wireworms in clover sod. Therefore, so far as these are concerned, it is a matter of indifference whether clover sod is plowed in the spring or in the fall. Fall plowing of blue grass or timothy sod, however, has very great advantages. It disturbs the insects in their pupal state and exposes them to birds and to frost. The farmer is enabled to disk his corn ground early and disturb them still further, and the danger is very greatly reduced, to say the least, if the land is fall plowed.

There are other advantages in the fall plowing of sod. The farmer can plow deeper, because the winter's frost will prevent any danger from throwing up the cold soil near the subsoil. The best method of deepening his soil is by fall plowing half an inch to an inch deeper than it has been plowed before. Again, there is usually more time for plowing in the fall than in the spring. The farmer has more leisure; the weather is cooler; the horses are used to work, and hence can do more work in a given time than they can in the spring, when they are generally soft and liable to sore shoulders. There is also a great saving of labor. The work is distributed more evenly throughout the year. The preparation of the seed bed, so necessary to secure a good corn crop, can be begun a good deal earlier.

In fact, there is every reason for fall plowing sod except in sections in the extreme southern portion of our territory, where heavy winter rains are common, and the farmer does not get the help of frost in fitting his soil for a corn crop.—Wallaces' Farmer.

## TWO WAYS OF LOOKING AT THINGS

[CONTINUED FROM PAGE 3]

ing its hydra head on many farms, and if you cut one off, many more sprout up to take its place. Even a tiny root will send forth a sprout that will soon send out its beautiful, fern-shaped leaves. The tree is a beautiful thing, but when this is said, all that is good about it has been said. Its wood is of no value. Legislature has been appealed to, but so far no good has been done.

There are some farmers who will not destroy weeds because their neighbors don't, and in traveling about the country one cannot help but notice the contrast between localities where weeds are left to grow and spread and where they have been destroyed and held in check. We all admire the fine, well-kept farms that are free from weeds and briars. I know it is impossible for many farmers to always have everything about the place as fine as a city lawn, but let's take up this weed question with more courage and a hopefulness and determination that we will not allow so many weeds to go to seed on our farms, and thus spread to and damage the farms of our neighbors as well.

S. W. BURLINGAME.



**HARVESTING CORN WITH HOGS**

With the coming of the fall, bringing with it the harvesting of the corn crop, farmers will naturally begin to consider the best and cheapest methods of harvesting and caring for this the heaviest of all farm crops. The manner in which this can be most easily done with the least cost to the grower should be the one adopted. In the dairy sections of the country much of the corn is put in silos and fed in this form during the fall and winter. Where dairying is not practised, however, and where the corn crop is marketed either in the ear at the elevator or fed to some form of live stock, other means of taking care of it must be resorted to.

And in these strenuous times, when the demand for labor exceeds by far the supply on the farm, any process which will secure profitable results to the producer and at the same time reduce the labor of harvesting to the minimum is the one to be recommended for adoption wherever practicable. And it seems to us, after a long series of tests in harvesting corn with hogs, that for reducing the labor of harvesting and at the same time getting maximum results in growth, there is no method quite equal to that commonly called "hogging corn down."

There is a sentiment abroad among farmers against this practise, because of the apparent waste of corn which is supposed to accompany it. But by careful investigation of the real conditions attending this method we find the waste is little, if any, more than where the corn is hauled out after being husked and fed to the hogs twice or three times a day. It is our custom to fence off sections of a field—being governed as to size of plot by number of hogs, of course—and let them clean up each lot before letting them into a new one. Last year we turned forty-four head into a five-acre lot and left them there until there wasn't a particle of corn left. They were then turned on another piece and kept there until ready for market. When, however, they do not clean up all the shelled corn or parts of ears torn down, a lot of shoats may be turned in to clean up whatever may be left. We believe this method of harvesting corn not only commends itself because of its cheapness and the saving of labor which results from it, but because better gains are almost invariably secured by this process than by any other. Last year our gains were such as to give us sixty-seven cents a bushel for our corn in the field, which at that time was nearly double what the price would have been at the elevator had the corn been dry enough to market at all. Others who have tried this method are equally satisfied with the results.—John Begg in National Stockman and Farmer.

**FARM SCALES A NECESSITY**

There has been a good deal written lately about scales on the farm. The question is asked, Are they a necessity? Is a farmer justified in owning a scale of his own rather than depending on the public scales in town? To our mind there is no more profitable investment a farmer could make than to buy a small platform scale for his own use, or join with other farmers in buying one for neighborhood use.

The day for guessing on farm deals is fast passing. What a farmer produces and sells from his farm is his whole stock in-trade. Unless he is content to be constantly at the mercy of people with whom he deals, he must have the same means of protecting himself that the grocer, the livery man or the hardware man has. The grocer does not guess at the sugar he sells the farmer, and he does the weighing himself. The hardware man sells the farmer wire, nails, etc., by weight. If a farmer happens to be out of hay, and drives up to the livery man or feed store and takes home a few bales, he is charged for so many pounds. On the other hand, when a farmer brings in a load of hay, he guesses it off or takes the other man's weight for it. Are not the chances in favor of his being the loser in the great majority of cases? The farmer needs a scale in his dealings with others, in his sales of cattle, hogs, grain, potatoes, etc. He needs them to verify weights on articles he buys, as seed, coal, feed, live stock, etc. He needs them in his own operations. Many times it is desirable to know the amount of hay or other food being used. It is important to know of the advancement in weight in stock being fattened. To know which is the more profitable of different kinds of grain, potatoes, etc., raised on the farm. The fact is, there is hardly a day in the year that a small platform scale will not serve some useful purpose.

A most excellent platform scale weighing from four to six tons may be had 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

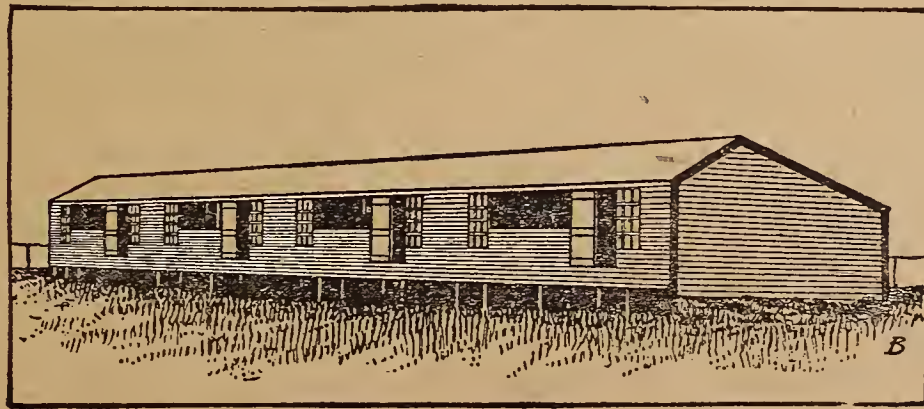
itself in a year or two, to say nothing of the convenience and satisfaction of having it on the farm, always ready for use. This is always to be remembered: Exact dealings avoid misunderstandings and make good neighbors.

A farm scale will maintain better relations 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.—The Wisconsin Agriculturist.

**CURTAIN HOUSES**

Much has been said of late about building poultry houses with curtain fronts, to admit air, while a draft is prevented. A number of small poultry raisers and farmers have naturally arrived at the conclusion that the house may be a success in the South, but in the North, where the winters are very cold, it should not be attempted. The station at which the most experimenting has been done is located the farthest north of all our state stations. The Maine station has found the fresh-air house to be a success in that northern latitude. Describing the building, it makes the following suggestions: The building is one hundred and twenty feet long and sixteen feet wide. The front wall is six and two thirds feet and the rear wall five and one half feet high from the floor to the top of the plate. The roof is of unequal span, the ridge being four feet in from the front wall, and the height of the ridge above the floor is nine feet. The sills are four by six inches and rest on a rough stone wall. The floor, consisting of two thicknesses of hemlock boards, rests on two-by-eight-inch timbers, which are placed two feet apart. The rest of the frame of the building consists of two-by-four-inch material. The building is boarded, papered and shingled on both roof and walls. The house is divided into four thirty-by-sixteen-foot pens. The front of each pen has two twelve-light windows and a door two and one half feet wide. The space between the window and door comes close up to the eaves, leaving an unbroken front three feet high below the eaves. The opening is three by fourteen feet, and is covered by a wooden frame covered with ten-ounce duck. This curtain is hinged at the top and is swung in when opened; and it is always kept open, except on stormy days and winter nights. Each pen is of suitable size to accommodate one hundred fowls, thus allotting 4.8 square feet of floor space to each bird.

A roost platform four feet ten inches wide and three feet above the floor extends along the rear side for the entire thirty feet. Three perches of two-by-three-inch material are placed on edge ten inches above the platform. The rear perch is eleven inches out from the wall, and



the space between the perches is sixteen inches, which leaves fifteen inches between the front perch and the duck curtain. The two curtains in front of the roost are each fifteen feet long and thirty inches wide. They are hinged at the top, and open out into the room and fasten up when not in use.

At one end of each pen are placed twelve trap nests, and eight at the other end. Several small boxes are placed against the wall one and one half feet above the floor, for shell, grit, bone, etc. The doors between the pens are wood frames covered with ten-ounce duck, and are hung with double-action spring hinges, so as to open in either direction. Tight board partitions are used between the pens, to avoid drafts.

The chief point about this house is that only two cloth curtains are between the birds and the night air, it being located in a cold climate, where the mercury often falls considerably below zero in winter. The floor is covered to the depth of six

or eight inches with straw, and some grain scattered in the litter early in the morning induces the birds to exercise as soon as they leave the roost. It would be unwise to open the curtains of the roosting pen and let the birds into the cold atmosphere of the room without some inducement to work.—Journal of Agriculture.

**MULCHING THE ORCHARD**

The subject of mulching fruit trees has been a matter of discussion among fruit growers for many years. The feeding of the soil in order to get crop returns is now a conceded principle among farmers and gardeners. It has not, however, occurred to many orchard owners that the same principle of soil feeding will apply with equal force on the land that is growing fruit trees.

Things may be different now than when the country was new and first settled. In those days wild fruits grew in thickets and clusters and produced bountifully. The wild plum especially was regarded at its best under such crowded conditions. The same wild plum planted in orchards, given good cultivation and care, trimmed and grown in the open ground, has improved in quality and production until it has become a profitable tree.

An illustration of the decline in this fruit when allowed to go back to the thicket and old-fashioned copse recently came to notice. The closely planted plum orchard was neglected, practically from its birth, and grew sprangling and untrimmed into a veritable thicket, so shaded and dark that even weeds made no claim on the ground. The plum trees grew into a matted, dense, spreading shade, the ground moldy, sad and sour. These trees ceased to yield their usual crop.

The owner deserted the little plum farm, and a new man came onto it, and with hatchet and saw commenced to cut and slash on the dead and dying limbs and brush, and even cutting out many of the trees. Sunlight got in, could circulate under the trees and over the ground, and the next season, 1907, found this plum orchard with an abundant crop, notwithstanding but few orchards in the neighborhood produced any fruit.

The mulching process is planned and arranged for in this orchard, but not in the usual form. Half a wagonload of manure will be spread under each of the trees, which are now fifteen years old. This, it is believed, will restore the soil to its native fertility, so that there will be a period of successful crop years follow this soil-feeding process.

The owners of fruit trees will find that the tree is even more of a soil robber than the ordinary grain crop, and that the immense root system which it maintains must be fed. The mulching of the tree with coarse manure or straw, applied

**Review of the Farm Press**

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# Gardening

BY T. GREINER

## ABOUT LIMA BEANS

THE limas have been one of my most satisfactory garden crops, and quite profitable. I can do little with the bush limas, as they do not seem to be adapted to my soil conditions. Probably on sandy soil or further south they may have better chances. Here I find them only moderate, almost shy, producers, while my vining limas, such as the King of the Garden and others of that class, produce great clusters, almost strings, of well-filled pods all through the latter part of the season, usually beginning the latter part of July and lasting until after the first light frosts of the season. The first week of October is already past, and yet we have plenty of limas on the vines ready for gathering. And they are as good and enjoyable and as salable as ever. Very few ever go to waste at our house.

I also have a few trial rows of the small lima, or sieva. Seed of three varieties was sent me from Georgia or South Carolina. One is of the Henderson's bush type; the others are running sorts, one of them with rather large and broad pods. They were planted a week or so later than my large limas, but their crop seems to be weeks later than that of the large ones, and we have not even had one good picking of well-filled pods before frost. The vines also seem to be more tender than the large limas, and the light frost a few nights ago has damaged them quite severely, while the large limas escaped almost unharmed. Evidently these sievas, being bred and grown in a warmer climate, have not become acclimated here, which fault might be remedied by selecting a few of the earliest pods grown for seed, and continuing to plant them here for a few years. But Henderson's bush lima, or sieva, has given us good and reasonably early crops in former years and normal seasons.

Many of our long-season vegetables, such as egg plants, peppers, tomatoes, melons, winter squashes, etc., owing to the abnormally cool season, have not fully ripened their entire crops and the cool fall weather, with even slight frosty nights, has put a stop to the full ripening of the later settings of fruits on melons, tomatoes and egg plants. In a normal season those Southern sievas would probably have ripened at least a fair share of their crop.

## HOTBEDS IN WINTER

A Philadelphia reader asks me what crops could be most profitably raised in hotbeds starting in the fall. I do not know of any crop that could be thus grown with any hope of reasonable profits. If the "hotbed" is a so-called "fire hotbed"—that is, one heated artificially with wood or coal—we might grow in it lettuce, radishes or spinach, but considering the present prices of coal and wood, and the inconvenience of taking care of a bed of this kind during the inclement season, I would not undertake to try it. It is out of the question to raise a crop in a manure-heated bed during the winter.

Dig out the old manure, which is to be used for garden land, or to be mixed with soil for potting soil, or greenhouse bench soil, etc., and store the sashes in a dry place ready to be put on again in March next. The bed may be left open, or covered with boards; or reasonably dry soil, to be used for next spring's operations in starting plants, may be filled in, so as to be ready when wanted. At the end of February the sashes may be put over the bed again, so that the sun will have all the more effect in thawing this soil and getting it in shape to be used for plant growing.

One of the practises of old gardeners, still followed by some, is to start early cabbage and lettuce plants in the fall, and winter them over in cold frames. This is quite practicable under the inquirer's climatic conditions. Here I find it easier and more profitable to start these plants in the greenhouse, or even in a hotbed, in early March, possibly in late February, and that is my practise.

## UTILIZING A SUBURBAN LOT

R. B., a reader in Washington, D. C., tells us that he owns two acres of ground in the suburbs of the city which he wishes to hold for a while, and in the meantime try to put them to some use. There are about fifty tall pines and several shade trees on the lot. What to plant is the question.

I imagine that this reader has but a vague idea of farming or of the things that can be produced on two acres of ground, especially if occupied already by

more than fifty large trees. The latter undoubtedly give so much shade and take such a large share of the food in the soil that it would be useless to try to raise any garden or hoed crop, or even a grain crop. Possibly the pines, if nice trees, would grow into money, by making good salable lumber, much faster than our friend could dig it out of that two-acre lot by planting it with garden vegetables or similar crops. If it were my case, I would plow the two acres as best as may be done, and sow grass seed, getting it in good shape for a meadow or for pasture, and if I were living close to it I would use it for a poultry run.

## TURNIPS AS A MANURE CROP

A "Subscriber from Michigan" proposes to sow turnips in the fall, and plow them under in spring when in bloom. The object is to improve "huckleberry sand." Perhaps it is better to sow turnips and plow them under than to leave the land without attention. Fall plowing and working seldom fails to have good effects in various directions, and the turnips will absorb and save some of the nitrogen that might otherwise be washed out of the land. But the turnips will add very little, if any, humus to the soil, and this is probably just what is most urgently needed.

I used to sow rye on the potato patch after the crop was harvested, and expect some benefits from it in the directions mentioned. We might use rape (Dwarf Essex) for the same purpose. In fact it would be better than turnips or rye, either. But for a real soil improver we want a legume such as peas, crimson clover, or particularly hairy vetch. The latter will perhaps produce the largest amount of humus, as well as of nitrogen, and when plowed under in spring will undoubtedly greatly help the succeeding crop, may this be potatoes or any other.

As a crop to furnish nitrogen, the most expensive of all plant foods, to the soil, vetch cannot easily be surpassed, unless it be by the soy bean, which requires a whole season's growth.

## MOLES IN THE GARDEN

An Ohio lady reader asks the old question, "What will keep moles out of the garden?" I don't know, unless it be a wire screen with small meshes sunk a foot or so into the ground all around the garden.

Traps skilfully and continuously set will catch the moles that are in the garden, and finally dispose of them, but the influx of a new supply of these underground workers from the neighboring gardens must be cut off by some such means, or the trapping will have but little, or at least a very slow, effect.

## TANNERY LIME

An Ontario, Canada, reader asks about the value of the mixture of lime and hair which he can get in almost any quantity for the hauling from a near tannery. I have had no practical experience with such lime, but should assume, however, that it has some fertilizing value, from the animal matter mixed with it. A dressing of it can hardly do harm, and may help much. But the right way, for the inquirer to proceed is to forward a sample of it to the Experiment Farm at Guelph, Ontario, for full information.

If I knew how the lime had been handled, and how large a proportion of animal matter it contains, I might make at least some rough estimate of its agricultural value. This material, I believe, is worth looking after.

## SCALLION ONIONS

A reader in Hubbard, Oregon, finds that almost all his onions are making scallions instead of small-necked, solid bulbs. He wonders what is the matter with them. Most likely the trouble is in the soil, this containing an excess of nitrogen and not a proportionate supply of mineral plant foods. On soils of this description, especially in a wet season, onions are always liable to make thick necks. Avoid cool, moist, mucky soils. We never have any trouble of this kind on well-fed, warm, sandy loams.

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## Fruit Growing

BY SAMUEL B. GREEN

### THE FARMER'S FRUIT GARDEN

[CONTINUED FROM PAGE 1]

varieties of pears remain, while apples and plums continue well up into the Canadian regions, where the thermometer drops down to forty and fifty below zero. As we go south from our middle temperate region the range of fruits rapidly enlarges again. When we reach north Georgia the apple drops out, pears are uncertain, and later on peaches fail, and the orange and citrus fruits come in. And so it goes. Latitude, elevation and proximity to bodies of water govern the range and type of fruit that it is possible to grow.

#### THE SITE

Of course the first requisite is to so locate the garden that it will be convenient to the house. A good arrangement is to connect it with the lawn and make it an essential part of the house surroundings. As a rule a somewhat elevated position is better than a low, warm valley. When settlers first came into the country they located along the waterways because these represented connecting lines and means of transportation; but later experience has shown that fruits in these low levels are not as fine in quality and are more subject to diseases than the fruits grown on higher and more airy situations.

#### METHOD OF PLANTING

The method of planting and arrangement of the farmer's fruit garden will differ essentially from the method employed when the commercial enterprise is exploited. In the former we desire an assortment of fruit which shall properly cover the season. In the latter we want large blocks of a few varieties. In the farmer's garden we can plant closer than in the commercial area, because our plantation will not be permanent. We shall be adding to it and subtracting from it more or less constantly. This is one of the sources of pleasure. The farmer for his own use wants the very best of each class of fruit, while the commercialist

they are being crowded by the permanent trees.

Following the apples, the pears may be set at twenty-five feet, and again interplanted with dwarf varieties at half the distance. Cherries, plums and peaches may be set at twenty feet. Then will follow the bush fruits in rows, seven feet apart, with plants three feet apart in the row. Here we will have our blackberries, blackcap raspberries, red raspberries, and our currants and gooseberries, the latter being set six feet apart between the rows and three feet apart in the row. Now, at the outset the strawberries may go between the tree rows or the small-fruit rows. Later on the strawberry will need an open space, and may rotate with the vegetable ground, which will lie contiguous to the small-fruit area. The grapevines, of which we ought to have forty or fifty, can occupy a warm location on the south side. They can be trained on boundaries, or on fences or trellises, which will act as boundaries. Of course, the whole ground may be employed for vegetables or crops of that type for the first few years after planting.

#### PREPARATION OF SOIL

All practises desirable in the preparing of orchard land should be intensified here, for this is to be a permanent investment. We should be able to get on the ground early in the spring and late in the fall. Provide drainage in the most efficient way possible. — The expense of underdrains may make them impracticable, but if the soil is at all soggy or springy, drains will pay. Put them in as soon as possible. If necessary, slight other parts of the farm and attend to this, for here we have something that ministers to the comforts and wants of the entire family.

#### VARIETIES TO PLANT

This question can be answered satisfactorily only when connected with particular soil and locality. As a general rule plant those varieties which are already succeeding in the region.

Do not depend on the dictum of the



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PICKING PEACHES

plants the varieties which he thinks will bring him the most money.

In general in the farmer's fruit garden the apples should be grouped together, setting at regular distances, say forty feet apart for Greening, Baldwin and Russet, large-growing trees, and these interplanted with early varieties, which as a rule are shorter lived and will occupy less space. Among these early varieties we can cite as examples Duchess, Yellow Transparent, Wealthy, and the like. The dwarf tree has a legitimate place in the farmer's fruit garden. I mean both dwarf apples and pears. They can be set between the standards, and may be taken out when

nurseryman or the partially informed neighbor. Go to your experiment station. There is one in every state and two in some. It is the business of the officers of these stations, among other things, to answer questions of this kind, and it is also the business of these men to investigate conditions and ascertain what varieties are most promising. Finally, aim to plant the best. Do not plant for the largest number of bushels, but rather for the highest quality. This will bring most satisfaction in the long run. Let us remember the words of the prophet, "My fruit is better than gold; yea, than much fine gold."



## CATTLE NOTES

Restlessness is a very poor quality in fattening cattle.

In fattening cattle, the quicker they can be fattened, the greater will be the profit.

Raise and feed all the roots possible, but do not expect to fatten cattle without grain.

Never allow young calves to shift for themselves: liberal feeding at all seasons will pay.

Calves intended for cows should have the very best of care and very warm quarters during winter.

One of the poorest investments is buying an inferior cow for dairy purposes. She will not pay her board bill.

Give calves warm quarters and ground feed, and they will make a good growth even during the severe winter months.

Kind usage in handling milk cows pays a large dividend. A cruel or quick-tempered man should not be on a dairy farm.

It requires just as good business qualities to be a successful stock raiser as it does to be successful in any other branch of business.

Be sure to provide some shelter in summer for young calves. A dark, well-ventilated shed will give protection from the flies.

Cattle occupy a leading place in the wealth of the world by furnishing beef, milk, butter, hides, tallow, glue and many other things.

R. B. RUSHING.

## SELECTING THE BREEDING HOG

A farmer in Indiana asks several questions about buying a male breeding hog. He says that he thinks the fancy, fine-boned type of hog is not the best for the farmer. I think he is very nearly correct. There always will be more or less demand for the smooth, rather short, bunchy hog for breeding purposes, because they are always ready for market—that is, they are rounded out full and smooth at any age—and small farmers and villagers who keep only a very few, and usually sell them at six months, will want that type. But the farmer whose fields and pastures are large needs the longer, stronger-boned and somewhat coarser type. This style of hog is apt to be stronger on its feet and a better rustler than the fine-boned fellow, and it will stand more hardship, and also make more weight, owing to its ability to gather and digest more food—a larger variety. It is not ready for market as early as the smooth, fine-boned pig, but it brings down the scales when it gets there.

In buying a breeder I would consider the type of breeding sows he is to be mated with. If they incline to be a little too fine, I would secure a male that would be a little coarser, but only a little, or the result would be two types in the offspring, one coarse and the other fine—one resembling the male and the other the female. By adding only a little coarseness you simply check the tendency to extreme fineness, and will be more likely to obtain the type of pig you desire. Before buying a breeding male it is best to pick out the female breeders one intends to use, then select the male long, short, coarse or fine, as required to secure the type of pig wanted.

One should not be guided by what the breeder says, nor altogether by pedigree, but he should keep uppermost in his mind what he needs. One thing to especially guard against in farm hogs is extreme fineness of bone. Farm hogs are often subjected to some hard knocks and rough usage in handling and marketing, and they should be able to stand these without injury, for the loss of a hog in marketing cuts a hole in one's profits. I notice a great many hogs are not strong on feet, and of course not able to carry their weight well when fattened for market. This weakness should be carefully guarded against in the selection of a breeder. The fine-boned hog is most apt to be weak on the feet when matured, though I have seen many of the coarser type weak in this respect. A hog that is weak on the feet may go down just as he is ready for market. He will not be really crippled, but the buyer will mark him crippled, and the price paid will be cut accordingly. I would advise this farmer and all others to buy neither an extremely coarse nor extremely fine hog for a breeder. Get one that is midway between the two, with good feet, fair body length, and a real rustler-like appearance.

FRED GRUNDY.

## PRODUCING GOOD BUTTER

The first essential for a good butter dairy is good cows. We may be able to make good butter from scrub cows, but we cannot make as much of it, and it costs just as much to feed and care for a poor cow as it does a good one.

As to breeding, I do not think it matters very much whether we select Jerseys, Ayrshires, Guernseys or Holsteins or just common stock. It is far more a selection of individuals than of breed, and there will be found excellent cows whose pedigree, if known at all, extends no farther back than "old brindle" and "Casey's" yearling bull. Understand me, I do not mean to make light of the business of breeding pure-bred dairy cattle, for the cows that hold the best records are always found among these herds; but what I do mean to say is that the herd books of all the leading breeds of dairy cows contain some names that are high sounding, but when we look up the individual records of the animals we find that they are veritable scrubs.

I have seen poor, thin cows running in a poor, sun-burnt pasture and wintering in an old shed and wind-swept yard, and so far as pedigree was concerned, they had no pride of ancestry or hope of posterity; nevertheless, when put on good feed and given the right care they would give forty pounds of five-per-cent milk each day. These cases are not common, but they go to show that it is not always the fault of the cow, but of the dairyman himself, that they do not produce good results at the pail.

And yet if we were selecting a bull calf to grow and develop for use in improving our herd, we would not think of making a selection from such a cow, but would want one whose dam was not only a good, profitable cow herself, but also a pure bred of one constant type for a number of generations, for then we could depend upon the bull being prepotent and stamping the individuality of himself upon his descendants.

Now as to the cows that we select for our butter dairy. It is a sad state of affairs when the average dairy cow of the country produces less than one hundred and twenty-five pounds of butter fat a year. It is a sad commentary upon the dairy wisdom of the American dairyman. How are we to improve the situation? The first step necessary is to improve the feeding rations and then set about to improve the cows themselves. In my opinion the cause of this one-hundred-and-twenty-five-pound production of butter rests not with the cows, but with the farmers and dairymen themselves. It would be better for our dairy interests if we could impress upon the minds of the farmers the necessity of a rational and intelligent system of management, retaining their present herds of cows, poor as they may be, rather than to make each man a present of a herd of Pauline Pauls, Ida Marigolds or Imported Charmante of the Grons, and have him continue his old methods of caring for them.

When we think of the conditions that surround the average herd of dairy cows, is it any wonder that we have so many of the average dairymen? The wonder to me is that the cows do not give up in disgust and die instead of producing that one hundred and twenty-five pounds of butter a year.

To build up a good butter herd, introduce new methods. Try to have good pastures, and supplement them with green forage when they are short and dry. In winter give the cows a good warm stable, well ventilated and lighted with plenty of sunshine. Feed them a ration of good, palatable food and plenty of pure water, and then if they do not respond, look them squarely in the eye and say either pay for your keep or go to the shambles. If they are good cows they will comply with the boarding-house rules; and if not, you should be glad to get rid of them at any price. Cows of any breed or no breed should be made to produce two hundred and fifty pounds of butter a year, and this should be gradually increased until the herd will average three hundred pounds a year.

After selecting the cows and providing them with a good stable and giving them good care, the next matter to be considered is how to handle the milk. It is a settled fact that the dairyman who is milking more than eight cows and continues to run his dairy without a hand separator is standing in his own light.

The best time to skim the milk is when it is warm from the cow, and at this time any of the standard machines will do good, clean work and skim out the fat so closely that we need not worry. In separating do not have the milk too warm; sixty to seventy degrees will give better grain to the butter than heating it up to eighty degrees. Another important point in running a separator is to have it adjusted so that the cream will be thick and rich, containing from thirty to forty per cent fat. This is an important point, for it will churn more rapidly and leave

less fat in the buttermilk, and the churning can be done at a lower temperature. The great secret of churning at a low temperature is having the cream rich and thick.

The second great secret is having the cream cooled, as soon as possible after it is separated, to at least fifty degrees, and holding it at that temperature until a few hours before it is warmed up to ripen.

Now comes the question of ripening, for as a general rule it is not best to churn cream in an unripened condition. You will get good butter, but there are difficulties in churning that make it a very intricate work and undesirable for any but an expert to undertake. Use the utmost care in ripening the cream, and avoid as much as possible all bad odors and flavors. Ripening cream means holding it at a temperature that is proper until the various kinds of bacteria have time to develop lactic acid, which aids easy churning and gives the desirable characteristic flavor to the best butter. Keep the cream until you have enough to make a churning, raise the temperature to about sixty-five or seventy degrees, and keep near this temperature until about ripe, then cool before churning.

Well-ripened cream should thicken and run like oil and have a gloss on a fresh surface. If the ripening process has gone too far it is impossible to make finely flavored butter from it. Don't mix sweet and sour cream. Half-ripened cream, neither sweet nor sour will churn very hard and make poor-quality butter. If you want to churn sweet cream use it when perfectly fresh.

The churning of well-ripened cream is one of the simple arts of butter making. Churn at such a temperature that the butter will come in from forty to seventy minutes when the churn is not more than one third full of cream. You will get better butter than when it comes more rapidly.

Use water at a temperature of forty to forty-five degrees in warm weather and fifty to sixty degrees in cold weather, allowing for the season, solidity of the butter, etc. Put salt in the churn, and stir in thoroughly with a wooden spoon. There is nothing more difficult in making good, even-quality butter than to get a uniform amount of salt in different churnings. If the salt is well mixed with the butter it will need but little working. Press it just hard enough on any good worker to work out the surplus water and give a compact texture. As a general rule it is preferable to move from the churn to the worker and then pack at once, and avoid streaked butter. The butter maker must judge for himself when it is worked enough.

And now the question of marketing butter, and I believe this is the most important of all. When marketed at a grocery it is not apt to bring its actual value. The trade is divided into four classes—the local dealer, the grocery, the private family and the hotel trade. I would not depend on the two first named, except the groceryman who had a select trade among the best city people who depended upon him for certain brands of butter. In that way he will give you a good price for your product and it will be a nice trade to handle. Of course the private family or hotel trade is the one that pays most, but it is a critical and exacting trade and hard to look after.

W. MILTON KELLY.

## CARE OF THE LITTER

With the young pigs the fatalities are usually told in the first three or four days, during which time extra vigilance must be maintained. It has been my experience that young pigs cannot be too well fed or too well cared for. The ration I provide for my pigs is a slop made of milk and middlings, with little corn, fed twice daily, at morning and evening. For the first five months I grow the pigs as rapidly as possible and then put them on a more fattening ration. I have found that by feeding them in this way they develop a good, strong frame that enables them to carry a good amount of flesh for future market. I feed all the corn and slop that they will eat up clean and keep them anxious for the feeding time to arrive each day. At six months of age I usually have them weighing around two hundred pounds each.

WM. H. UNDERWOOD.

Our guarantee of the advertisements in this paper means much to you. It means that we have been so careful in accepting them that we stand ready to make good any loss which a subscriber suffers in answering them.

## Live Stock and Dairy

## Profit in Lambs

A recent experiment in feeding lambs proved that a small investment made for Dr. Hess Stock Food returned the feeder a profit of 235%. This was because the Hess-fed lambs were able to digest a greater proportion of the daily ration than other lots not similarly treated. Dr. Hess Stock Food is a tonic which makes perfect digestion in any domestic animal. It contains iron for the blood and nitrates to cleanse the system of poisonous matter.

It is the prescription of Dr. Hess (M. D., D.V.S.), himself an authority on foods and feeding.

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Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

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## Live Stock and Dairy

less than eight degrees below the churning temperature. The addition of this water in two or three lots, as the churning proceeds, brings the "grains" more rounded, even and freer from the milky covering, and by the liberal addition of breaking water the great fault of workers is to some extent overcome—that is, the butter is not likely to be "overwashed" later on. Well-grained butter, when the buttermilk is finally drawn, requires only one washing water, used more as a rinse, with not much actual churning, to free the grains from dregs of the buttermilk.

A worker who can show a good grained butter in the buttermilk has grasped the principles of good working. Under-churned butter—when the buttermilk is withdrawn while the grains are too small—is often overwashed and overworked in an attempt to gather it together, and is pale in color and deficient in flavor when made up. Overchurned butter gathers into irregular lumps, greasy looking and streaky, which cannot be washed free from the buttermilk, and so enclose too great an amount of casein, tending to lessen its keeping qualities.

Opinions differ with regard to the merits of dry salting versus brining. Dry salted butter appears to hold more water than brined butter, but it is rather that the water is not so well incorporated in many cases; its color as a rule has a deeper tint. In brining, a coarse salt can be used, two pounds to the gallon of water at a temperature of eight degrees below the original churning temperature; the "grains" are left in this brine for ten minutes to thirty minutes, thus ensuring a hardening of the granules, which aids in the texture of the finished butter. A "warm" brine causes the butter to become water logged, as it were, and oversalted, whereas too cold a brine chills the butter and has a tendency to destroy the color, and frequently not enough salt is retained to aid the flavor and preservation.

Good grained butter when removed to the "worker" does not require much manual work to get rid of the water. If it is allowed to lie piled for a little time it will drain fairly dry, and subsequent working will be given, with the object of consolidating the grains to form firm, flawless blocks or rolls when made up. Too much working at this stage does not get rid of much water, but merely bruises the butter, spoiling the grain and making it greasy and smeary throughout. The storing of butter is usually done in refrigerators or in the coldest place available, but not in any place known to be damp, or the butter suffers, and is likely to become moldy and rancid. It may be noted that butter is at its finest, as regards color and flavor, from one to three days after the churning; after that time a slow but certain decomposition sets in, which results ultimately in spoiling and rendering unfit for food the finest butter ever made.

W. R. GILBERT.

### USES OF RYE

A correspondent of eastern Pennsylvania asks me for my opinion as to the best use to which he can put a crop of rye to be grown after ensilage corn.

The uses of rye are numerous. My wife, being a very ardent W. C. T. U. woman, will not allow me to mention the one great demand for grain rye, hence I must discuss the uses of it as applied directly to agriculture, and I can possibly best do that by citing some of the uses it has for me.

I can sow it early, if I desire, and in this section will not be troubled with "the fly," as we are with too early sown wheat. This early sown rye makes me fine late fall pasture for pigs or calves and shows up a good crop for spring or summer uses.

Then I can sow it much later than is safe to sow wheat—say after my latest cuttings of ensilage corn. If early winter pounces upon it, it simply lies low and comes up smilingly in the spring. It will then furnish the earliest spring pasture or soiling crop, in which latter use especially it is a good milk maker and a grateful spring tonic for all the animals receiving in as part ration.

If it has been sown thickly—two bushels of good seed to the acre—when cut when in blossom and cured for hay it often tides over a spring hay shortage or makes it possible to sell its tonnage equivalent of timothy hay, which the rye hay in feeding value easily supplants in the cow or horse ration.

If allowed to ripen its grain, the straw makes excellent bedding (preferably being run through the fodder cutter and cut and smashed up), and quite fifty per

cent more straw can be grown from an acre of rye than from an acre of wheat. If one has a surplus of straw, and desires to bale and sell a portion, as some of my good friends do and as I have never done, the market price of rye straw is usually one dollar and a half to two dollars a ton more than the price of wheat straw.

The grain rye ground with corn for hog and horse feed, and fed with alfalfa or clover hay to horses, and with milk to pigs, adds both variety and quality to the rations.

Finally, to the dairyman not its least value is its adaptability for ensilage. Cut with the grain harvester, when in bloom, and cut into short lengths, say half an inch, and well tramped and leveled in the silo, it makes a highly satisfactory silage—a use for rye that I do not think we dairymen can afford to consider lightly, especially at this time of alarmingly high prices for feeds. The oats and corn crops are both short, and the demand for oats and corn and all feeds tremendous. I can see no reason why these conditions of scarcity, and consequent high prices of feeds, shall not continue at least over another harvest; and we are not only interested in feed now, but will likely be more so next spring and summer. Part of my corn intended for the silo will be cured and husked, and the silo it would have filled for next summer's use will next spring be filled with such crops as rye, crimson clover and wheat (grown together) and perhaps the first cutting of alfalfa.

W. F. MCSPARRAN.

### HOGS IN THE ORCHARD

Pure sentiment has much to do with the prejudice some farmers have against using the orchard for a hog lot, and the writer is free to confess that the keeping of hogs in an orchard is not exactly poetical, but to the farmers who keep orchards for apple production and profit there are some reasons for using it incidentally for the hogs.

Our experience with hogs in the orchard covers quite a number of years. Owing to a lot of fall feeding of corn in our orchard two years ago we found half the grass killed out, consequently we have lost the use of it for a hog pasture while getting a new set of grass, but we can hardly wait to get the hogs back again.

A few farmers object to allowing brood sows in an orchard, saying it is detrimental to the best success at farrowing. We know of one man who declined to buy a young brood sow for no other reason than that she had been reared in an apple orchard.

In our experience all ages and sexes of swine have thriven in the orchard. Sometimes the apples get ahead of the hogs, and sometimes the hogs get in ahead of the apples—more often the latter. We have never had any bad results whatever from the practise, the apples seeming to be a fine addition to the hog diet. Of course, we never keep them on an exclusively apple ration.

On the other hand, the hog acts as a check to the codling moth and other pests by eating the diseased apples as they fall. All sorts of larvae and insects are destroyed by the hogs as they wander through the orchard. We seldom fail to have an apple crop, and have attributed it in large measure to this method of management. Before condemning the practise, let the farmer try it himself.

GEO. P. WILLIAMS.

### LIVE-STOCK NOTES

The farmers about Greeley, Colorado, have a high appreciation of the value of beet pulp as feed for stock. Its use is rapidly increasing.

While the number of cows in this country increases at the rate of about five per cent each year, the number of consumers in the cities is increasing twice as rapidly.

The United States consul at Bamberg, Germany, writes that the farmers of that country prefer to buy cotton-seed oil cake as it comes from the presses, and break it up and grind it for stock feed, rather than take the risk of buying the prepared meal, fearing that the latter may be adulterated.

The San Luis Valley in Colorado is likely to gain as great a reputation as a hog and lamb producing locality as Rocky Ford has for the production of melons. It is known that the meat produced from feeding both hogs and lambs with Canada peas and vines commands the highest market price, as the meat is sweeter by far than that of corn-fed hogs and lambs.

## Learn All About Cows —Free

If you want to know how to make your cows produce more and richer milk, and be stronger and in better health while doing it—if you want to know what to do when a cow gets sick or how to tell what is the matter with her—how to breed, how to raise calves, how to feed and how to care for them—everything a successful dairyman ought to know—just get a copy of Pratts New Cow Book and you will have all the information you want.

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get a package at your nearest dealer's, and try it on your poorest cows. Their condition will quickly improve—they will give more and better milk and be in far better health. Every cow needs this valuable regulator and tonic—there is nothing like it to improve the digestion, regulate the bowels and blood and keep cows in first class condition, free from disease. 25-lb. bag costs \$3.25, smaller sizes from 25 cents up.

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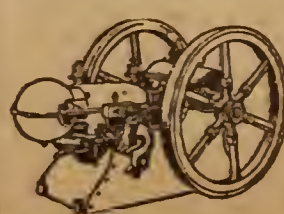
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**POULTRY POINTERS**

Humpty Dumpty was found in the hay,  
Humpty Dumpty was taken away  
In a basket to town one day—  
For Humpty Dumpty was the best  
of pay.

We may live without poetry, music and art;  
We may live without conscience, and live without heart;  
We may live without friends, but where are the men  
Who can live to-day without the fruit of the hen?

Lay your plans to feed the hen so she will do better laying.

Build a trap nest  
To make a test,  
So you can tell,  
And that very well,  
The hen that lays best.

Chickens are said to be religious—  
So many enter the ministry;  
The roosters are the professionals,  
But the hens are the lay-ity.

W. J. B.

**A WYANDOTTE CROSS**

For crossing on large breeds, with a view of retaining the size as well as to improve the marketable appearance, the Silver Wyandotte male with Brahma or Cochin hens is one of the best that can be made. It is perhaps better to keep all the breeds pure, where it is possible to do so, but there are some farmers who have large hens, probably crosses from Brahmas or Cochins, and who wish to preserve the yellow legs and skin, as well as to have the body compact and readily salable. For that reason the use of the Wyandotte male is suggested. It is a cross that is excellent for producing market fowls.

**FEEDING HENS ECONOMICALLY**

A reader of FARM AND FIRESIDE writes me that she has fifteen good hens she would like to keep over, but that feed is going to be so high that she fears they will cost more than they are worth.

I would suggest that she buy a bale of the best clover hay, run it through her feed cutter, cutting it to quarter-inch lengths. At night put about a good quart of this into a bucket, pour hot water over it, and cover it closely. In the morning mix about half a pint each of bran, middlings and coarse cornmeal with it, and feed to the hens. Give them as much of this mixture each morning as they will eat within half an hour. Give them the table scraps and a small quantity of wheat or broken corn in the evening, and they will, or should, not only do well, but also lay enough eggs to more than pay the cost of the feed. She can cut the clover hay as needed, and a bale will take up but little room. This cut clover is quite as good as the ground clover or alfalfa that is sold at ten to twenty times as much.

F. G.

**ECONOMY AND VARIETY**

It is not economical to deprive the fowls of foods rich in the essential elements for the production of eggs. The difference in the cost of foods containing a large portion of protein and those consisting mostly of starch is a small matter if the use of more nitrogenous foods induces the hens to lay. One extra egg a week from each hen for six months will repay the farmer for any expense he may incur in purchasing meat, bone, linseed meal or mill products, and the extra egg will also add something to the profits.

It is economical to use anything for the hens that can be purchased and converted into profit. The hens should be allowed any kind of food that is needed as an incentive to greater egg production. The successful poultryman is busy the entire year, and uses home-grown products if cheaper than those procured elsewhere. Clover hay (cut fine), cracked or ground wheat, oats, corn, rye and buckwheat can all be made a source of saving if grown on the farm. A saving in the price of food is profit, just as much as is an increase in the price of eggs. There are also vegetables to make a variety, such as potatoes, beets, cabbage, etc., as well as skimmed milk in limited quantities. If the fowls cannot appropriate and consume the large amount of food from various sources, then the farmer should enlarge the number of his hens. It is economical to feed grain worth two cents a pound and sell eggs at twenty cents a dozen, provided the hens lay regularly. But if the hens are not producing eggs, then any kind of food is an expense.

There should be no loss of time with flocks. The hens should be laying or caring for broods, except when molting, and it is only by feeding the most suitable materials that true economy can be practiced. It is not the quantity of food that brings results, but the quality, for many

farmers feed too much, consequently increasing the cost, and at the same time the hens lay fewer eggs. A small quantity of food that is rich in protein and the mineral elements may be worth twice as much as food consisting more largely of fat and starch, because it is more beneficial to the hens. Any food that induces the hens to lay a larger number of eggs may be claimed to really cost nothing, as the expense is returned in the product by permitting of a larger profit.

**PROFIT IN GEESE**

There is not much difference in the laying qualities of the several breeds of geese. Twenty eggs are a fair average the first year after maturity, but after that it may reach forty, as age makes but little difference after the second year. The best breed for feathers is the Embden, they being entirely white, but the Toulouse yield the heaviest, the quantity ranging from one half to one pound a year. The best for market is a cross of Toulouse gander with an Embden goose, both breeds attaining at times the weight of from twenty to twenty-five pounds per single bird.

Geese should be picked only twice a year. The first time should be after they have laid a clutch of eggs. The second time when they are molting, late in the fall. Always pick on a warm, dry day. Keep them in a dry place, under shelter, and feed well, giving an allowance of meat. They cannot lay and grow feathers at the same time, as it taxes them too much. If picked early they will not lay until late. The loss will be about half the usual number of eggs. Stubs of feathers broken off will not come out until the birds molt, but if pulled out new feathers appear.

According to some authorities, old geese can be picked four times during the season, commencing about the first of May. Young geese should be picked three times. They are ready for picking when there is no blood in the quills. This can be ascertained by pulling out a few feathers. Always remember to leave the feathers at the side of the back. They are too large to be of use, and if left they prevent the wings from drooping after picking.

**ELECTRICAL PROTECTION**

Poultry in this section is not a sure possession. You may have a nice flock of chickens one day, and the next morning you may find the coop empty. Robbing hen roosts seems to be a favorite pastime of a certain gang or gangs, and perhaps in some instances a profitable one. Many such depredations have occurred, and but few depredators have been caught. Farmers and poultry owners, however, are beginning to get wise; and in this electrical age and in this electrical center it must appear quite natural that

selves to the point of attack, and caught one of the two robbers, who is now enjoying the hospitality of the county sheriff, and is given plenty of chance to meditate about the fickleness of fate. The other fellow escaped, and is now being hunted by the police like a wild animal. The booty abandoned by the robbers in their hasty flight consisted of three nice Wyandottes—a rooster and two hens—found, with their necks wrung, in a bag at the hen-house door.

It is safe betting that our neighbor's chickens may roost in safety on their perches for a while without fear of being molested by marauders of the genus homo. And when farmers generally adopt the practise of maintaining an electric-alarm system between hen house and bedroom, the robbery of hen roosts as an occupation will cease. The wires, of course, should be laid underground, and be well insulated.

F. G.

**TURKEYS FOR MARKET**

It will not be long before the turkey will be the chief center of attraction in the markets. The object to be gained in dressing them is to send them to the markets fair, round and smooth, with no surface blemishes. They should be fed now on wheat, corn and buckwheat, which will give a good color to the flesh.

To have the turkeys looking well the feathers should be rapidly picked. After the bird has been stuck, as soon as the spasm ceases the quill feathers should be plucked, then the body, working rapidly while the flesh is warm, taking care to not tear the skin. They should not be fed for twenty-four hours before being killed. It is not customary to draw them, but if the dealer prefers them that way it should be done in a neat manner with as small an incision as possible.

Fold the wings across the back, wipe them dry, and let hang-until cool before packing them. Pack them in clean boxes, but do not crowd or jam the carcasses, as each little mark shows on a turkey, and is detrimental to the selling. The difference in price will more than repay the shipper for a few hours more of work and trouble. There is about three or four cents a pound difference between carefully dressed turkeys and carelessly dressed ones, and for ten pounds or more the difference is considerable.

**VALUE OF ROAD DUST**

Those farmers and poultrymen who failed to secure a shedful of road dust during the past summer made a mistake. It is one of the best means to suppress disagreeable odors in hen houses and stables that one can adopt, and decidedly the cheapest.

Quite a number of farmers use land plaster or acid phosphate to arrest the escape of valuable gases and to keep down unpleasant odors, but I believe that almost



WYANDOTTE BROILERS

Brooder chicks, twelve weeks old, about two pounds each in weight, foraging in an enclosed patch of growing oats. They are just the proper weight for market

the electric current is also employed as a detective.

A neighbor of ours has a very fine flock of "blooded" Wyandottes. Two doors, each secured with a substantial padlock, stand between the would-be thief and the fowls every night. Even this precaution, however, is, with very good reason, considered insufficient. Our good friend has connected the door, by an underground electrical wire, with an alarm in his bedroom, the door when closed giving a short circuit. When the alarm rang, about two o'clock one night last week, our neighbor knew that somebody was trying to tamper with his Wyandottes. With another member of the family, both armed, they betook them-

the same results can be obtained by the use of road dust. The only advantage land plaster and acid phosphate have over road dust is that they enrich the hen droppings and manure more than road dust does.

Some time ago a writer condemned the use of road dust, on the ground of the impurities it contains, but I have used it in my hen houses and stables for years and never observed the slightest evil effects. I am satisfied that much good results from using it. J. B. STEPHENS.

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**Poultry Raising**

**Lost Feathers**

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Mr. Poultryman, it's now up to you to restore the weakened hens to normal vigor and put them in proper trim for a large egg yield through the coming winter. Give them each morning

**DR. HESS Poultry PAN-A-GE-A**

in the warm mess. It vitalizes and "tones" the drooping bodies, aids digestion and carries off the clogging poisons that weaken and debilitate the hen. Thus it shortens the moulting season and hastens the return of productiveness. Poultry Pan-a-ge-a is the prescription of Dr. Hess (M. D., D. V. S.). It makes hens lay, market fowls fat, chicks grow fast and also wards off all poultry diseases. Endorsed by leading poultrymen and sold on a written guarantee.

Costs a penny a day for 20 fowls.

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The date on the address label shows the time to which each subscriber has paid.

Subscribers receive this paper twice a month, which is twice as often as most other National farm journals are issued.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, do not fail to say it is a renewal. If all our subscribers will do this a great deal of trouble will be avoided.



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Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/4 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Nature has her own way of providing for plants and animals and people. Man can by his knowledge assist her, or by his ignorance retard her in attaining her ends.

Are you worrying about the farm-help problem? Don't do it. Remember that new things come only of necessity. Use the money formerly paid the hired help to purchase improved machinery, and you can perform your labor with greater ease than before.

It is not a difficult task to keep a farm account. Just make a system of your own, one that is adapted to your needs. You don't have much respect for a man in any other business who doesn't keep an account of his transactions. Why is the farmer exempt?

Are you acquainted with your farm yet? Do you know just the kind of management that is best suited for each field?

When you are not too busy to think, go out and carefully study your fields and learn to know them better, and you will not make so many mistakes as you have in the past.

Now is the time to see to it that all your farm tools are carefully put away for the winter. Did you ever stop to count up how much money you have invested in your machinery? If not, do so and you will see how important it is that you take special pains to prolong its term of usefulness.

Any farmer who leaves all experimenting to the experiment station deprives himself of one of the most potent factors in increasing his income.

You do not need increased acreage to have increased returns. Increased acreage means increased outlay of money for equipment and increased labor. Study your conditions and experiment intelligently and you will have increased income with less labor.

True American citizens need pay no attention whatever to the incendiary, scare stories of war with Japan that emanate from New York. The concocters live under the debasing and demoralizing drip from the eaves of Wall Street, and their ulterior purpose is a political one. They represent a group of financial buccaners who are frantically opposed to the nomination of any progressive presidential candidate who will carry out the policies of the present chief executive.

We wish to call the attention of our readers to the great pony contest that FARM AND FIRESIDE is conducting. It is the largest and most liberal pony contest that has ever been conducted in this country. Not only will ten ponies be offered, but five beautiful pianos and hundreds of other prizes, too. Encourage your children to enter this great pony contest. It will be work and play combined, and they are sure to be rewarded, for absolutely every contestant enrolled will get a prize. Enter the pony contest yourself if you want to. At any rate, read about it on page 24.

**DEATH OF P. H. JACOBS**

Mr. P. H. Jacobs died at his home, Hammonton, New Jersey, October 8, 1907.

For nearly twenty years Mr. Jacobs was the editor of the poultry department of FARM AND FIRESIDE, and his clear, concise and accurate articles have always been appreciated by our readers. His work was intensely practical, and just suited to their needs.

Mr. Jacobs was widely known as an expert on poultry and agricultural chemistry. About twenty years ago he established a small experiment farm at Hammonton for the purpose of working out poultry and fertilizer problems in a practical way.

His life was a busy one. When a boy he removed from Richmond, Virginia, his birthplace, to Parkersburg, Pennsylvania, where he learned the printer's trade, ac-

quired an interest in the establishment, and founded and edited the "Poultry Keeper." For more than twenty years he was the agricultural editor of the Philadelphia "Record," for nearly eleven years the editor of the "Implement Age," and for about seven years the editor of the "American Fertilizer."

Mr. Jacobs was a man of brain and a man of heart, with an abiding faith in all humanity as well as in himself. The activities of his busy brain never interfered with deeds of kindness to any fellow-man in need of sympathy. He lived a busy, helpful life and passed away peacefully, high in the esteem and love of his fellow-men.

**A GOOD RULE TO GO BY**

In one of his speeches during the Mississippi Valley trip, President Roosevelt told this little anecdote about the old days when he lived out West on a ranch in the cow country:

"There were no fences," he said, "and every calf was branded with the same brand that its mother had, so that the increase of the calves could be totaled. There used to be a ranch law known as the Maverick law, according to which any calf overlooked in the branding would be branded with the brand of the ranch on which he was found. I was once riding across the country with one of my cow punchers, when we found a stray calf on another man's ranch. The cow puncher wanted to brand it with the Roosevelt brand, but I told him I would not stand for it. The cow puncher said:

"Hold on, old man, I know my business. I always put on the boss' brand."

"All right," I said, "you go back to the camp and get your time."

"What are you doing that for?" he asked.

"Well," I answered, "if you will steal from me you will steal from me."

Making the application of the story, the President continued:

"And that is a good rule in public and private life.

"If a man does something dishonorable in your behalf he is only going to wait for an opportunity to do something unjust toward you. You want to stand by the honest man.

"If a man wants only justice, and wants to do the just thing by you, and wants you to do the just thing by him, stick to him."

\* \* \*

It is an absolutely safe rule to keep in mind all the time. It is unerring.

If a man will steal for you, he will steal from you.

If a man will lie for you, he will lie to you.

If a man will do anything dishonorable for you, he will be dishonorable to you, and is not to be trusted.

**BUSINESS AND SPECULATION**

A press correspondent who sends reports to outside papers on business and money matters recently gave this description of the situation in New York City:

"Wall Street operators are bluer than at any time since 1897. Thousands of investors who live in this city are feeling badly over the slump in local securities and other thousands over their investments in railway and copper stocks.

"The line of depression runs only through promoters, brokers, investors in certain lines of stocks and speculators who have been sold out on loans or margins. Large financial institutions and firms whose profits of late years have largely come through their promotions find business of that kind at an end, and their confiding patrons and clients very short of funds on account of the investments they recommended so highly to them. For the next few months New-Yorkers will not be giving bouquets to the gentlemen who posed as financial leaders and gave them 'tips' on railways, tractions and coppers.

\* \* \*

"All through the business world here outside of the lines of the speculative affairs noted above there is the greatest

activity and confidence in the continuance of good trade. There is plenty of all kinds of work for labor, and such is the demand that thousands of Italians, unskilled, who last April were getting one dollar and fifty cents a day are now getting one dollar and seventy-five cents for the same kind of work. The cost of provisions and clothing has advanced rapidly the past twelve months, but I find little complaint among the masses of working people on that score, as they have plenty to do, steady employment at rates of pay far above anything in the record of recent years, either here or abroad. The rise in prices of meats and flour does not cause nearly as much comment or complaint as the threatened increase in the price of coal. An advance in the price of coal here in the East will undoubtedly provoke a storm among the working classes and discontent and disapproval among all classes. An advance in price of coal by the Coal Combine will make such a loud and united demand for action by the federal government that advocates of the rights of the states will scarcely be heard amid the tumult that will arise."

**PARCELS POST**

It is attributed to John Wanamaker that, when postmaster-general, he said there were four reasons against a parcels-post system in this country: First, the Adams Express Company; second, the American Express Company; third, the Wells-Fargo Express Company; and fourth, the United States Express Company. To-day there are just as many more reasons as there are more express companies.

Postmaster-General Meyer, in a recent address before the New England Association of Postmasters, came out good and strong in favor of an improved parcels-post system. In part, he said:

"I want to draw to the attention of you gentlemen at this time certain features and inconsistencies in connection with the parcels-post service; in the first place, it does not seem to be understood by many of our people that we have a parcels post at present. The rate is sixteen cents a pound and the limit of weight is four pounds.

"To illustrate the incongruities that exist: Any individual entering the post office here in Boston, or any other city or town in the country, with two parcels, each weighing four pounds, can send one to New York for sixty-four cents, while for the other, which is addressed to some one in a foreign land, and goes via New York, he will have to pay forty-eight cents, for the reason that the rate to foreign countries is twelve cents a pound, while the rate to our own people is sixteen cents a pound.

"Should the packages weigh four and one half pounds each, the one addressed to the friend in New York would have to be refused by the postmaster, while the one addressed to the person in a foreign land and which would be accepted would be forwarded to New York and then on to its destination.

"The parcel for the foreign country would be received in most instances if it weighed as much as eleven pounds and forwarded to any one of twenty-two foreign countries.

\* \* \*

"Therefore, I assume that our representatives in Congress will realize that they cannot afford to stand for the policy that compels our own people to pay four cents more on packages to people living in the United States (and even then permit them to send only four pounds) than to people living in twenty-two foreign countries, for which they need pay only twelve cents a pound, and are able to send them weighing up to eleven pounds.

"Two interests are opposing the extension of the parcels post in this country—the express companies and the country retail merchants. The latter fear that the mail-order business will derive a benefit to their own disadvantage. It is in connection with the country retail merchants that I desire to speak especially.

"I propose to recommend the estab-

lishment of a parcels post on rural routes which will meet the objections of the small storekeepers and retailers. This will be a boon to our rural population and to the storekeeper, as the latter can receive his orders by mail or telephone and despatch the described merchandise by the rural carrier.

\* \* \*

"The farmer will be saved from hitching up his horse and losing the time he needs for planting or harvesting his crops, and it will enable the storekeeper to increase his sales and meet the requirements of modern trade. If my recommendations are adopted, it will cost twelve cents a pound for the mail-order house to send parcels to the rural delivery patron from any city post office, while for delivery from the distributing office of the rural route, or if mailed by a patron of any route for delivery to a patron on the same route, or at the distributing post office of said route, the charge will be but five cents for the first pound and two cents for each additional pound, up to eleven pounds, or twenty-five cents for a package weighing eleven pounds.

"In Germany the small storekeeper has not this advantage in competing with mail-order houses, but he has adapted himself to the situation, and in many instances has become the agent in his town, thus supplying the people with goods which it is impossible for him to keep in stock without a great outlay of money.

\* \* \*

"As already stated, there is a parcels post existing in the United States to-day, but at a rate of sixteen cents a pound and a limit of four pounds. The object of my recommendation to Congress will be to get a decrease that will meet the rates charged for parcels sent by post to other countries.

"In other words, I plan a reduction of four cents a pound, and an increase in weight which will compare in some measure to that which has been adopted by other highly civilized nations. An eleven-pound limit will, however, be far from the maximum established by France (fifty-five pounds), Germany (one hundred and ten pounds), and Belgium, one hundred and thirty-two pounds."

**SEEDLESS APPLE HUMBUG**

No reader of FARM AND FIRESIDE has had occasion to complain of the stand taken by this paper, at the very beginning of the boom, on the Spencer bloomless, seedless, coreless and wormless apple. Our readers were protected by warnings and exposures at the time this humbug was being exploited in newspapers, magazines and even in some farm papers.

As explained more than a year ago, sixteen subsidiary companies, the parent company holding fifty-one per cent of the stock in each, were organized to propagate a worthless variety of apples and unload trees on farmers at two dollars each—six or more times the price of standard varieties. We said then that either the farmers who bought the trees or the local investors would hold the bag. Word now comes that some of the subsidiary nurseries have been abandoned on account of no sale for the trees raised in them. The local investors in the stock of these companies have learned a lesson, and should profit by their loss and let such schemes alone after this. They deserve no sympathy, because they went into the business to make big money out of others, including their own personal friends and neighbors.

Mr. Charles Waters, now living in Oregon, rendered invaluable services in giving the true history and value of the Spencer seedless apple. We have a recent letter from him, in which he says:

"I am pleased to think I have helped to save to the common people, as 'Old Abe' used to express it, last year and this year more than one million dollars in the seedless apple humbug."

If any of our readers know of agents now attempting to sell these seedless apple trees, we shall be pleased to hear from them.



## November

BY ALONZO RICE

Beside the corn ricks now the weary year  
Reclines in ease, and Autumn's generous  
hand  
Has filled her lap with tributes; bright  
and clear  
The grapes' globes gleam like gems of  
Samarcaud.

The nectar of the berries stains her cheek,  
And in her hand the hawk's red pennon  
waves;  
On tilting bough the jay, with crimson beak,  
Above her head rehearses his gay staves.

Dark, sullen clouds above the ragged fields,  
Like joyless couriers, on their journey go;  
From their full reservoirs at times there  
steals  
A breath foretelling days of ice and snow.

The woodland's castle to dark heaven lifts  
Its broken spires, and down the leaf-  
strewn aisle  
A lone, sweet chord at intervals there drifts  
The cheerless soul from sorrow to beguile.

The frescoed walls and panels crimson  
stained  
Repeat the tale of feasts now broken-up;  
A woodland monarchy whose splendor waned  
And left a mournful strain and broken cup.

It seems I see some ghost of that fair day,  
In golden raiment wander from beneath  
The drifted leaves, and down the distance  
stray,  
As Lear once did upon his cheerless heath!

## A Benefactor of the Farmer

BY MAURICE MEREDITH

MR. CHARLES F. CURTISS, director of the Iowa Agricultural Experiment Station, has rendered good service to the farming community by his "short courses" for farmers. It is now ten years since Mr. Curtiss succeeded Hon. James Wilson, now Secretary of Agriculture, as dean of the division of agriculture in the Iowa State College of Agriculture and the Mechanic Arts. Mr. Curtiss felt convinced that he could attain a wider degree of success in his work and do the greatest good to the greatest number by coming into closer relations with the most experienced farmers. Only a small proportion of farmers' sons could be graduated each year, and many of these graduates became managers of creameries, big farms or started out as teachers, and Mr. Curtiss was eager to reach more farmers with his ideas in regard to better farming. A writer in the "Review of Reviews" has said, with certain truth:

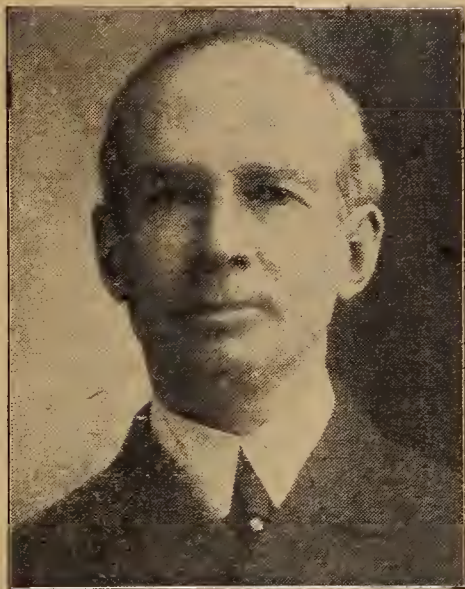
"Iowa, with half of her population of 2,250,000 directly engaged in agriculture, and the rest mostly dependent upon it, has led the world in originating effective methods for carrying the message of the new agriculture directly to the farms, and for making good the prediction of the Secretary of Agriculture, himself an Iowan, that there will be no more serious crop failures. In four notable ways, started in this state, have the most advanced and practical scientific methods of farming and stock raising secured immediate and general adoption by practical farmers of long and varied experience.

"One of these ways has been the 'short course' in stock judging started at the State Agricultural College in Ames, Iowa. A second way was the local agricultural experiment stations on the county poor farms, which were begun four years ago, and are meeting with great success and favor. A third was the seed-corn special trains, which in three seasons covered eleven thousand miles of railway and brought together audiences of farmers aggregating one hundred and fifty thousand. The fourth way was the Department of Agriculture Extension in the State Agricultural College, which was started in 1906, and which gives practical aid to every seeker for information concerning animal husbandry, farm crops, soils, dairying, horticulture and domestic science."

No state in the Union is more eagerly anxious to be of service to her farmers than is Iowa. The state has become thoroughly converted to the idea of farming on scientific principles, and it is "making good" in a way that proves that these principles are what many of our farmers need. The price of farming land in Iowa has risen in a remarkable way in recent years, and farms that could have been bought for ten dollars an acre twenty-five years ago could not be bought to-day for less than seventy-five dollars an acre.

Dean Charles F. Curtiss certainly had a happy thought when he originated his "short courses" for farmers. The first of these courses was held at the college in Ames in January of the year 1899, and all who would might "enter in" and profit by the course even if they were not residents of the state of Iowa. It was a sort of "open to the world" attempt at education, and the farmer getting on toward threescore and ten was as welcome as the youngster not yet out of his teens. There were about two hundred and fifty men

to take the first course in this, the first school of its kind in our country. Now as many as eight hundred students attend these short-course terms, and some of the farmers bring their wives with them, that they may take a course in domestic science. There were students from all over the United States in attendance at the last course, and now some of the Iowa farmers are having these short courses in towns near their own homes. Red Oak, Iowa, has had one of these "short courses." A guarantee fund of three thousand dollars in subscriptions of twenty-five dollars each was raised among the farmers and business men of the town, and eight hundred dollars in prizes was offered for the best corn. The "short course" term lasted just one week. The first course was in the year 1905, with an attendance of two hundred and forty.



MR. C. F. CURTISS

Dean of the Division of Agriculture in Iowa State College, Director of the Experiment Station and Originator of Short Courses for Farmers

Last year a second term was held, with an attendance of three hundred and thirty-four, and a third course was held last January, with four hundred and twenty students in attendance.

One of the most interesting features of these "short course" schools in Iowa has been the exhibition of corn—that corn of which Miss Edna Dean Proctor has written so eloquently:

Blazon Columbia's emblem, the beautiful golden corn.

The corn exhibited at the "short course" school in Iowa becomes the property of the association under whose auspices the school is held, and is sold at auction. Last January this corn sold for five hundred and seventy-one dollars, an increase of three hundred and thirty-four dollars over the first year. A single bushel was sold for thirty-nine dollars, and a single ear was sold for two dollars and twenty-five cents. The departments in this school were corn, animal husbandry and domestic science. A fee of one dollar was charged for the first two studies and two dollars was charged for the course in domestic science. Many of the students went away feeling that they had received big dividends from the small sum invested. Mount Pleasant, Iowa, started one of these "short course" schools last December, and other towns in Iowa are planning to have such schools, the value of which has been clearly demonstrated.

Dean Curtiss has rendered the state of Iowa a service of inestimable value in originating and establishing his "short course" system. He is one of the recognized authorities on agricultural topics, and is also one of the best-known authorities on live stock in our country. Born in the great Middle West, in the state of Illinois, in the year 1863, he graduated from the Iowa Agricultural College in 1887. He has been manager of a large farm, and for the past fifteen or sixteen years has been associated with agricultural educational institutions, and he is now president of the Iowa Improved Stock Breeders' Association. Productive as the state of Iowa has been, Dean Curtiss has shown hundreds of farmers that it may be made far more productive, particularly when it comes to producing the "beautiful golden corn." Something about the yield of corn in Iowa may be of interest in connection with the information given about the "short course" work. Quoting from statistics given in the "Re-

view of Reviews," we find that the average yield of corn for the ten years ending with 1906 was 31.5 bushels an acre. The highest was 40.3 in the year 1900, when the farm value was twenty-seven cents a bushel. The lowest was twenty-nine bushels an acre, in 1897, when the value was only seventeen cents. The yield in 1903, the last year before the seed-corn special trains, was thirty-one bushels. In the year 1904 it was thirty-six, in 1905 it was 37.2, and in 1906, when the farmers were getting the full benefit of what they had learned, it was forty-one bushels an acre. The state of Iowa had 9,443,960 bushels of corn that year, and it was worth thirty-three cents a bushel on the farm the first day of December. Suppose the gain creditable to the educational campaign to have been only four bushels an acre, the increase over the previous year, and we have a gain of 37,775,840 bushels, which at the current price of thirty-three cents was worth \$12,345,027, or about ten per cent of the value of the entire crop. Is it any wonder that the farmers of Iowa are grateful to the agricultural college at Ames, and especially to Professors Curtiss and Holden, and are ready to listen to what they and their associates may advise?"

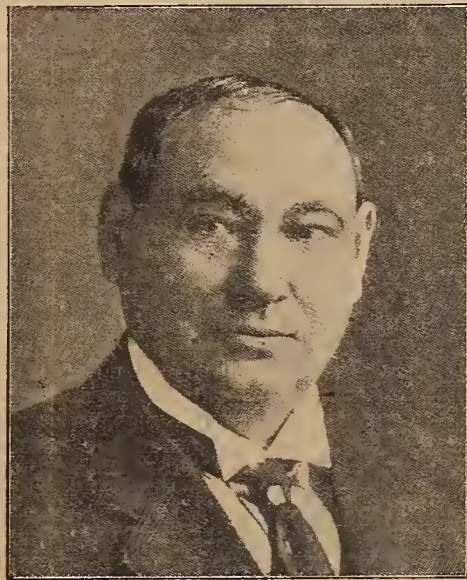
## Autumn's Treasures

BY EDITH E. SHAW

WINTER, with its leafless trees and bare aspect, is ever too long at the best, so we do well to take advantage of the treasures of the fields in autumn to prolong the beauty of the summer season within doors.

Snowballs almost as pretty, if not as fragrant, as the real flowers may be had by gathering long stems of milkweed crowned with the pods, and letting them burst open gently within doors. A huge bronze vase or jardinière filled with these makes a charming winter bouquet, with none of the trouble of preparation which usually attaches to winter bouquets. As they are too fragile to withstand rough handling without causing the silk to fly, they have to be discarded when soiled with dust, but the cattails are more enduring.

A friend who owns some beautifully decorated cattails told me she "fixed" the down so it would not break open and fly by saturating the heads in gum-arabic water. This did not alter their appearance, but it made them very firm to the touch, so that after they were dry she used oil paints to decorate them in various ways—some with flowers, others with long-legged white water herons, cattail and pond lily marshes, and like scenes. Cutting the stems so they were about fifteen or eighteen inches long in all, she made various friends glad by presenting them with a ribbon-tied tripod for the



DR. H. W. WILEY

Whose untiring efforts had much to do in placing our National Pure Food System on its present high plane of excellence and effectiveness

piano top, or small photo easels made with the help of a few extra pieces of stem and fine invisible wire. A big bunch having extra long stems stands on the floor in one corner of her room, reaching almost to one's head, and a large easel for a light unframed photo was made from three of the longest. One would need possess but small knowledge of the use of colors and brush to be able to make some inexpensive and unique Christmas gifts in this way.

And speaking of Christmas and gifts, there are great possibilities to be found

in pine cones. Gathered while hard and sharp, as some varieties ever remain, and split lengthwise with a sharp knife by a blow from a hammer, they may then be used to cover home-made picture frames by fastening them to a foundation, made from plain, light boards, with tiny brads or with glue.

The frames are pretty in any size, from an easel frame for a table to large ones for the wall, and are particularly appropriate for framing game or woodland pictures.

There will be tiny interstices where the board will show between the cones, and these should be touched with raw sienna color, to make them invisible, after which the frame may be varnished or left natural, as preferred.

The cones gilded in any of the metallic colors make very pretty ornaments for the Christmas tree, and for the gilding the inexpensive paints put up as package dyes answer admirably. One can make his own medium by adding one part varnish or glue to several times as much turpentine, thus reducing the expense to the minimum.

Where holly cannot be obtained for the Christmas season, it is a good plan to gather a supply of partridge vines in the fall and make them into wreaths, and tie into convenient sized bunches, while still fresh. Then with careful handling the berries will not shatter off when dry, and give a pleasing touch of color to the holiday decorations.

This note may be secured in still another way where neither holly nor partridge vines grow—by gathering quantities of the scarlet wild-rose hips in autumn, and stringing while fresh for later use. The little folks take such pleasure in having a part in any festive preparations that they greatly enjoy both the gathering and the stringing. These may be used for color effect in lieu of cranberries, which are often employed, and the strings put away and added to in number each season.

And do not neglect to save quantities of the tiny white immortelles, or "everlasting flowers," for tying up Christmas parcels. Many of the city stores purchase these, presenting or selling a tiny bunch to go with every holiday purchase. For this purpose they are dyed scarlet. Dye is the cheapest means to this end, but where one wishes to color only a few they may be dipped in red ink.

## A Present for All

BY WILLIAM J. BURTSCHER

IN PLANNING your Christmas presents this year, remember that the friends whom you know are expecting a present from you will not be half as happy or pleased when they get what you send them as those of your friends would be whom you know are not expecting anything from you. The object of this short article is to suggest that you remember those who are not expecting a thing from you.

Let us suppose that there are in your immediate neighborhood twenty-five or fifty people with whom you are acquainted. Get a little something for each one—something appropriate.

Joneses, for instance, have been getting along ever since you knew them without a farm paper, it having never occurred to them that they needed one. Present them with a year's subscription to some good farm paper. The publishers, no doubt, will send them a card announcing the gift and the giver, as many have special forms for that purpose.

The Smiths, having recently purchased a new piano, will appreciate a piece of music. But do not buy "rag time" unless you absolutely know that they appreciate that kind of music.

The Murrays, owning a graphophone, will be pleased with a new "record." Get the kind you would like to hear the next time you visit them.

The Snyders, being fond of receiving mail, might be remembered with a post card or two, say one for each member of the family.

The Jacksons, as you will remember, have a new bookcase, which is only about two thirds full. You can present them with a classic or two—nice paper and binding—which you can get from book brokers for twenty-three cents.

And so on until you get around. Consider each neighbor, and it will be the happiest Christmas you have ever spent.

## Purifying Foods

ONE of the greatest of the many blessings that the United States has enjoyed in the past several years has been the promulgation of the system of food and drug inspection. And to Dr. Harvey W. Wiley must be given great credit for the excellence of the government's system, for he labored unceasingly and fearlessly in the face of opposition from powerful vested interests that were accused of profiting enormously by the practise of adulteration.



# Number 9 Church Walk

BY GEORGIAN GRIER

[BEGUN IN OCTOBER 25TH ISSUE]

## CHAPTER III.

**B**ENGALL, LANDERS & Co., HOUSE AGENTS, AUCTIONEERS AND LICENSED VALUERS," read the big gilt letters over the office, and Roger Walford stepped briskly in and inquired for Mr. Bengall.

"Mr. Bengall is dead, sir—been dead for years," came the reply.

"Well, can I see the manager, then?"

"In one moment. He's engaged now. Take a seat, sir."

In a few moments he was ushered into the presence of the manager.

"Mr. Walford," remarked that gentleman, looking over the card, "what can I do for you?"

"I would like to know if the house Number 9 Church Walk is for rent?"

"Why, really, I can't say; you could have received your information in the office." He struck upon a bell. "Dobbins, give me particulars of 9 Church Walk."

In a moment a clerk had a big ledger, and was reading: "Leased, quarterly, expires Lady's Day. In advance. Name Lloyd Hughes-Atkinson. Reference, County of Gloucester Bank."

"Thank you," said Roger, "I wouldn't have troubled you, but I rather took a fancy to the old place, and it appeared to be empty."

"Begins to look decidedly fishy," was his mental comment, as he walked away.

"Now, then, for Nathan Bradford."

He swung on a passing tram, and twenty minutes later descended at 42 Hewlets Street. "N. BRADFORD, Agent," the modest brass plate announced, and Roger walked in. A little man, with decidedly Semitic features, met him. He nodded cheerfully to the American, then pointing to a chair, remarked, "Sit down. You want me?"

"Yes. I'd like you to tell me by four o'clock to-night just what kind of a place Number 9 Church Walk is."

The little man nodded again. "All right," he said. "You come around then, and I'll tell you. Any references?"

"No, I'll leave a deposit to cover all trouble. How much?"

"Oh, yellow boy be enough."

The golden coin spun on the table, and Roger walked out.

Other people were at the office when he returned, but soon he was again confronting the little man.

"Here it is," the agent remarked, picking up a piece of paper.

"9 Church Walk, Agents, Bengall, Landers & Co., rented five weeks ago to Lloyd Hughes-Atkinson, quarter paid in advance. References, County of Gloucester Bank."

"Yes, I know all that," interrupted Roger. "Go on."

"Appears to be empty now. Kitchen and room third floor furnished poorly. House locked up. Had to get in from basement. Found woman's hat and small pair of slippers on landing, umbrella in front hall, mouthpiece of cigar holder on floor of kitchen."

"All right. How much does that cost?"

"Ten shillings. Here's the half-sovereign returned. Nothing now? No. Good-day."

"Just one question," said Roger. "Can I get in from the basement easily if I wish to?"

"No note of that. I'll ask." He was gone a minute or so, then, returning, nodded. "Easily," he said. "Here's the key."

"I'll return it when I get through."

"All right."

That night, when the bells were ringing right merrily their usual Thursday practise, Roger Walford slipped down into the basement of Number 9, and inserting his key, walked carefully in.

All was quiet and still. Not a sound but the fall of his own steps broke the silence. He made his way carefully along into the kitchen and up the stairs to the first floor. It was deserted, as the floor below. The second was the same. He did not strike a light, but discovered his way carefully and slowly. He reached the third floor, and in another moment was in the back room—the one that faced the old church.

There was the little iron bed, with the chain still hanging to its foot. There a

painting chest of drawers, with a small broken mirror on top. The moon was full, and he could plainly see every object in the room. There was no closet in the room—only the bare walls, with their many coatings of paper, and the few bits of furniture. There was nothing to learn here apparently, so Roger departed and made his way toward the Lansdown Hotel.

He approached the clerk, and handing in his card, inquired for Miss Durrant.

The clerk looked up, evidently surprised.

"Miss Durrant left this morning, sir, on the north express at noon," he said.

"She's gone!" echoed Rogers, completely taken aback.

The clerk nodded.

"Take her baggage?"

"Her bag—oh, her luggage. She only had a small Gladstone, sir. She received a telegram, and left on the Liverpool express. I heard her say her friends would meet her there, and that she intended sailing on 'The Majestic' Saturday."

"But this is only Thursday?"

"This only Thursday," repeated the clerk.

"She left no message—no note?"

"None, sir."

"Now that's odd," commented Roger to himself, as he left the hotel. "If everything is straight, she might have left me a line to tell me so. Wonder if there's anything crooked?"

He walked along under the shadow of the long avenue of chestnuts, thinking the thing over. He passed out into the brilliant light of the Gordon Memorial Lamp, and then on into the gloom again. The houses set far back, and great walls and thick hedges concealed them from sight. Not a soul was in sight. A tram rumbled past, shedding its gleam of light for a few moments, and then all was dark again.

"I believe the girl was all right," continued Roger, still pondering over the subject, "but why didn't she leave me a—"

There was a sudden rush of feet from behind. A crushing blow crashed down upon his head. He doubled up and fell like a log. Two men picked him quickly

up and rushed him off to where a rubber-tired cab was in waiting fifty feet away. They bundled the apparently lifeless body in, and scrambled in after it. The driver whipped up his horse, and the cab disappeared in the gloom.

"Got him!" muttered the one with a sigh of relief.

"I 'ope you hain't got 'im too much. 'Twas a nasty crack you gave 'im," said the other.

"It wasn't any use touching him with a feather. He's a husky chap, and wouldn't have gone down easy. He'll be all right soon. I hope he don't come to too soon; I want to get him fixed up safely first."

"There hain't no fear of 'im a-comin' to yet; 'e'll sleep for a smart time yet."

"Hurry up, Andy, make that old plug go," urged the big man, putting his head out through the window.

The horse increased his pace, and the cab rattled down the back streets of Montpillier, across the town, and presently drew up with a jerk in front of the deserted house in Church Walk.

One of the men crept cautiously out and peered up and down. "All clear," he whispered, and then assisted his companion in with his human burden. The cabman sat in the box, never moving a muscle.

"Home," he was directed, and drove off.

Together the two men lifted Roger and carried him as rapidly as his weight would permit up into the little third floor back.

"There, perhaps he'll get a better opportunity to notice things now," observed the little man.

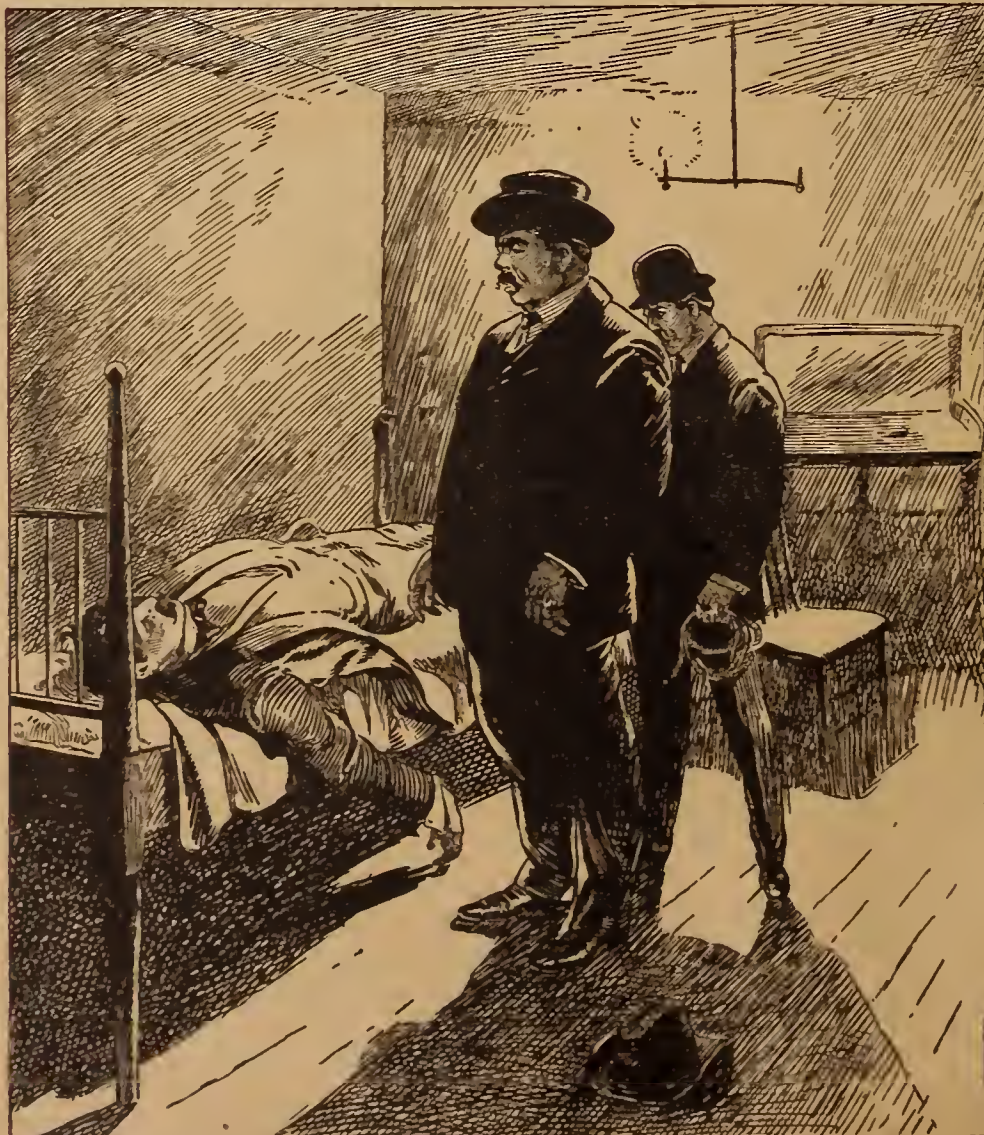
"Best make 'im fast, or 'e'll be raisin' some dust 'round here," suggested the other. "Say, Mr. Hickins, you don't think you've given 'im too 'ard a rap, do you—'e's a long time a-comin' 'round."

"Bud, you're the most nervous individual on the face of God's green earth," rasped the man addressed as Hickins.

"You forget I was a doctor before I was a lawyer, don't you?"

"That's all right, but if you're goin' to swing, I'd rather old Berry had you by yourself an' not me 'long with you for company."

"Oh, get away, you croaking old fool; I know what I'm doing."



"Say, Mr. Hickins, you don't think you've given 'im too 'ard a rap, do you—'e's a long time a-comin' 'round'"

"All right; keep your 'air on; no one's said you didn't."

"Come on, then, fasten him up," and the unconscious Roger was secured to the end of the bed.

"Think that'll 'old 'im?" questioned the big rough, gazing nervously at the rather frail little bed.

"Well, if he gets away he'll have to take the bed with him. Now for the gal."

"Ang it, I'd most forgot that bloomin' gal. Is Sadie with her?"

"You bet she is, and taking good care of her. Now, Bud, try your hand on that wall, and then get inside that beard and overcoat, and take this order around to 'The Lamb.' Have his trunks shipped to the Midland Station, and then bring them back here in old Donker's cab—you can put 'em all on top."

"Think they give 'em to me?" questioned Bud, as he rapped around in different places on the blank wall.

"Of course they will. Isn't it HIS order? Leastwise, it looks like it. What's the matter? Can't you get in? Here, you old duffer." And going over, the little lawyer rapped sharply on the wall at a spot about nine inches from the baseboard. There was a slight groaning and creaking, and then a crack developed, and his hand went through. A moment later an opening large enough to admit the body of a man was showing.

"There, get in now, and hurry up; we've no time to lose," ordered Hickins, and Bud squeezed himself through into the blackness beyond. A few minutes later a bearded man in a long overcoat reappeared—the disguised Bud—and nodding to his chief, he disappeared down the stairway.

"Don't be long. I may want you here soon. This fellow's coming to," was the parting order flung after him.

◆

## CHAPTER IV.

**I**T WAS dark, save for the rays of the moon, when Roger opened his eyes. With the quick wit of the New-Yorker, he instantly sized up the situation. "Sand-bagged, by thunder!" he thought to himself. Then he endeavored to get up from his kneeling posture, and discovered himself fastened hand and foot.

He gave a slight tug at the little iron bed. "Gad, for two pins I'd take the crazy thing up and toss it out of the window. Best go slow, though."

Roger Walford remained perfectly still, sizing up the situation. "No one in the room," he figured. "Probably down below. Wonder if they'll hear me if I try to break this dog chain?"

He was interrupted in his thoughts by a faint knock. He looked around quickly. Again it sounded, very faint, but undoubtedly somewhere in the room. It was difficult for him to locate the sound definitely. He tapped slightly with his toes, and instantly came the answering sound. "Now where?" he puzzled. It seemed to come from the wall on his right. "Some one next door," he thought. And then he recollected that there was no next door. Number 9 was detached on both sides.

Again came that faint tapping sound. He listened intently.

"Knock-knock, knock, knock—knock, knock—knock—knock," it came in irregular intervals.

Roger was very alert now. His toe sounded faintly upon the floor. It gave the Morse "repeat."

He spelled it out: "Rap wall w I rap." The "w" evidently stood for "where," he concluded.

"Rap, rap—rap, rap, rap," went his toe, as he signaled, "Fastened up. Get free as soon as I can. Who are you?"

"Durrant," came the reply.

"Quiet," he warned back. "Wait."

There was silence for a time, then came the query from Roger:

"How get in there?"

"Wall slides. Knock nine inch bottom, about middle, sharp."

"Wait—quiet," again came the warning.

Roger stopped and looked around again. He felt weak and rather dizzy from his rough treatment, but he realized it was no time to give way to his feelings. There were two ways in which he might reach the wall. He might try to break



the rather thin chain that held him, or he might drag the bed over with him. It was on casters, but it would be sure to make considerable noise, he thought. His enemies were very probably in the house still; in fact, he was almost sure he heard their voices from below.

"Now for it, then," he muttered, and with a mighty effort he wrenched at his chain. It held fast. Again and again he tried, but all efforts were fruitless. The noise caused by his struggles had evidently reached below, for he heard steps approaching, and in another moment the door was unlocked, and two men stood before him. The little lawyer Hickins and the stalwart Bud. Behind them tiptoed the woman.

"My dear sir," remarked the lawyer, "you do not seem to appreciate the accommodations we have provided for you. Pray do not struggle against fate, I beg of you."

"You miserable little cad, if I get loose I'll choke the life out of you," shouted the American, tugging like a bull at his chain.

"I can quite believe that you are sincere in your statement, but what a powerful word is that little 'if,'" came the oily reply.

"Stay still, you bloomin' idiot," commanded the rougher Bud. "If you don't stop tuggin' like that, I'll plunk you one."

He strode over and caught the American a terrific blow on the head.

It was the last straw wanting to complete Roger's madness. With a half growl, half roar of anger, he stumbled to his feet. The frail iron bed swayed and rocked as he tugged at it. The muscles of his neck and face stood out like rivers of ink. Bud flung himself upon him. The little lawyer clung to his feet, and struggling, swaying, straining and swearing, the three rolled around.

"Swipe him one on the head!" shouted the lawyer; but Roger had fastened his hand upon the big rough and refused to let go his hold. Hickins released his hold of the American's feet, and shifted to his throat. He commenced to strangle him.

Despite the odds against him, the American showed no signs of giving in. Only his fast blackening face and his labored breathing gave evidence of the terrific strain he was under. In vain the mighty Bud wrestled to free himself from the terrible grip that was fastened upon him. It was a death-like grip, and nothing but death apparently would release it. Neither would the lawyer let go his choking grasp of Roger's throat. The woman tore at the American's hands, endeavoring to pry apart his locked fingers. She might as well have tried to lift a sheet anchor.

And then, in the midst of the mad struggle, there was a tearing sound, the lock of one of the padlocks gave way, and Roger's hands were free, and the next moment the mighty Bud rolled to the floor, stunned and bleeding, while the little lawyer, caught as if a fly, in the hands of the infuriated American, choked and begged for mercy. The woman flew to the rescue of her companions. She scratched and bit at Rogers, all the while urging the prostrate Bud to get up. Then, seeing the hopelessness of her appeals, she ran quickly, and seizing a chair, hurled it high above her head and brought it down with a crash on Roger's head. He gave a groan, and sank slowly forward. His grip on Hickins relaxed, and he lay perfectly still.

"Quick, rope him up!" ordered the woman, who seemed to be the only one retaining her presence of mind.

The dazed Bud stumbled slowly to his feet. The lawyer roused himself with an effort, and both began to assist their accomplice.

"Inside with him," urged the woman. "The girl's there!" panted the lawyer. "It don't make no odds; it's the safest place—in with him!"

The secret passage of the wall slowly opened, and they drew in the unconscious American. Laura Durrant was standing there, very white, and trembling all over. "You've killed him!" she cried. "You shall hang for it!"

"Out of the way," ordered the lawyer, pushing her unceremoniously to one side, and Bud, stealing in after them, closed the passageway. A tiny light glimmered at the far end.

"Tie him up," ordered the lawyer, "and waste no time over it; he'll be coming to again soon. He has a head like a coconut, or that crack you gave him, Sadie, would have broken it."

"It's lucky for you I did crack him. He had the best of you both, and would have been out in another minute," commented the woman.

Bud was busy roping up the unconscious American, his countrywoman kneeling by his side, endeavoring to restore him.



"In another minute they emerged into the clear sunlight"

"You've killed him! You've killed him!" she kept repeating.

"Oh, be quiet, miss. 'E hain't dead. Dead men don't breathe. Listen, 'e's a-snoring like a trooper," remonstrated the sore-buffed Bud.

"Whatever has been done, you are to blame for," said the lawyer severely. "If you had acted sensibly all this need not have occurred. As it is, I've had to sign for you; but you'll be kept here until the papers are acted upon and we are some distance away, and as the man has interested himself in something that does not concern him, he will have to stay with you—you can make yourself quite easy on that score, Miss Obstinacy."

"And how long will that be?" asked the girl quietly.

"Can't say yet, courts are very slow, but you won't get hurt if you don't try to get away."

"You are very considerate, I'm sure," said the girl with mock politeness.

"What's the good of talking to the hussy. Take her away," snapped the woman.

"I won't go. I won't go and leave you to kill him," exclaimed the girl.

"Come on, don't be stupid," said the little lawyer; and Bud taking the other arm, they dragged her off, still protesting.

"The best place for you, miss, is the garret. It's nice and dark up there, and you'll be more comfortable," observed Hickins with a venomous leer of his eyes, and poor Laura was hustled up the narrow stairs to the inky blackness of the garret.

She groped around blindly for a few moments, unable to locate anything, stumbling over old boxes and other things. Then, giving way utterly to her pent-up feelings, she lay down and sobbed wildly. Gradually her composure returned, and she tried to think.

It must be very early morning, she conjectured, and presently, utterly worn out with her terrible experience, she dropped off into a troubled sleep.

She awoke with a start. It seemed to her that some noise had disturbed her, but she was not sure of anything. She tried in vain to look into the terrible blackness that surrounded her. Then she struggled again to her feet. She stumbled against something; her foot caught in it, and she almost fell again. But with that stumble she was aware of a slight buzzing noise, as if wheels were revolving. Then slowly, very slowly, a shaft of light struck up through the floor at her feet. It became more pronounced. Larger and larger it grew, until the floor and a part of the whitewashed wall was disclosed. It was the daylight streaming in through a small circular hole almost in the center of the floor. She lay down upon the hard boards and peered through.

She was looking into the room below. The room where she, and afterward her countryman, had been confined. The whole center plaster casting which sup-

ported the center gas bracket had apparently descended about three feet, and left an aperture in the ceiling.

She remained perfectly still, not daring to breathe. In some way she must accidentally have stumbled against a secret spring and have released the mechanism that worked the trap, for trap it certainly seemed.

The room was empty. Roger must be still confined within the secret room on the other side of the wall. Now if she could descend, she could get to him, and perhaps together they could force their escape. She felt confident she could find the panel in the wall, for she had watched carefully while her captors had entered by it. She leaned far over and took in the whole of the little bedroom below.

Yes, it was quite empty—left almost as it had been yesterday—the bed all pulled about and broken, the whole place in disorder. But where were the two men and the woman? Probably confident that she could not get out from her prison, and sure in the fact that Roger was confined in the strong, windowless, secret room, they had descended to the other floors and were resting after their wild work.

She lost not a moment. Carefully she grasped the pipe, and climbing down, hung suspended above the floor beneath. For a second she hung grasping the fixture, almost fearing to drop, lest the noise should bring some one into the room. Then her grasp loosened, and she dropped.

She stood for a brief second listening. No, not a sound indicated that her descent had been discovered. She tiptoed softly over to the wall and rapped sharply. Then again, then again, now in feverish haste—at any moment they might burst in on her. At last! The crack was disclosing itself. She tugged; it flew open for a foot or more. She squeezed through and was inside. The panel closed after her.

Quickly she groped her way along in the darkness. No light was visible now at the further end, but she thought she heard sounds, as of some one moving. She listened. All was still once more.

"Is that you, Mr. Walford?" she whispered with bated breath.

"Yes," came the cautious, low-toned reply. "That you, Miss Durrant?"

"I'm coming," she answered.

She was feeling her way very carefully forward.

"Here," he whispered, "get me loose as quickly as you can!"

She was by his side in another second, and tugging at his bonds.

"No light?" she questioned.

"They took it away, but if you can get me free it doesn't matter."

In a few minutes he stood up unfettered. "Now," he said, "it's odd if I can't get you out."

They tiptoed quickly toward the panel. Their hands sought up and down; they groped around in search of some spring, some opening. For five minutes they felt blindly around.

"If we only had a match," muttered Roger.

Fifteen minutes of precious time they wasted, and then abandoning for the moment their attempt in that direction, they made their way back toward the little room where he had lately been confined.

"Hush!" she whispered, "Listen!"

"I know," he said. "I've heard it for some time. It's water somewhere—somewhere below."

"There is a way down there if we could only find it, for the woman went down when I was in here in the dark. But we can never find it—and—and—oh, I'm so dreadfully scared. Shall we ever get out of this dreadful place?"

He drew her toward him; "Cheer up, Miss Durrant," he urged. "It will all come out all right."

#### CHAPTER V.

THE girl, almost sick with fear, leaned against her protector. The great strain through which she had passed was telling upon her.

"Brace up, Miss Durrant," urged Roger again. "There must be a way of escape from here. If we can't get out by the sliding panel, perhaps from below. You are sure the woman went down this way?"

"I saw her go—it's—it's a trap door somewhere around on the floor, but I'd never dare go down into that dreadful place. Listen to the water!"

"Pooh! That's nothing. Now just sit down while I search around and try to find that trap." Suiting the action to the words, he commenced to paw around on hands and knees. "If I only had a light," he muttered.

"It was in the corner somewhere," the girl instructed. "The trap door, I mean."

"All right; just sit still; I'll find it soon."

Suddenly there was a sound as of furniture being moved, and then the roar of the waters smote upon their ears with increasing noise.

"Here!" hoarsely whispered Roger. "I have it!"

"Don't go down," implored the girl. The splashing sound apparently terrified her.

For answer Roger led her toward the little crib, feeling his way carefully. "Now sit here," he commanded. "I am going down a little way. I felt a ladder leading in. Be steady; I'll come to no harm; I'm going to be very careful."

"Don't go, don't go," pleaded the girl. "I'm frightened."

"What of? A little water?" he challenged.

The next moment his hands were gripping the iron rung of the ladder and he was climbing down into the brick-lined well.

As he descended, the roar of the waters sounded louder and louder. It was inky dark. Once he stopped and felt around. As far as he could judge, he was in a circular, brick-enclosed well of considerable size. The iron ladder ran straight up and down. He carefully felt with his toes for the next rung before he made the step. Once, in his descent, his hands encountered a wooden partition of some sort. He concluded it to be another trap door leading into the second or first floor rooms. He passed it and continued his descent. Now the splashing of the waves sounded very near, and in another moment he felt their cold embrace about his feet. He halted.

Not a gleam of light relieved the density of the gloom. He let himself down another rung, then another. He was up to his waist in water. It was racing quickly past him. One more step he lowered himself. He felt a soft, muddy bottom. Retaining his grip upon the ladder, he looked swiftly around. In the far distance he saw a tiny gleam of light, like a little pin prick of sun in the midst of that terrible gloom. That was enough for him.

As quickly as possible he ascended again, and in a few moments his head and shoulders emerged into the room he had just left. "St," he whistled, softly.

"Here," came the reply of the girl.

"Come along, and do just as I say. I think we can escape this way. Take hold of the sides, so—that's it. Now slowly lean against me—that's it."

He made his way slowly down again, holding the girl between him and the ladder. "You are quite safe. You can't fall," he assured her. She was trembling like a leaf.

"There is a way out, I am sure. I saw a light at the far end, but you will have to get yourself a little wet. The water is no great depth, so you need not be afraid."

He piloted her carefully down, whispering words of encouragement. Then, as he reached the bottom, he took her in

[CONTINUED ON PAGE 19]

**"The Impostor"**

A real live serial story will commence next issue, and we do not want one of our fiction readers to miss the great treat that is coming. The story is from the pen of Frank E. Channon, and as we have secured the exclusive publication rights, it will appear only in Farm and Fireside. Be sure, therefore, that your subscription is paid in advance, so that you will not miss a single issue containing this excellent story.

**November 25th**



### Practical and Dainty Gifts

INDIVIDUAL character never shows itself more plainly than in the making of gifts. Many buy and give with a liberal spirit, but frequently in utter disregard of the tastes and habits of the recipient. Nothing beautifies or makes a gift more welcome than to have it show thoughtfulness and discrimination; so it is the part of wisdom to study the taste of the person who is to receive the gift. There are so many dainty little gifts that can be made for the housewife that are practical and easily made.

A memorandum pad, or list for household wants, is always appreciated, for it will make a pretty ornament for the living room, and will save many a useless trip to market for some article that has been forgotten. Obtain a water-color card or a photograph mount about six by nine inches, and fasten securely to one side of your card a pad about three by six inches, which can be bought at any stationery store. Paint a spray of holly or violets on the part of the card left bare, or simply sketch it on with pencil or crayon. Fasten a bow and ends of ribbons to the two upper corners of the card, and attach to one corner a small lead pencil by a satin ribbon. Any one deft with the needle can embroider the word "Memorandum" and a spray of flowers on brown or tan linen, and then mount it on a heavy card, to form a background for the pad.

Another unique memorandum tablet is made with three small slates that have cloth around the frames. These are put together in the form of a screen, using ribbon for the hinges, and tying it in fluffy bows. Paint the middle slate white, then paint on it a pretty scene or flower, or some pretty colored picture can be pasted on it instead, if desired. Cover one of the faces of the other slate with chamois skin, tacking it on smoothly with small tacks, then sew bands to this to hold the ruler, scissors, and so forth. Leave the other slate for the memoranda, attaching a slate pencil to one corner, also a small eraser.

A set of cases for silverware—one each for knives, forks and spoons—makes a nice gift to the housewife. They can be made as simple or as dainty as one wishes. Table felt, Canton flannel or chamois can be used in making them. A pretty spoon case that I saw was made of natural pongee lined with gray pongee; it was bound around the edge with heliotrope silk braid, and tied with ribbons to correspond. Two-inch-wide straps, to hold the spoons in place, were also bound around with the same kind of braid, and then stitched down at intervals of one and one fourth inches, and scattered violets were painted on them. On the outside the word "Spoons" was painted on in heliotrope. A simpler one can be made out of felt or Canton flannel in the following manner: Take a piece of the cloth about sixteen inches long by fourteen wide; turn over about twelve inches if for knives (less will do if for spoons), then stitch about two inches apart, to make the pockets; or they can be worked between with feather stitch in some contrasting color, if desired. Bind the edge around with some kind of braid or ribbon, or it can be crocheted around with silk cotton. The initials or the monogram of the recipient may be embroidered on the flap. Use No. 2 ribbon for the tying string when the case is rolled up. A plain white case bound with pink and tied with pink ribbons is pretty, or a blue one with yellow or white trimmings.

Pretty and useful presents can be made out of tea matting. A set of mats for the table, on which to set hot dishes, are always acceptable to the housewife, and are very nice made of this matting. Cut it into oval, oblong or square shapes, and bind the edges neatly around with some pretty colored ribbon, fastening little bows in each corner. A spray of flowers can be painted across it, if desired. Pretty splashes can also be made out of this matting.

Pretty bureau covers can be made of scrim in a clear tint of cream. Turn down a hem of three inches, and above it draw a number of threads for a wide hemstitch, or a few more threads can be drawn and worked so that ribbon can be run in. Outline a flower or some conventional design at both ends, and work in outline stitch, or a simple design can be worked in cross stitch. Scrim also makes pretty cushion covers to be used over a colored foundation.

A shopping tablet can be made by covering a small tablet of unruled paper with a fancy cover. Hem the ends of a piece of brown ribbon, as long when hemmed as the tablet is wide, and glue it across the top and back of the tablet; when dry, turn the edge over and paste to it a cover of rough water-color paper cut into fanciful pattern across the top. Decorate with a simple design in water colors.

Almost every housewife has a hard time keeping her patterns just where they are easily gotten in a hurry, so will appreciate a pattern case made after the following method: Take a strip of pongee, denim or any strong material about one yard long



## The Housewife

and a foot wide. Through the middle, lengthwise, lay a strip of the same kind of cloth one yard long and about two inches wide. Stitch this piece to the main piece at intervals of two to four inches crosswise throughout its entire length. This leaves a strapped opening, in which the folded patterns can be put. The outer edge should be bound around with ribbon or braid, also the strip in the center before it is stitched on. Let a piece of ribbon be fastened at two corners to hang it up by, or it can be rolled up, if desired.

PANSY VIOLA VINER.

### Two Simple Sofa Pillows

Two sofa pillows seen recently, while new and attractive in design, had the further advantage of being simple and easy to make, thus appealing to the woman who has little leisure for fancy work, or to those older fingers which have somewhat lost their cunning with the needle. The first one was a round pillow, with a ruffle put on in such a way as to give



PRETTY EFFECT IN BLACK VELVET AND YELLOW SILK

the finished pillow a square effect. That is, the ruffle was straight on the outer edge and much wider at four sides of the circle than at other portions. To cut such a ruffle, fold the goods in a perfect square, then cut the circle (for the pillow top itself) from the center of the goods. Use this outer portion for the ruffle, with more material set in to give the desired fulness.

This pillow was made on a foundation of blue silk in a plain color, and the decoration was nothing more nor less than a gigantic cobweb of yellow embroidery silk, large enough to well-nigh cover the entire pillow. Threads were first laid, much like the beginning of a teneriffe wheel, the center of the web darned solidly for about an inch in depth (depending on the size of the circle), then the cross threads gradually grew farther apart. At one side of the center a mammoth spider, done in brown silk, gave a realistic touch to the spider web, while the odd-shaped ruffle with hem finished with a feather stitch done in the yellow silk completed an unusual and artistic pillow.

The second pillow was made of circles of velvet joined together by their edges, with a bright foundation color showing beneath them. The circles may be of any size desired, and the colors employed anything that harmonizes nicely. Circles of black velvet (scraps of which will accumulate in every piece bag) laid over yellow silk is a good combination, and a silver half-dollar is a good size for them.

When a quantity of the circles are cut, buttonhole them all around the edge with yellow embroidery silk. Now join the circles by three or four stitches at the extreme edge, fastening first a strip of circles as long as it is desired to make the pillow. Join a second row, and fasten this to the first row, and continue until you have a square of the joined circles as large as you wish the pillow to be. This square may now be laid straight over a corresponding sized square of yellow silk (or sateen), finishing the pillow with a ruffle or cord of black and yellow. Or, if preferred, the circles may be laid diagonally over the yellow, in which case it would have to be made a size smaller, and the sateen puffed at the corners. The illustration shows the square effect, which makes a pretty pillow, and one which will not lose its freshness as quickly as some of the more perishable ones.

MAUDE E. S. HYMERS.

### Gifts That the Children Can Make

CHRISTMAS is essentially the children's holiday, and whatever adds to their enjoyment should be considered first of all. It is wise to encourage giving presents among children, for by it they learn the lessons of unselfishness and good cheer and discover the truth for themselves that it is more blessed to give than to receive. Of course they should be taught to give as an expression of love. It is often a good plan for the children to club together to get the presents for father and mother and for each other. If the girls wish to make the gifts, the boys can earn the money with which to buy the materials. Some of the very pleasantest memories that hover about the Christmas seasons of childhood years is the careful saving of pennies, the secret, whispered consultations, the air of mystery that filled the air. And what joy filled our hearts when we witnessed the surprise and delight of our friends and parents over our simple little gifts. No parent should miss seeing the happy expression that spreads over their child's face when it realizes that it has a part in the Christmas giving.

Small children can make pretty table mats of thick white paper ornamented with a pattern perforated by a large pin. Select some suitable stamping design, and lay a tracing of it over a thickness of rough white paper held to a hard cushion or pillow by large-headed pins at the corners. Then let the child follow the outlines of the designs carefully, with regular perforations, using a fine pin for the lesser lines and the veinings of leaves and such like. The mats can then be taken apart and shaped around the edge with scallops made with a pair of scissors or a pinking iron. The raised part of the perforation is the right side.

Another simple little present that a child can make for the baby is a "jingling ball." Fasten a small round bell in a small square box, and let the child wrap this around with worsted yarn, and divide the ball into eight sections by tying a cord around it four times. Then show the child how to cover it with colored worsted by weaving the yarn in and out over the cord with a needle.

Court-plaster cases are nice for little girls to make. They are made by taking a piece of cardboard two inches wide and five inches long. This is folded together, and then little slits are cut at intervals with a sharp penknife, to run the strips of plaster through. The cover can be made of a piece of ribbon folded



THE SPIDER-WEB PILLOW IN PLAIN BLUE AND GOLD

over the cardboard and fastened to it by drawing a narrow ribbon through holes made in the corners, and tying it in a pretty bow on the outside. The ends of the ribbon can be fringed, and the words "I Heal All Wounds Save Those of Love" lettered on one side of the cover. If little fingers cannot letter, then let them paste on a little picture or some holly berries cut out of a card.

Blotters are easily made and do not cost much. A piece of white cardboard or some water-color paper can serve as a cover. Make it about five by eight inches. Decorate with colored transfer pictures, with which children like to work, or else let them cut leaves and flowers from Japanese napkins. Teach them to arrange them in some conventionalized design. If the child has been taught to draw at school, a bunch of holly or some

little simple flower can be sketched on with crayon. Fill between the covers with several leaves of blotting paper.

Another pretty present for little fingers to make is a stamp box. Choose little boxes, such as safety matches come in, which are about three by two inches. Cover neatly with water-color paper, or writing paper in tan or brown can be used. Paste on the cover a new two-cent stamp, and tie with baby ribbon.

Another little gift that a child can make is a hanging hat-pin basket. All that is needed is a small basket three or four inches deep, into which is stuffed a pin-cushion filled with wool wadding and covered either with silk or wool. Ribbon one and a half inches wide and a yard and a half long is then tied around the basket, and again in a loop above, with bows and ends, by which it is hung at the side of a bureau.

Shaving-paper pads for papa may be made of many sheets of white tissue paper. They can be cut into shape of leaves, hearts, stars or in any shape desired. Make the covers of water-color paper or cardboard. Fasten together by punching holes in one end and passing narrow ribbon through them and tying in a loop. Decorate the cover with a pretty head cut out of a fashion plate or card.

If the child knows anything about mat weaving many dainty and pretty gifts can be made. These woven mats are nice covers for needle books, sachets, shaving pads, and make nice lamp mats. Pretty cushions of ribbons, or photograph frames of husks or crepe paper can also be made. All the materials are the "mats," "strips" and weaving needle, with which the loose strips are interwoven with those of the mat. Squares or oblongs of glazed paper are cut into strips and kept in kindergarten supplies for this use.

PANSY VIOLA VINER.

### Doctor Apple

An apple each day keeps the doctor away; Another at night starves him outright; An apple each meal, and one for sleep, Will kill him and shroud him and bury him deep.

THIS little jingle should have a place on the door of every medicine closet, and indeed if the apple were more generally regarded from a medicinal viewpoint the contents of the medicine closets could be very largely dispensed with.

A prominent physician once said that "if one half the meat, one fourth the bread and all the candy given to children could be made to give place to fruit, of which apples formed a large proportion, the death rate would be greatly reduced, their bodies better formed, and all would be healthier and have far greater brain activity."

Good, well-ripened apples eaten in reasonable quantities not only will never be injurious to a child or grown person, but if taken as a food are the most acceptable, satisfying and healthful one that can be chosen; and this is equally true whether they be eaten fresh or after preserving, canning or drying.

As the apple contains more phosphoric acid in easily digested form than any other fruit, it is of high value as a brain food. It is also a thorough disinfectant of the mouth, that important doorway to the stomach, and if eaten regularly does much to prevent throat diseases.

There is no better remedy for insomnia than a ripe, juicy apple eaten just before retiring. Its wholesome acid excites the action of the liver and promotes sound and refreshing sleep.

For the same reason an apple eaten before breakfast every morning will prove the best of complexion beautifiers. No devotee of apples ever suffers from jaundice or liver spots, and dyspeptics are almost invariably ordered apples for their wholesome action upon the digestive organs.

The tickling sensation of the throat causing one to cough at night may be greatly relieved by placing a roasted apple by the bedside and taking a spoonful of the pulp when annoyed by a desire to cough.

As the apple can be had in fresh and perfect condition during a greater portion of the year than any other of the fruits, the appetizing ways of preparing it have grown to be legion, so that one need never tire of it through lack of variation. And as the heat applied in cooking breaks down the cells, and more thoroughly blends the acids and sugar of the fruit therewith, its wholesomeness and digestibility are increased by cooking.

Wise in her day is the housewife and mother who numbers "Doctor Apple" as a regular and honored member of her household.

EDITH E. SHAW.



## How the Women of the Farm Can Make Money

For each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to Farm and Fireside. If you are already a subscriber, then you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. Address Editor Housewife, Farm and Fireside, Springfield, Ohio.

### Saving Garden Seeds

One method of making money on a farm which is especially adapted to women is that of saving vegetable seeds for market. Most farmers do, or can, raise large quantities of pumpkins, squashes, cucumbers, garden beans and peas, melons, tomatoes, sweet corn, etc., from which it is an easy matter to save the seed. It is only necessary to raise distinct and popular varieties and to be very careful to keep them unmixed and true to name. The work of preparing the seed for market is slight. A large, coarse sieve is most convenient to use in washing the seeds free from pulp, after which they should be spread on large trays or even newspapers, and dried in the sun or in any dry, airy place.

As to markets, many seed houses will gladly pay a fair price for such seeds if found good and true to name, it only being necessary to write to several seed firms stating what you have and inviting offers. More may be realized from seed placed in local grocery and general stores where farm seeds are handled. The dealer will give valuable hints as to method of selling and prices. A few fine specimens of vegetables placed on exhibition where the seeds are on stock may help sales. GERTRUDE R. LAMBERT, Wisconsin.

### Keeping Pure-Bred Poultry

Poultry raising is a deservedly popular money-making business for women, but there is one very profitable branch of the work which does not receive due attention, and that is raising fine, pure-bred stock and selling breeding fowls and eggs for hatching. To be successful in this it is necessary to secure a choice strain of some popular breed, and keep the fowls up to a high standard by careful breeding and the frequent introduction of new blood. Avoid inbreeding. Select the best fowls for breeding, and separate from the main flock during the breeding season—from January or February until June. A good method of introducing new blood is by selecting breeding pullets from your own flock and sending to some reliable poultry raiser for cockerels; but it is possibly cheaper to send away for eggs to be hatched at home. Breeding stock sells for from fifty cents to one dollar each, and eggs for the same per sitting of fifteen eggs. Surplus eggs and culls go to market and bring as much or more than scrub stock. Choice show birds often bring fancy prices if properly advertised. GERTRUDE R. LAMBERT, Wisconsin.

### Sun-Dried Fruit

When I was a girl at home my father lived on a farm twenty miles from any railroad. In the early summer, after my mother had put up what cherries she wanted, I would gather the rest, seed them, then lay in the sun to dry. These I could sell any time I got to market. I also went to the fields and woods and gathered berries to dry, and used the specked apples in the orchard. In the fall I gathered nuts, both chestnuts and walnuts. Sometimes I would gather the nuts, pick out the kernels and sell them by the measure or pound. MRS. Z. G. B., Virginia.

### Peas and Cabbage

I have a plot of well-fertilized ground that I plow in early winter and again in early spring, just as soon as the ground will permit the planting of peas. As soon as they are large enough I dispose of the peas very profitably, and then plow the ground and plant cabbage. MISS BUTLER, Arkansas.

### Grow Perennials for Their Cut Bloom

If one lives near a thriving town or city, a bed of such hardy perennials as are specially suited to use for the production of cut flowers will yield a steady harvest of dimes and quarters. One plant of each kind may be purchased at a trifling outlay, and from these a stock can be propagated which will yield a vast amount of cutting material. The crop the first season will not be as heavy as in succeeding ones, when the plants have become fully established. All of the following are excellent for filling vases. Meadow rue, or thalictrum, in white, purple and yellow, has foliage almost as pleasing as the flowers, and is a plant seldom seen. A general favorite is the

baby's breath, or gypsophila, particularly the new double form, whose white, mist-like blooms are wonderfully effective when used with other flowers of any color. The improved pyrethrums—Alfred Kelway, crimson, and Carl Vogt or The Bride, white—are as good as the finest asters, and flower in June about college-commencement time. The blanket flower, gaillardia and coreopsis lanceolata bloom continuously through a long period until cut down by frost. A flower for which there is great demand in summer, when good white flowers are scarce, is the perennial pea, or lathyrus, a constant bloomer, of which there are also pink and red varieties. In this connection must also be mentioned the annual mourning bride, scabiosa, which bears long-stemmed blooms in many exquisite shades without cessation from early in July until cut down by hard frosts. W. EMERSON BONTRAGER, Ohio.

### Keeping Sweet Potatoes

An excellent way for keeping sweet potatoes so they can be used after Christmas and as long as desired is as follows: Boil the potatoes until tender, peel, and put in cans—glass or tin. Have brown sugar melted, then pour over the potatoes and seal while hot. These can be served many ways, and make excellent pies. I clean up quite a few pennies by selling some of these. GRACE E. GREENFIELD, Missouri.

### Nasturtium Seed

I pick up some money selling nasturtium seed, tiny pickles and catchup. Everybody likes home-made pickles and catchup, and no trouble is experienced in disposing of them at a fair profit. MRS. MAGGIE MOORMAN, Indiana.

### Making Lace

In the winter evenings I make crochet lace, for which I charge for the thread I use, usually twenty-five or thirty cents a spool. E. B. S., Ohio.

### Selling Sage

I pick sage, wash it well, and spread it on a cloth to dry. Sage sells for about fifty cents a pound, and while it takes considerable time to gather, yet I find the work profitable. MRS. W. J. L., Kentucky.

### Pepper Sauce

Several people asked for peppers from my bushes, which suggested the idea that I could make a few dimes by putting up small bottles of pepper sauce. I did this, and they sold readily at ten cents apiece. I used the small cayenne pepper and good strong vinegar. Many people prefer home-made articles to those which can be purchased at the stores. MRS. A. T. MANN, Florida.

### Crochet Cotton Caps

I pick up a little spending money selling caps that I crochet from cotton. There is always a demand for these caps, especially in the winter, and I have never had any trouble in selling as many as I could make. BLANCHE BAUGHMAN, Indiana.

### Needlework

The question of how to earn pin money often arises to the woman on the farm, especially during the winter months, when one has more leisure time. Last winter I made a dozen drawnwork handkerchiefs, which I sold for seventy-five cents each. I worked at them spare moments only. There are very many things that one can make, and the good home-made articles find ready sale.

I wonder how many farmers' wives have tried to make snowballs—in other words, angel food cake batter steamed in glasses, rolled in boiled icing and then in freshly grated coconut. One glass will make two balls, so quite a number can be steamed at one time. They sell well and at a good price. Served with strawberries, sliced oranges or just whipped cream, they make a delicious dessert. Just now I am making lemon crackers, which my grocer sells for me. I do a great deal of baking of my own, and it doesn't take much time or much trouble to bake for others. MRS. P. D. MILNER, Ohio.

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FAMINE WIDOWS AT MUKTI, KEDGAMU

## Pandita Ramabai--A Heroine of the Hindus

The Story of the Most Remarkable Woman of India, and Her Heroic Work for the Hindu Child Widows

BY DELAVAN L. PIERSON

**F**AR away in the dark jungles of western ghats of India lived a Hindu hermit, Ananta Shastri by name, a Brahman of great renown for his piety and learning. Pilgrims and students came from far and near to sit at the feet of this dark-skinned, half-clad Socrates and drink in wisdom from his lips. With Ananta lived his child wife, whom he had bought from her father one morning as they bathed in the sacred river Godavari. The meeting, the bargain and the wedding all took place within an hour, and it was not a runaway match, either.

Ananta and his little bride of nine summers lived in a rude hut on simple fare, but they were happy. The wise man, unlike many Hindu husbands, was kind to the child, and taught her Sanskrit and all the wisdom of the Hindus, certainly an unwarranted and unheard-of proceeding in the land where two leading articles of faith are the "depravity of woman and the sanctity of the cow." But Ananta Shastri had a mind and will of his own and was not wholly bound by the customs of his countrymen.

Into this family, about fifty years ago, was born a son and two daughters, the youngest of whom was to become famous the world over. Ramabai, as her parents called her, grew up in this jungle home a playmate of the birds and beasts of the forest. Her father and mother taught her from the shastras, and even the pilgrims, who flocked to drink of her father's fountain of wisdom, and who were not loath to eat of the holy man's bread, found her not beneath their notice. The girl developed a remarkable mind and memory, and before she was twelve years of age could repeat twenty-three thousand verses from the sacred books, an amount equal to our entire Bible.

Then came the days of famine. No rain had fallen for months, and Ananta's supply of food was exhausted. The little family left their jungle home and began to wander to the sacred shrines in search of relief. Money, jewels, brass cooking vessels, everything was gradually offered at the temples to propitiate the gods. For seven years the hungry family went about seeking relief, and finding none. At last they had nothing left wherewith to buy food. As descendants of the great god

Brahm, they could not work, since that would break their caste; to beg they were ashamed. They determined to go into the great forest and die. For eleven days they lived on water and leaves and a handful of dates. Weaker and weaker grew the feeble old father, while the pangs of hunger gripped them sore. The wild beasts' roar had lost all terror for them. They even wished that some fierce tiger or venomous reptile would put a speedy end to their existence. At last the father could bear his sufferings no longer, and announced his determination to cast him-

self into the sacred tank. This he was determined to do not as an act of suicide, but as an offering to the gods, and the whole family prepared to follow his lead. Warily they wended their way into the village, the children supporting their aged father with their feeble strength. Mile after mile they dragged their emaciated limbs, until the parents sank exhausted. It seemed that they must die on the spot. The son could not bear to see them suffering, and determined to seek employment, even though he must lose his caste, which meant more to him than life. But

he could find little to do. They sought refuge from cold and prowling beasts in one of the temples, but since they could not pay, were driven away by the heartless priests. Four days they lodged in an old ruin, the accustomed haunt of leopards and jackals. Then the father died of fever. In vain they searched the city for some one of their own caste who would help to dig his grave and lay his body away. The brother and sister themselves were compelled to perform these last sacred rites, and instead of a burial worthy of

number, but counted for little compared with the snares which were laid for them by evil men. At times the brother would secure work at four cents a day, but again for weeks they would be compelled to go almost without food or lived on a handful of grain a day soaked in water. Each clad in a single tattered garment, they traveled miles, walking barefoot over hot, dusty roads. At night they lay down on the earth under the sheltering arms of some friendly tree, but with no blanket or other covering to keep off the cold. When the winds blew and chilled them to the bone, they dug graves in the sand with their hands, and covered themselves with earth, leaving their heads above the ground. Thus planted they must have presented a peculiar sight.

Gradually Rama and her brother lost faith in the teaching of the Brahmins. Had they not fasted and prayed and given alms to the holy men? Had they not made pilgrimages to the sacred shrines and bathed in the holy waters? Yet what help had the Brahmins given them or what blessing had come to them from their religion? They resolved to test the teachings of the sacred books, and did so in many ways. In their wanderings they came to the borders of a famous lake renowned for its seven floating mountains. These were said to be seven mahatmas, who had taken this form to receive the homage of the faithful. The priests told the pilgrims that these wonderful mountains would respond to the prayers of the sinless by floating toward the shore on which the suppliant stood. For sinners they remained immovable. All were warned against entering the water, on account of the many fierce crocodiles that guarded the mahatmas.

Rama and her brother stood on the shore of the lake and prayed, but the island moved not. The priest hinted that they had not made an offering to propitiate the spirits; alas, they had nothing to give. Rama's brother determined to learn for himself the truth of the priest's claims, and early one morning, before others were stirring, he dived into the lake and swam out to the island. Imagine his surprise when he discovered these



A GROUP OF KARNATIC GIRLS--PANDITA RAMABAI IN THE CENTER

self into the sacred tank. This he was determined to do not as an act of suicide, but as an offering to the gods, and the whole family prepared to follow his lead. Warily they wended their way into the village, the children supporting their aged father with their feeble strength. Mile after mile they dragged their emaciated limbs, until the parents sank exhausted. It seemed that they must die on the spot. The son could not bear to see them suffering, and determined to seek employment, even though he must lose his caste, which meant more to him than life. But

the dignity of so famous a teacher, these two children carried the body outside the city and laid it tenderly in the earth.

Soon after the mother also entered the Great Unknown, and the three young orphans were left to fight the world, the flesh and the devil for themselves. Up and down the land they wandered in search of friends and food. Starvation carried away the older sister, and then only Rama and her brother were left. These two set out on foot to make a pilgrimage to the sacred cities of the North. Their hardships were almost without



A WEAVING CLASS IN THE MUKTI INDUSTRIAL SCHOOL



A TYPICAL SCENE IN THE KINDERGARTEN



to be made of mud and rocks and small trees, all built upon huge rafts. Behind were boats, which, when the representatives of the gods were properly propitiated, propelled the floating miniature mountains toward the shore. Thus were Rama and her brother further disillusioned, and another tie was severed which had bound them to the faith of their father's.

After a few years of wanderings the brother and sister arrived at Calcutta, the great human maelstrom of India. Ramabai was then twenty-two years of age. She had developed a memory which was most remarkable, and her knowledge of the shastras and other sacred books put the Hindu pundits to shame. Her experience, too, had taught her to understand men and women as few of her age and sex know them, either in India or elsewhere. Her ideas of female education inherited from her father and mother were radically opposed to the customs of the country, but she fearlessly advocated them in public and in private. Soon the fame of this remarkable young woman spread throughout the city. People exclaimed that Sarasvati (the Goddess of Eloquence) had come again to visit the earth. She was called upon to give lectures to select audiences, and an assembly of pundits (Hindu doctors of philosophy and religion), after a brief examination, conferred on her the title Pandita, a distinction won by no other Hindu woman.

Ramabai's brother died in Calcutta, broken down by years of hardship and the practise of severe austerities. Ramabai's parents had permitted her to remain a maiden long after the usual age of marriage, that she might devote herself to study, so that now most of her countrymen would have thought her ineligible. A Bengali gentleman discovered her worth and won her love. Their wedded life was brief but happy, the husband dying of cholera nineteen months after their marriage. He left Ramabai with a baby girl, whom she called Manorama (Heartsease).

Had Ramabai lived before the reign of English law in India, the young widow would have been obliged to end her life on the funeral pyre of her husband. Even now in many places the suttee is suppressed only by force of British arms. A few months ago, in this twentieth century, a Hindu widow in Bihar was burned to death in broad daylight, merely because she had committed the crime of having outlived her husband. Her struggles and screams were drowned by the shouts of the crowd and the chanting of Hindu hymns, while strong men kept the wretched woman from fleeing from the flames.

Ramabai escaped this awful death only because British law has placed some restrictions on Hindu religious and social customs, but she did not escape being despised and cast out by her Brahman friends as the cause of her husband's death, due to her sins in a former life.

Hundreds of thousands of child widows in India endure a living death because they have had the misfortune to outlive their husbands. Most of them have been married in infancy or as children of six, eight and ten years of age, many times to men white haired, black hearted, decrepit and diseased. They have never known the joy of marriages with a husband's love, and at his death are made the household scapegoat and drudge. Their heads are shaved, their jewels and clothes are taken away, and clad in one coarse garment, fed on bread and water, cursed by every one on whom their shadow falls, they toil at menial tasks until their life is crushed out of their frail bodies. It is against their religion for them to marry again, but they may go to a heathen temple and be "married to God." The depth of depravity that is involved in such a life cannot be described. But this life of shame has the sanction of their religion, for did not even their gods do the same? Is it any wonder that hundreds of young widows, in a strait betwixt two evils, beat out their lives on the stones or drown themselves in wells and rivers?

Ramabai was left without home and relatives. In her widowhood this was a blessing, for there were none to abuse or control her. Thrown upon her own resources, the Pandita once more entered the arena as a lecturer and reformer. She determined to use her wide experience and deep learning in Hindu lore to fight for the emancipation of her sex. She longed to set them free from the chains of ignorance and the horrors of child marriage.

With this purpose in mind she then journeyed westward and settled in Puna, a city near Bombay. Here she began to lecture, and succeeded in forming a society of more enlightened Hindus, who were advocates of female education. Still Ramabai felt that she must do something. Lectures would never remedy the evils which she saw on every hand. She longed to rescue some of the oppressed girls

who bemoaned their birth and cursed the day of their marriage.

One day, while passing through the streets, a young widow appealed to her for protection against the vile creatures who pass for men and who were seeking her ruin. Ramabai took her home, and thus began the work for widows which has since grown to such vast proportions. This young girl, the first to be rescued, is now a valued helper in Ramabai's home for widows at Mutki.

The Pandita's fame soon spread throughout India and reached even to England. But she was not satisfied. A longing possessed her soul to know more of Western ideals and methods of life. In poverty and scarcely knowing whither she went, she set out with her little daughter and journeyed to England. There she became a Christian, and later was made lecturer on Sanskrit in Cheltenham College, Oxford University. She passed over to America, where she made many friends for the widows of India, and formed "Ramabai Circles," which gave her substantial financial support. She returned to India, and in 1889 opened a school, which she called Sharada Sadan (Home of Wisdom). Two young widows were enrolled as pupils. One of these had been bent on committing suicide, but was prevented by the fear that she might once more be born a woman and undergo still greater suffering than was involved in her widowhood. The Hindu pundits were shocked and maddened when they heard that their famous Pandita had become a Christian, but could only vent their rage in amazement and curses.

The school caused a storm of opposition from the Brahmins, for it was intended for high-caste widows, but all this only served to advertise it. Young girls in their dreary confinement heard of the "Scandalous School," where young widows were taken and taught to read and write—an unheard-of proceeding—and those who had any life and ambition longed to take refuge there. Many unfortunates fled from their bondage to find a home with Ramabai, the widow's friend, and so the school grew. Not satisfied with this, Ramabai went out into the streets and villages round about and gathered in filthy, diseased and starving girls. For high caste does not mean wealthy. She cleansed them, healed them, fed them, taught them, loved them. A new life dawned for hundreds who had been trodden under foot by relatives and neighbors. No religious instruction was given at first, but many came to inquire about Ramabai's God and asked to be taught the Christian religion. Other girls were not so easily dispossessed of their demons. They wanted everything but would give nothing. One night some rebellious spirits who had refused obedience to rules, and had been punished, gathered some paper and shavings together, hid them under the corner of one of the buildings, and set them on fire. There was a sheet of flame and a cry of fire. It looked as though the work of years would be destroyed and the lives of many endangered. Fortunately, however, the flames were discovered and extinguished and the culprits caught and punished.

In the latter part of the year 1896, when dire famine again raged in central India, Ramabai heard the wail of thousands of homeless widows who had been turned adrift in the world by the death or destitution of family and friends. Many of them wandered off into forests and jungles in search of food; hundreds died of starvation and disease, and others sold themselves to evil men or entered into the vile service of heathen temples. Ramabai determined to visit some of the temples and villages of the famine district in order that she might rescue, if possible, at least three hundred girls. She had not money enough to support those already in the school, but she believed that the Father who had called her to the work would supply the needs. Putting on the garb of a Mahar pilgrim and taking only eight cents in her hand, she started out to visit the famous, or infamous, shrines of Brindaban and other cities. Everywhere she found unspeakable suffering and distress. On some poor farms multitudes of all sorts and conditions were huddled together—men and women, boys and girls, clothed and unclothed, diseased and healthy, pure and impure, living under the blue canopy of heaven and eating their dry flour and salt. It was the devil's stamping ground. Is it any wonder the many girls yielded to the allurements of tempters who had money but no morals, or entered the service of the gods, who were like the men who made them?

In these temples she found hundreds of girls. She talked with them and persuaded many to leave these surroundings for the shelter of her home. Her work in opposition to the devices of evil men brought her into much personal danger, but she heeded it not. Into the very lion's jaws she would go, in hope of rescuing some young girl.

Over three hundred were persuaded to go to Sahara Sadan for food and shelter and education. Temporary grass huts were built and filled to overflowing. Then friends in America and England heard of Ramabai's noble work, and sent money for new buildings and needed supplies. For many years the widows' cause has not failed, although at times her faith has been sorely tried. A farm was bought at Kedgaon, not far from Puna, and a new home was erected, called Mukti (Salvation). More helpers were engaged, and the widows were taught all the necessary domestic arts. She started kindergarten classes for the little tots, and higher education was given to the older girls. The Bible came to have a place in the curriculum, and many have already gone out from the home as Christian Bible teachers to the sisters in the Zenanas. During subsequent famines the numbers have increased, until at times Ramabai has been caring for as many as eighteen hundred widows. A Christian Church, the most unique in the world, has been established, a Widows' Church of over one thousand members, and out of their poverty have sent money to the Armenian orphans and the Chinese Christians after the Boxer Rebellion. In order to do this, the girls volunteered to give up meat and a portion of their rice at each meal. Sometimes, when food is scarce, and funds are low, they go without rice and milk and butter altogether, and live on coarser grains, with bread and water. There is a Bible Training School for the young women, and a Woman's Foreign Missionary Society was started in 1899. Perhaps they will yet be sending missionaries to America!

Ramabai's school has now a splendid campus and acres of farm land, with wells and reservoirs, against another famine. There are comfortable dormitories of brick and stone capable of accommodating over fifteen hundred pupils. There are large dining rooms, kitchens, storehouses, grinding rooms (where sixty hand mills for grinding wheat are at work); then there is the oil room, the bakery, hospital, school rooms, workshops, where various kinds of industrial arts are taught; also simple dwellings for Ramabai and her assistants, offices, guest rooms, and the large church, with a seating capacity on the floor for four thousand. Six years ago all this was nothing but an open field. If you ask Ramabai how all this has been brought about she will tell you that the money and workers have come in answer to prayer.

All the domestic work of this tremendous establishment is done by the girls. They wash their clothes, sweep the rooms and keep the buildings in order; they grind the grain, bake the bread (chapatties), carry the water, cook the food (nearly a ton of rice every day), keep the brass utensils bright and clean, fill the lamps and work in the garden. Beside all this they must attend school and study their lessons. All have four hours a day of book study and three hours a day for industrial work. Needlework, embroidery, lace making, dairy work, weaving, making of ropes, brooms, baskets, cane chairs and door mats are considered quite as important for a Hindu woman as writing and reading, and are perhaps more important than psychology, Latin and law for most American women. The classes are taught by Ramabai, her daughter Manorama and an able corps of assistants. In all there are fifty-two matrons, and sixty teachers, each having her special duties in the various departments.

Every morning at four o'clock the rising bell rings. How would that be welcomed in American schools? At 4:30 there is a meeting in the church for a Bible lesson and prayer, which is usually attended by about four hundred of the older girls, and another at 6 A. M. finds fourteen younger widows gathered together. Other devotional meetings are held at intervals throughout the day, but do not interfere with work or play. At 8 P. M. all go to bed except the women who keep their vigil in the dormitories throughout the night. The little widows are kept busy and have not much time for dolls, nor the older ones for social functions, but they are happy and look up to "Mother Bai" with all the love and admiration of their young hearts.

Another branch of the work is called Kripa Sadan (Home of Mercy) for fallen girls. There was need of this, in order that the tainted ones might not infect the innocent. Many of the rescued girls are diseased, and need special medical care. All need careful instruction to counteract the effects of their evil training and unspeakable experiences. The stories of many of these girls is pitiable—stories of marriage at eight and ten years of age to men with other wives, persecution at home, cruelty, hunger, widowhood, sometimes being driven from home, temptation, sin, disease. Then some friend tells them of Ramabai, the friend of Hindu women, and they find a haven of rest and a fountain of new life with her. Hundreds have thus been rescued

and many have in turn gone out to rescue work. Thus has Ramabai, the Hindu widow, become famous for her wisdom, and by her devotion to the cause of her sisters in India has won a place among the heroines of the world.

### Number 9 Church Walk

[CONTINUED FROM PAGE 15]

his arms and began to wade slowly toward the speck of light that gleamed afar off.

"Let me walk," she urged. "I can manage all right."

"Wait until we get well clear and I will," he answered. "Yes, I think perhaps I had better," he said a moment later. "I may lose touch of the wall if I don't. The water is rather cold, but we'll soon be out of it, I think."

A little gasp of "oh" escaped her as she felt the chill waters lapping about her, but she placed her hands upon his shoulders, as he instructed, and followed bravely.

"See the light ahead!" he encouraged. "It's getting larger every moment."

"Do you think they can have discovered our escape?" she questioned. "I thought I heard a sound behind."

He stopped and listened. "It's nothing but the water," he said.

They pushed on for all they were worth, the cheering speck of light becoming larger and larger.

"Hurrah," he whispered, "we are getting there. I think we are all right, Miss Durrant."

In another minute they emerged into the clear sunlight. A high brick wall rose up on either side of them, and a little way ahead a little boy sat on the side of a wooden bridge, fishing.

The lad gazed in astonishment at the two disheveled objects that met his eyes.

"Gee whiz!" he cried. "Where did you come from?"

"Get a ladder or some steps and I'll tell you," replied Roger.

The boy dashed off in some fright, and soon reappeared in company with a man, bearing a home-made ladder. It was lowered over the side, and in another moment Laura Durrant and Roger Walford stood safely upon the bridge.

Roger gave a hurried explanation, and then the boy dashed off for a carriage, and "Police Station" was the order the cabby received.

Five minutes later Laura was changing her clothes in the matron's room, while Roger was relating a strange story to the officer in charge.

"It don't seem possible," muttered the officer, as he listened; but for all that, he gave a sharp order, and in a moment six stalwart policemen, in charge of a sergeant, and accompanied by Roger, were dashing along the streets in a police van. They entered a boat, and pulled in under the tunnel. Another squad watched the front of Number 9 Church Walk from the seclusion of the old churchyard.

"It's the 'Chelt,'" explained the sergeant to Roger, as their boat pulled slowly along in the darkness. "It runs in under the town at Barret's Mill high up in Charlton Kings, and don't come out until it reaches Well Walk. You see, it used to be all open, but the new town has built itself over it. Pull up, men—have the lantern ready."

"Here!" whispered Roger, as a gleam of the lantern showed him the iron ladder rising out of the water.

"Stay here, Miller, and take charge of the tub. Follow me, the rest, and have your billies ready. You coming, sir?"

"Right behind you," said Roger, as he climbed up after the policemen.

They reached the trap door above. Not a sound was heard. The men climbed into the little secret room and lined the small passageway that led to it.

"Lie still and wait," came the whispered command.

Fifteen minutes passed and not a sound disturbed the silence. Then presently they heard voices in the next room—voices raised high in expressions of astonishment.

"She's gone!" some one cried.

"Where?" cried another.

"Come down through there, of course," the woman said.

"Well, she must be around somewhere. The window's still fastened."

"Open the panel," came the command of Hickins.

"Ready," whispered the sergeant to his men, and Roger gathered himself for a spring.

There was a fumbling at the wall, a crack slowly showed, then a hand slipped through.

The policemen crouched on either side. Slowly the opening widened. Then a man squeezed carefully through. Another followed him, and then the woman.

"You ought to have brought a light," grumbled the voice of the little lawyer.

"Oh, go on, never mind," urged the woman.

[CONCLUDED ON PAGE 26]



# Correct Fashions for the Fall

By Grace Margaret Gould




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**N**EVER before in the history of dress has the length of the skirt been a matter of such importance as it is this autumn. It is on the skirt-length question that the American woman and the French woman have such entirely different views. The short skirt for comfort is what the average American woman likes, while the French woman favors the long trailing skirt with its graceful lines.

Here in America this year there will be two different types of skirts in fashionable favor. One is the walking, or trotteur skirt, which is shorter than it has ever been before. It will vary in length according to the individual preference of the wearer, some walking skirts escaping the ground by but two inches, others being as short as five inches. It is needless to say, however, that the short skirt will be worn exclusively for walking. The most fashionable costumes for all other occasions will have the very long skirt—the skirt which not only touches the ground, but rests upon it, having a decided sweep at the back.



**T**HE woman who is planning a number of new gowns for her fall and winter wardrobe this year should have one costume of velvet. In finish and coloring the fabric was never lovelier, and from the fashion point of view it is specially high style. One of the most fashionable designs for a velvet costume is illustrated on this page in the new redingote waist and full seven-gored skirt. This costume is made of forest-green velvet elaborately embroidered in silk braid in two shades of green, or black may be used if preferred. The waist is of white filet net over chiffon and silk. Broadcloth is another material specially suited for calling and church gowns. In light shades it will also be much used for evening wear.

The new fancy broadcloths in soft plaids, checks and stripes are being much used by many of the most fashionable dressmakers. Plain broadcloths, however, are still in demand for the demi-tailored costume. These plain broadcloths elaborately braided will be much the fashion.



**No. 1013—Redingote Waist**  
Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one fourth yards of thirty-six-inch material, or two and three eighths yards of forty-four-inch material, with three and one half yards of lace for the waist

**No. 1014—Full Seven-Gored Skirt**  
Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt in front, 44 inches. Quantity of material required for medium size, or 26 inch waist, seven yards of thirty-six-inch material, or five yards of forty-four-inch material



**No. 1009—Double-Breasted Tailored Coat**  
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one half yards of thirty-six-inch material, or three yards of fifty-four-inch material, with three eighths of a yard of velvet

**No. 1010—Six-Gored Plaited Skirt**  
Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 39 inches. Quantity of material required for medium size, or 26 inch waist, nine and one half yards of thirty-six-inch material, or five and one half yards of fifty-four-inch material

**No. 1011—Tailored Waist in Coat Style**  
Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one fourth yards of thirty-six-inch material, or two and three fourths yards of forty-four-inch material, with five eighths of a yard of velvet for trimming

**No. 1012—Plaited Skirt With Double Facings**  
Pattern cut for 24, 26 and 28 inch waist measures. Length of skirt in front, 42 inches. Quantity of material required for medium size, or 26 inch waist, twelve yards of thirty-six-inch material, or nine yards of forty-four-inch material

**No. 1015—Loose Empire Coat**  
Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four and one half yards of thirty-six-inch material, or three and one half yards of forty-four-inch material

**No. 1016—Three-Piece Skirt With Full Back**  
Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt in front, 43 inches. Quantity of material required for medium size, or 26 inch waist, six and one half yards of thirty-six-inch material, or five and one half yards of forty-four-inch material



# Madison Square Patterns

By Grace Margaret Gould



No. 1033—Vest Waist With Yoke

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 thirty-six-inch material, or one and three fourths yards of forty-four-inch material, with one yard of lace for trimming



No. 842—Cutaway Coat With Capes

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, five and one half yards of thirty-six-inch material, or four and one half yards of forty-four-inch material, with five eighths of a yard of contrasting material



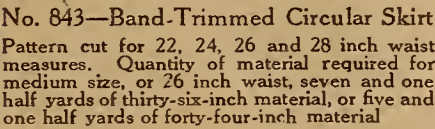
No. 847—Tailored Cutaway Coat

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, five yards of thirty-six-inch material, or three and one half yards of forty-four-inch material, with one half yard of velvet



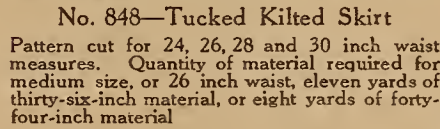
No. 1035—Double-Breasted Plaited Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, two and five eighths yards of thirty-six-inch material, or two yards of forty-four-inch material, with three eighths of a yard of velvet for trimming



No. 843—Band-Trimmed Circular Skirt

Pattern cut for 22, 24, 26 and 28 inch waist measures. Quantity of material required for medium size, or 26 inch waist, seven and one half yards of thirty-six-inch material, or five and one half yards of forty-four-inch material



No. 848—Tucked Kilted Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Quantity of material required for medium size, or 26 inch waist, eleven yards of thirty-six-inch material, or eight yards of forty-four-inch material

No. 1034—Skirt With Plaited Side Flounce

Pattern cut for 24, 26, 28 and 30 inch waist measures. Length of skirt, 42 inches all around. Quantity of material required for medium size, or 26 inch waist, seven and one fourth yards of thirty-six-inch material, or five and one half yards of forty-four-inch material



No. 1037—Box-Plaited One-Piece Dress (With Separate Guimpe)

Pattern cut for 4, 6 and 8 year sizes. Quantity of material required for medium size, or 6 years, three and one half yards of thirty-six-inch material, or two and one fourth yards of forty-four-inch material, with one half yard of velvet for trimming and one and three fourths yards of lace for guimpe



No. 1038—Skeleton Jumper Dress (With Shirt Waist)

Pattern cut for 6, 8, 10 and 12 year sizes. Quantity of material required for medium size, or 8 years, three and one fourth yards of twenty-two-inch material, or two yards of thirty-six-inch material, with two and one fourth yards of thirty-six-inch material for the shirt waist



No. 799—Redingote With Double Cape

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, fourteen yards of twenty-two-inch material, or twelve yards of thirty-inch material



No. 800—Tailor-Made Single-Breasted Coat

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, seven yards of twenty-two-inch material, or five and one half yards of thirty-inch material, with one half yard of velvet

No. 801—Kilted Skirt

Pattern cut for 24, 26, 28 and 30 inch waist measures. Quantity of material required for medium size, or 26 inch waist, eleven yards of twenty-two-inch material, or nine and one half yards of thirty-inch material



No. 1031—Tailored Bretelle Shirt Waist

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of thirty-six-inch material, or two yards of forty-four-inch material



No. 1032—Tucked Shirt Waist in Two Styles

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three yards of thirty-six-inch material, or two yards of forty-four-inch material

**How to Order Patterns**  
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. 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. All patterns are ten cents each.

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A PAGE FOR LITTLE FOLKS



Boys and Boxes

A CHRISTMAS SUGGESTION

EVERY boy knows that quantities of empty cigar boxes are thrown or given away by every grocer, druggist or other dealer handling cigars, as the law prohibits their use again, but does every boy know what a host of pretty gifts for Christmas or other occasions can be made from these same boxes? The cedar from which they are made is one of the handsomest of woods, and the thinness of the boards makes whatever is fashioned from them as dainty as it is serviceable.

Before planning the articles it is well to make a round of all the stores and get as many boxes as possible, in a variety of shapes and sizes. Then, after deciding what number can be used in their original shape, take all the others apart very carefully so as not to split the wood, saving the brads, also, for every scrap of material will come useful later. The paper can be peeled off after it has been wet a few minutes, and when the wood is quite dry again the lettering which has been painted or burned on can be removed with sandpaper, finishing off with the finest grade or with emery paper.

Now stock can be taken of the resources, and articles planned accordingly. Quite a number can be used just as they are; for instance, the square ones that measure five inches each way by four inches deep are just right for handkerchief boxes, and the shallow ones of the same length and width, but only about an inch deep, make ideal jewel boxes. By way of decoration draw a border of interlinking circles, using a dime as an outline, a narrow lattice work, a vine, scroll or anything simple that can be done well, and in the center of the lid draw the initial or monogram of the one for whom it is intended. Then with the sharpened point of a discarded file heated to a white heat (if you are not the fortunate possessor of a pyrographic outfit) go over the lines quickly and evenly. The wood can be oiled, varnished or left natural, and the lining, for such as require it, is quite within any boy's ability, since it requires but a corresponding number of pieces of thin cardboard cut to fit inside of the box exactly. Cut an equal number of pieces of the lining material a half inch larger each way than the pasteboard, and fasten the edges over on the back with glue. Brush all around the back edges with glue and fit them into the box. When dry they will stay there as long as the box lasts. They may be made much more dainty by putting a thin layer of cotton on the pasteboard first, and sprinkling this with satchet powder, which can be had in any amount and odor at the druggist's. Ten cents' worth will scent several boxes.

Another box that can be used in original form is the large, oblong shape, about five and one half inches wide and deep by sixteen inches long. This will make father an ideal tobacco box. Divide crosswise into three compartments of equal size, one of which will be for cigars, another for tobacco, and the third for pipes. Add two little tin boxes or other small receptacles to the latter—one for matches and one for ashes. On the front of the box sketch two pipes with crossed stems, a tobacco sack between them. A running outline of cigars makes a pretty border for the edges of the box, finished with the owner's initials on the cover, and all should be burned as previously suggested.

The same size box, cut into halves through its depth, and completed with boards from another box, makes handsome gifts for either ladies or gentlemen, for fans, ribbons, gloves or neckties. These of course are much nicer lined and scented as suggested for the handkerchief box. The sides being narrow need no decoration, unless it be a tiny border design, and on the lid may be sketched and burned the word "Gloves," "Neckties," "Fans," according to the use for which it is intended.

A useful shaving case may be made from a box measuring four by five by eight inches. This may or may not be lined. Bevel an inch-wide strip, the length of the box, along one edge, and fasten it to the front side of the box

near the top, at an angle of forty-five degrees, to serve as a shelf for the razor. The cup will occupy the center, and the strop be coiled next the sides. Fasten two straps (preferably of leather) across the lid on the inside, and under them slip a quantity of soft paper cut into sheets. An appropriate design for the cover is the outlines of a cup, brush and razor, encircled by the strop. On the front side print:

Since Adam's fall  
Man's grief has been  
The beard that grows  
Upon his chin.

The same size of box answers nicely for a work box; or, if a larger one is

desired, take two boxes apart and substitute side pieces for the ends, in this case having the lid open each way through the center rather than piecing it. Where a large box is made it is a nice plan to fasten a little tray all around the edge near the top, just wide and deep enough for the spools of thread. The bottom may or may not be divided into compartments. To the under side of the lid fasten strips of leather, in which to thrust the scissors and shears. On the top of the lid build up a little terrace of the discarded parts of other boxes three or four sections in height, and surmount it with a pin-cushion glued to the upper board. This may be done whether the lid is in one piece or two, as the pieces would be fastened to but one side in the latter case.

Handsome brackets in any number of designs may be made from the boxes that have been taken apart. A single illustration will suffice. Take one side from a large size box sixteen or eighteen inches in length, for the shelf. From three sides of a smaller box, say five by eight, fashion two braces and a connecting back

portion. Draw the outline for these on paper, cut it out, and mark the boards from it. Cut out carefully with a sharp knife, and smooth the edges with sandpaper. Bore two gimlet holes near the upper part of the back portion, for the screws, by means of which it will be fastened to the wall. When all the parts are joined, finish with varnish or oil. Where a short board is used for the shelf only one support is necessary, and it should be set in the center of the back portion.

Pretty and useful holders for post cards or letters can be made from the leavings of the various boxes. If made double, to stand on a table, use for the central upright portion a piece five inches high by seven inches long. Round the upper corners, and cut an opening, to serve as a handle. Slant the end portions to be a trifle wider at the top than at the bottom, and fasten the uprights down the center, so there will be a compartment on either side. By drawing an outline for the top, ends and sides on paper, and cutting the boards by it, as in the case of the brackets, they will be much prettier than if made plain. These may serve as photo holders, also, or made larger and longer will be a welcome addition to the kitchen for knives, forks and spoons. Made with but one side, to hang on the wall, they make a good kitchen comb case. We have a large one in upright form that hangs in the hall, and every one's mail is put into it as soon as it is ready to post. Then when some one has to make an unexpected trip to town, the mail is always ready, and no one is disappointed about not getting to send a letter through, not knowing any one was going.

There is no end of things, both pretty and serviceable, that can be fashioned

from the boxes that will occur to any boy's mind by the time he has carried out the suggestions here made, and aside from their real attractiveness, the personal element in their manufacture causes them to be much more highly appreciated than boughten gifts. EDITH E. SHAW.

A Dancing Doll

Strengthen a small cardboard box by gluing the lid to the bottom. Get a slip of wood a little longer than the width of the box, round off the ends to form a spindle, which should work in two soles near one end of the box. Cut a piece of cardboard a little smaller than the top of the box, and glue one end on the spindle so that a loosely hinged flap is thus obtained. Fix a wooden cam on a piece of wire, or twist the wire so as to form three or four bulges near the middle. Push the ends of the wire through the sides of the box, about an inch from the end opposite to where the hinge is placed, bend one end of the wire to form the handle, and let the cardboard flap rest on the cam. It would be as well to paste a square piece of card or cloth on the under side of the flap just where the cam strikes, and also to fix a strip of lead along the end of the flap, to make sure of the necessary contact with the cam.

A block of wood forms the body of the doll, a cork fitted with a pin acts as a movable head, and jointed cardboard limbs are pivoted to the body. Put a small piece of spring wire in the back of the doll, and fix it to a support at the handle end of the box in such a way that the feet just touch the hinged platform when the latter is in the lowest possible position.

To cause the doll to dance, turn the handle either slowly or quickly. The toy dancers may be dressed in loose clothing to represent sailors, clowns, policemen, etc.

The Puzzler

CHARADE No. 1.

My FIRST in sacred writings, so we're told,  
Heedless of danger, wandering from the fold;  
My TOTAL, fearless on the mountain side,  
Where in a wood by patriarch he was spied,  
And soon a victim on the altar lay  
Though innocent, and LAST his life away.

CHARADE No. 2

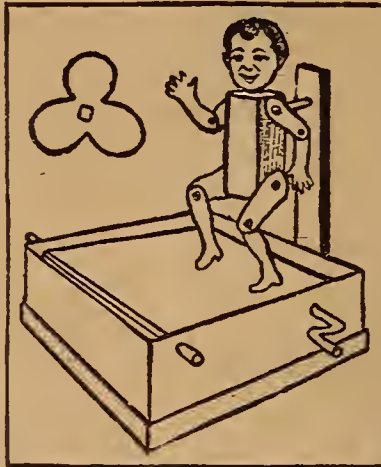
A learned FIRST besought his host  
At where he was a lodger  
For trust; but, deaf as any post,  
Quoth he, "You artful dodger,  
You've lodged here now for many a day  
With little chance of payment.  
For food and drink you never pay;  
You've pawned, too, all your raiment.  
We publicans can't live on trust,  
You're FIRST in all my ledger.  
So, my good man, I think you must  
Turn a teetotal pledger."  
The dissipated wretch replied,  
"My friend, I am my SECOND;  
My title cannot be denied,  
A pundit I was reckoned.  
Give me one WHOLE." "No, 'tis too soon,  
My SECOND is too early.  
You shall have one this afternoon,  
To prove I am not surly."

HIDDEN CITIES

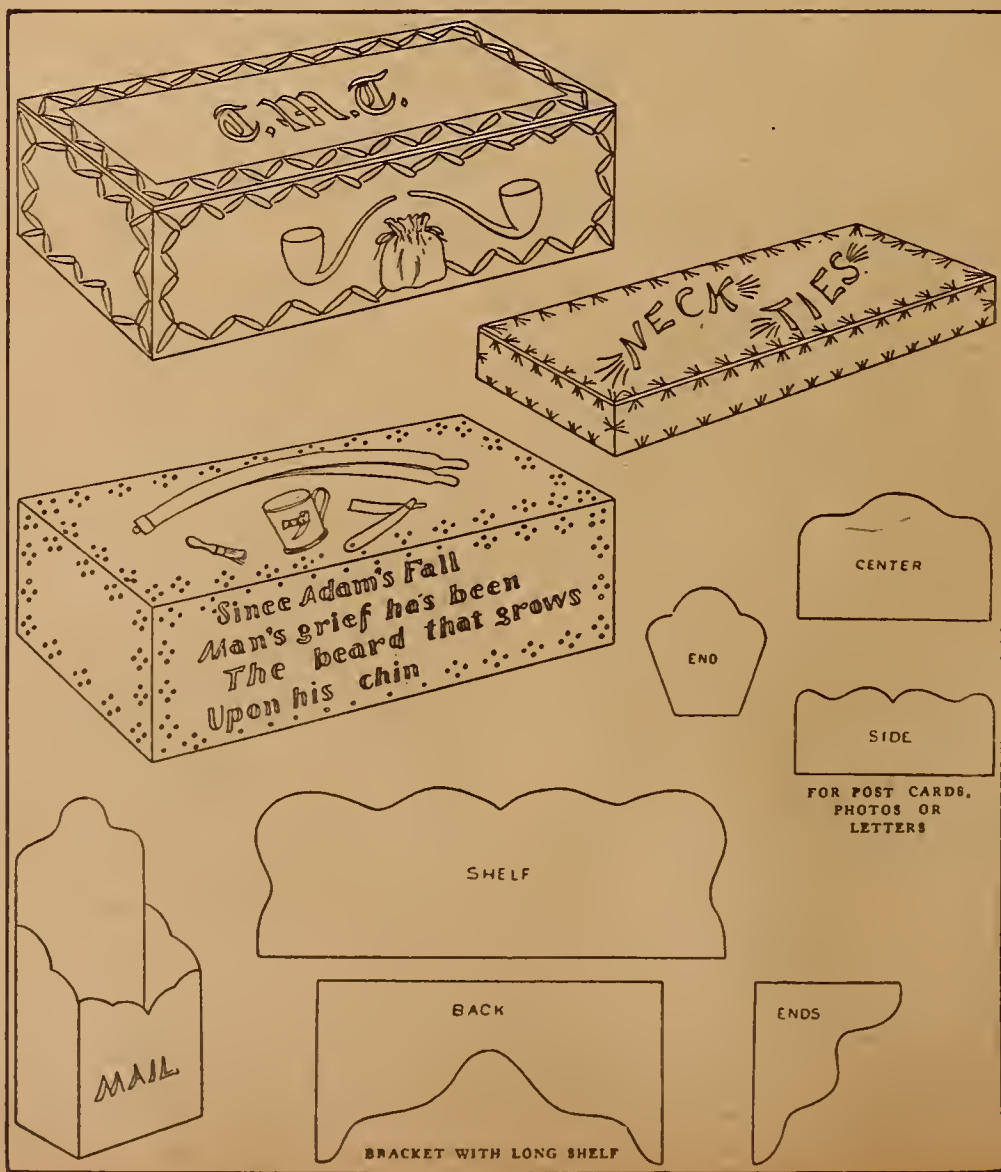
Concealed in the eight sentences following are as many cities. The cities are not located in any particular country, but are scattered here and there about the globe:  
We bade farewell to the shores of Russia, then sailed away on the briny deep.  
Often, were it not for hope, kindest friends would fail to comfort us.  
Do everything you can to nourish it.  
It is suitable only on such occasions to resort to trickery.  
When in Africa I rose early, that I might get a good start.  
He, as far as I can remember, never did any good.  
I intend taking either Mary or Kate to the opera to-morrow night.  
In yesterday's paper the article appeared under big black headlines.

ANSWERS TO PUZZLE IN THE OCTOBER  
25TH ISSUE  
Bridle, Barn, Granary, Fence, Sheds, Traces.

If any FARM AND FIRESIDE boy or girl wants a Shetland pony, it can be easily gotten. We are giving ten to the boys and girls who get us the most subscriptions before March 1, 1908. See page 24.



DANCING DOLL





# The Grange

BY MRS. MARY E. LEE

## FACTS STOP ARGUMENTS IN THE TAX QUESTION

INASMUCH as a few people in Ohio insist that the tax payer will withhold his intangible property as certainly under a low rate as a higher, I give the substance of a letter received this morning from Judge Oscar Leser of the Appeal Tax Court, Baltimore, Maryland: "In 1896 Maryland introduced a new system in the taxation of foreign and domestic companies, and the shares of stock of foreign companies. Up to that year these forms of property were subject to the full, direct state and local property tax at their actual value. The Act of 1896 substituted a tax of three tenths of one per cent on the assessed value, for local purposes.

"Our figures show that in 1896, the last year in which such securities were taxed at the full city rate of about two dollars per one hundred dollars, there were found six millions of dollars, yielding a revenue to the city of Baltimore of one hundred and twenty thousand dollars. Under the new three tenths of one per cent tax law, the securities returned for taxation amounted to fifty-five millions, with an income to city of one hundred and sixty-five thousand dollars. Since that time there has been an annual increase in such securities, so that for the present year (1907) there are one hundred and fifty millions on the books, while the city's revenue from this source is nearly four times as great as ten years ago under the high rate (approximately half a million under low rate, as against a hundred and twenty thousand under high rate).

Continuing, the Judge says: "In 1896 the tax collected by the state on securities in Baltimore City was about ten thousand dollars—ten years later the income to the state was twenty-five times as great.

"The new law has produced highly beneficial results. It has largely taken away the incentive to perjury on the part of the tax payer, and it has encouraged the investment of money in taxable securities, while at the same time a substantial revenue has been vouchsafed the city and state. It can readily be seen that the 'MORAL EFFECT' of such a law has been highly beneficial. In an indirect way it has stimulated honesty in other matters affecting taxation. Public opinion fully supports the new law and frowns upon any attempted violation of it."

This supports, and more, the results given in my address before the "Ohio School Improvement Federation" in Columbus in December last, and it seems to me should, because official, support the present widening purpose to so amend Ohio's constitution that the holders of intangible property can honestly return it for taxation and not be compelled to make false returns, or be robbed of all income, at least in many instances.

Fifty-six years ago the framers of our constitution fixed therein the uniform rate on a property value, binding their own and future generations. The tether is too short to meet present conditions; let us cut it, and under proper restraint have liberty to go far afield in an effort to reach the millions of intangible property now withheld because of the iron-clad uniform rate for all classes of property. Tax ALL property at a reasonable rate.—This provision would restore public bonds to the taxable list, encourage investment in home securities, taxed at a rate which, as in Baltimore, would yield a munificent revenue to the state and respective counties. This is all for which the Grange contended in the now historic "Bond Exemption Contest."

F. A. DERTHICK,  
Master Ohio State Grange.

## OUR TREATMENT OF CORPORATIONS

We have not yet caught the full significance of the economic development of the last century, nor devised means to protect the citizen in his "pursuit of life, liberty and happiness," whether he acts as an individual or as a member of a corporation. The changes have been so great and rapid, the constitution inadequate, laws not always in accord with true economic development, but rather the result of compromise between sections of the country and interests. Agitation and exposure there has been. Unscrupulous demagogues have fired the imagination of those not possessed of reason in high degree, and the morally criminal predations of the unscrupulous corporations have aroused indignation in the people.

Legitimate corporations, the people and the predatory corporations, who are responsible for many of the abuses arising, have all suffered. Attempts have been made to reach corporations by fines, with little success. Laws are inadequate; state charters are a barrier to federal supervision, and the people themselves rebel against too much government, or any law which restricts the individual, whether acting singly or in a group, from attaining his highest development, so long as that development is guided by moral and ethical laws.

There is no doubt but that a corporation, wisely administered, with immense resources at hand, can transact business in a more economical manner than an individual, benefiting thereby not only the stockholders, but all consumers as well. But when that corporation by manipulation of stocks robs the innocent shareholder of the legitimate earnings on his investment, creates fictitious values on some stock and robs others of value, he is just as much a thief as the man who puts his hand in another's pocket and takes from his support. It should be made a crime in one case as well as the other.

Writing of this in the September "North American Review," Woodrow Wilson, president of Princeton College, says: "We have never sought to bring the details of these transactions within the definitions of criminal law. Not to do so is like overlooking the highway robberies of the medieval barons. Moreover, it leaves an unjust stain of popular suspicion upon transactions similar to all outward appearance, but conceived in justice and fair dealing. Every corporation is dominated by some one person or group of persons, in respect to every essential step in its policy; somebody in particular is responsible for ordering or sanctioning every illegal act committed by its agents or officers; but neither our law of personal damages nor our criminal law has sought to seek out the responsible persons and hold them individually responsible for the acts complained of."

"It would require a careful hand and a minute knowledge of existing business conditions to draw the law, but statutes could oblige every corporation to make such public analysis of its organization as would enable both private individuals and officers of the law to fix legal responsibility upon the right person. We have never attempted such statutes. We indict corporations themselves, find them guilty of illegal practices, fine them, and leave the individuals who devised and executed the illegal acts free to discover new evasions and shape the policy of the corporations to practices not yet covered by the prohibitions of the law. We complain that directors are too often mere names upon the list, and that even when they attend the meetings of the boards to which they belong they give no real heed to what is done, and allow some committee to have its way unquestioned; and yet the law could easily make them responsible, personally and individually responsible, to any extent it chose, for acts which their votes authorized, and could thereby change their nominal participation in the affairs of the corporation they pretend to govern into real participation and watchful oversight. Let every corporation exactly define the obligations and powers of its directors, and of its several officers and managers, then let the law fix responsibility upon them accordingly.

"In order to clear the air of unjust suspicion, give credit where credit is due, condemnation where condemnation, let us set ourselves to work to single out individuals and fix personal responsibility, and we shall both lighten the difficulty of government and make a new platform of life. Governmental supervision there must be; not the kind that seeks to determine the process of business, but the kind that brings home to individuals the obligations of law.

"It would be a happy emancipation. We should escape the burden of too much government, and we should regain our self-respect, our self-confidence, our sense of individual integrity. We should think straight with regard to the moral aspect of conduct, and we would escape perplexity with regard to our political future. We should have once more the exhilarating freedom of governing our own lives, the law standing as umpire, not as master."

FARM AND FIRESIDE believes in keeping its advertising columns just as clean as its editorial columns. You can read every word of FARM AND FIRESIDE without being offended by a lot of objectionable advertising matter.



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EDDYSTONE  
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## MEETING OF PRIESTS OF DEMETER

The Priests of Demeter of the Order of Patrons of Husbandry, the National Grange concurring, will assemble in Foot Guard Hall in Hartford, Connecticut, at eight o'clock on the evening of Friday, the fifteenth day of November, 1907, for the purpose of conferring upon all qualified applicants the seventh degree of the Order. By command of  
GEORGE B. HORTON,  
High Priest.

## THE OBSERVATORY

National Deputy Hoyt did some splendid work down in Vermont. He added 911 members, at a cost of twenty-five cents a member. That's Grange extension work that pays.

One of the most important meetings of the year is the National Tax Conference, which is to convene in Columbus, November 12th. Men of wide repute from all over the United States are to meet and deliberate upon methods of securing equality and justice in taxation. Governors in each state have appointed delegates. Inasmuch as the entire country is aroused, the convention will be of interest to every reader of FARM AND FIRESIDE.

When a politician comes with a warm clasp of the hand for your vote, ask him if he is willing to get along with as few clerks as he did before the county salary law was enacted, and if he will collect the fees as aggressively for the public purse as when they went into his purse, and if he will use his power to have all surplus in county offices go into the county school fund. "Aye, there's the rub." The people pay the bills and vote who shall reap the benefit. It's up to them whether their money shall go to enrich a few office holders or benefit the schools. Which do you want? You can have either.

Things for which each of the states are especially working: New Hampshire for educational system, and good roads; Massachusetts, destruction of gipsy moth and other ravenous insects, and improvement of highways; New York has secured a notable victory in good-roads legislation and is working to extend Milk Unions within the Grange; Pennsylvania is especially interested in establishing National Grange Banks; Kansas is pushing the bank and co-operative propositions; Ohio is working for restoration of bonds to taxable list of subjects, permanent, non-partizan tax commission, good roads, supervision of schools, better teachers and such child labor and truancy laws as will enable each child to develop to the utmost all the latent ability within him. All commendable. Each state keeps the educational part well to the front.

## Fashion Book Free!

I want to send you my handsome new book showing hundreds of the latest styles with illustrated lessons on cutting and dressmaking. I will agree to sell you all the patterns you want for five cents each. They are the same patterns you have always paid 10c and 15c for at the stores, made by the same people, and correct in every detail.

### HOW I DO IT.

I publish the FARMER'S CALL, a weekly farm paper that every Farmer should read. I want every farm home to subscribe for it. It treats on all subjects pertaining to the farm. It is also mighty interesting for the woman on a farm. Among its special features for women folks is its fashions in which I show the

Five Cent Pattern. Let me help you to save money.

### My Special Offer.

Send me 25 cents and I will send you the Farmer's Call every week (over 1,000 pages) for one year and will send my big Fashion Book to you free. I will also agree to sell you any pattern you want thereafter for 5 cts. I can sell them for 5 cents because I buy them by the thousand and don't make any profit. I don't want the profit. I want your subscription to the FARMER'S CALL. You will save many times the cost of my offer in a year. Write to-day JOHN E. STAHL, Dept. 22 Quincy, Ill.

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# PONIES FOR OUR BOYS AND GIRLS



## You Can Get One!

WOULDN'T you just love to have one of the beautiful Shetland Ponies pictured above? There are five ponies more, too, whose pictures we haven't room to print here, and five pianos and thousands of dollars in prizes and rewards—all for our boys and girls. Every pony is guaranteed sound as a dollar, and they are all young and gentle, too. There are nearly three hundred Shetland ponies on the Farm and Fireside pony farm, and these ten ponies are the best of them all. They are the most beautiful ponies you ever saw, and you will be the proudest girl or boy in the whole land to own one of these handsome little Shetlands. Just think how happy you will be to have a beautiful pony, cart and harness all for your very own! This is the greatest and most liberal pony contest ever conducted by any publication in America, and it will be different and more generous than any Farm and Fireside has ever conducted before. Altogether we offer our boys and girls, ten beautiful Shetland ponies, five superb \$750 Harrington pianos, 500 magnificent grand prizes and \$10,000 in ponies, prizes and rewards.

### The Five Pianos

These pianos are the most beautiful and most reliable pianos that we could possibly obtain. They are exactly similar to the picture at the right. We offer five of them to the first five pony winners if they would rather have a piano than a pony. Each piano, like all the other prizes, will be sent to the winner absolutely without any cost whatsoever. These pianos are 4 feet 10 inches high, 5 feet 3 inches wide, 29 inches deep, and made with all the very latest improvements. You can have either a fancy mahogany, walnut or oak case, whichever you prefer. These beautiful instruments are made by the E. G. Harrington Co. Inc., 138 Fifth Avenue, New York City. Only the very best pianos are sold on Fifth Avenue, and the person who gets one of these superb \$750 Harringtons will be mighty happy and fortunate. You can win one if you hustle!



This is the \$750 Harrington piano, five of which are to be given away in this great contest.

### The Pony Man

Right away you ought to get acquainted with the Farm and Fireside Pony Man whose picture is at the top of this page. He has full charge of this great pony contest, and if you write him right away today and send the coupon below, he will send you a whole lot of things you will be glad to get, absolutely free. The Pony Man is going to make it his business to help our boys and girls win ponies or other handsome prizes in this pony contest. He will help you in every way possible if you will just send him the coupon and ask about the ponies. The Pony Man is a mighty good friend of all our boys and girls, and besides helping them in so many ways, he guarantees that absolutely every contestant enrolled in the great pony contest, will get a valuable prize. Just think, as soon as you become enrolled as a contestant, you are a prize-winner sure—we guarantee it!

## HOW TO GET A PONY

DEAR PONY MAN: — Please send me by return mail all the pictures of the ponies, pianos and other things you mention, and tell me just how I can get a pony or a piano. Please save a place for me in the contest I will send my twelve subscriptions as soon as possible.

It is easy to get a pony when you once get started. Just cut out the coupon below (or a postal card will do), write your name and address on it, and send it to the Pony Man today. He will send you by return mail absolutely free of all charge, pictures of the ponies and the pianos, a fine picture of Archie Roosevelt, the president's son on his pony, and lots of other interesting things, and he will tell you just how all the ponies and prizes will be given away, and how you can get one. If you want to make sure of your prize the very first thing, don't wait to hear from me, but start right out and get twelve of your friends to subscribe to Farm and Fireside right away. Then you will be a prize-winner sure. But don't forget to send the coupon today—right now. I will send you all the pictures and other things free by return mail. Don't wait. The sooner you start, the quicker you will have your prize!

*The Pony Man*

Dept. 3, Farm and Fireside, Springfield, Ohio.

Name \_\_\_\_\_  
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Town \_\_\_\_\_  
Date \_\_\_\_\_ State \_\_\_\_\_

### Keep up the Country Church

BY W. C. KENTON

RELIGIOUS papers of every denomination unite in deploring the condition of rural churches. They show alarming statistics in their columns, giving the decline in membership and other signs of decay, that should cause country people all over the land to redouble their diligence toward keeping the sanctuaries open for worship and the people alive to the refining and elevating influences of these temples of worship.

It must not be supposed that the country is the only place where people are indifferent to religion. The rich, who have six days in the week for pleasure, unblushingly profane the Sabbath in every city and refuse to go to church. In small towns the churches have their own problems in getting people into them, and in the middle-class cities wickedness openly flourishes. But there is something about the peaceful and prosperous country that leads one to suppose farmers and their families should especially be drawn to the House of God Sunday after Sunday, that makes the decline in the matter all the more conspicuous.

In the old days, when the rural mail service, the telephone, the steam railroad and the trolley had not brought the country into close touch with the great business marts, people were more devoted to church than now. There were fewer places to go, Sunday excursions were not so numerous and religion was a more vital matter than to-day. Our forefathers may have had a stern, uncompromising kind of religion that looks forbidding as we view it through the haze of years gone by, but they had something to live and die by, whereas many of their descendants have nothing for either.

In summer the Sunday excursion is the great foe of rural churches, and when winter comes, the habit of staying away is so fixed that people do not take the trouble to hunt up an excuse when Sunday comes. Then, too, with many people Sunday is a day for visiting and entertaining company to such an extent that church services are out of the question. In some barn yards it is a common sight on Sunday to see from three to five buggies, while a swarm of children play noisily and the women tire themselves out with extra cooking. It is no wonder that the Sunday school languishes and a mere handful of people gather to listen to the discouraged minister.

And when the Sunday services are abolished, is the community bettered? Not if we are to judge by the neighborhoods where the churches have fallen into decay. In one community where the church has been closed for years the young people are notorious for their wild, bold deeds. Even the young women are vulgar and profane, while the whole place seems to be sinking into decay.

In direct contrast to this dark picture is a happy neighborhood where the church is filled every Sunday with eager, attentive listeners. Young and old unite in making the Sabbath a delight, and the social and intellectual life of this community is far above the average. The young people are refined and cultured, and the farms in that vicinity sell for more than where the young men and women are ignorant and immoral. Instead of being a day for breaking colts, pitching horseshoes, wild races and hunting woodchucks, as in the community where the church is closed, the Sabbath is filled with music, worship, good deeds and pleasant thoughts. Many a man who does not want to help along with the religious life of a neighborhood, yet hesitates to take his children into a loose, careless set of young folks. He allows others the privilege of training his children in the things pertaining to the higher life, because he is too lazy or indifferent; but it is worth something that he recognizes their value, after all.

By all means keep the rural churches open. They are the cities set upon hills, and their lights must never be allowed to go out. From the country churches have gone forth heroic men and women to show the world how Christians can live, and there must be generations to take their places when they are gone. For the sake of your children, for the good of the community and for the welfare of the nation, labor to preserve the country temples of worship.

### The Whys and Wherefores of Common Things

THERE are a great many common things that we run across every day that have interesting origins and history, and along this line the "Scrap Book" very cleverly presents the following:

WHY do physicians place at the head of a prescription the letter R with a line through the tail?

BECAUSE the letter represents the Latin word "recipe," the imperative of [CONCLUDED ON PAGE 26]



**THOUGHTS FOR THE FARMERS**

Pin your hope on your own crop.

All is not horse sense that man calls such.

The best cow-milking machine is the hand.

The "feet" of much stock make a barn "yard."

Wonders are yet to be developed by the farmer.

Better than a burglar-proof home is a trouble-proof one.

Dress your farm surroundings in all the style you can afford.

Find the weak spot in your fences and yourself, then strengthen them.

All the "pull" some people need to get along in the world is horse sense.

A genius is a man who can rise early without the aid of an alarm clock.

There are no flies on farmer Jenkins—nor his cows, either. He sprays them.

What is perpetual motion?

Think ye there is none?

It is a woman's work,

Which is never done!

W. J. BURTSCHER.

**LEAVES FROM A FARMER'S NOTE BOOK**

The high price at which hay is selling at the present time is a strong temptation to our farmers to sell it off and get the money for use to-day, forgetful of what the consequence may be upon the condition of the farm to-morrow. On the streets of the city hay is now bringing from fifteen to eighteen dollars readily. A good price, it is true, and one that appeals to most of our farmers. But stop and think of the result. Every ton of hay sold off makes the farm so much poorer. Unless something is put back to take the place of the hay, as is very seldom the case with the average farmer, just so much has gone out of the value of the place. If kept up, it does not require much of a prophet to see where we will land. And it will not be long before we will land, either.

I was talking with a man about that yesterday. This is his view of it, and it strikes me to be a very sensible way of looking at it, too. "We think of buying some young stock and feeding our hay out on the place. We have a nice lot of hay, but I would rather use it up at home. We are trying to bring up our farm. Don't you think this is a good way to do it?" I certainly do. It is the best kind of policy to feed the farm. In doing that we are feeding the farmers of the future. We do not know who will be on our farms when we are done with them, but we do know that some one will be working away on them to make a living. Ought we not to be fair with them?

Lumber is booming. You could have bought hemlock lumber ten years ago at ten dollars a thousand. Now for the same lumber you must pay about twice that sum. It stands us, who have little patches of timber land left, to take the best care of them we can. Just now, when we are looking about for wood to burn this winter, it is well to think about this. What can we do to solve the timber problem?

In the county in which I live we are having some very unpleasant experiences just now, and all over the question of good roads. We were glad when we knew that better roads were coming, as we needed them, but the outcome of the effort to get them has proved decidedly serious. The law of the state provides that counties may take contracts for and build good roads. This we undertook, believing that we might save some money to the tax payers. For a time it did look as if this might be the case. Then one man, the clerk of the board of supervisors, which, by the way, is the body that has power under the statute to build roads, began to build something besides roads. He started out to build up a big machine for his own personal aggrandizement. Briefly, what is the situation with us? The county treasurer has resigned rather than face the governor on the charge of paying out the public funds illegally, the superintendent of the poor, who was also a dupe of the clerk of the board of supervisors, has sent in his resignation, the clerk himself is under indictment on five charges of forgery and grand larceny, and as I write he sits in jail awaiting the action of the courts because he could not get bail. Other prominent officials are under a cloud, and the people are wondering what will come next. It simply shows that we are terribly lax in the matter of choosing our public officials. Any man that wants a place, no matter

whether he be wise or not, competent or incompetent, is pretty sure of winning if he wears the people out with his pleadings. We are beginning to think that it is time to look for men ourselves, instead of having them look for us. Taxes have doubled in this county in the past few years, and nobody knows how much money has been stolen, or misappropriated, which amounts to the same thing.

Let me turn away from this kind of "farming," however, and go back to farming of the better nature. Dry weather has worried our farmers some. The pastures up to the first of September were as dry as I ever saw them. No rain had fallen in months. Crops of all kinds had suffered somewhat, though oats was a good crop and potatoes bid fair to be so, likewise. Then came generous rains. Not until after the milkmen of the cities had raised the price from five to six, and in some cases even eight, cents a quart, though. And since then we have enjoyed ourselves first rate. Corn has been coming on nicely, and a good deal of it is out of the way of the frost. Potatoes have looked fine all summer, and if the wet and moist weather does not rot them, we will reap a good harvest from that source.

Speaking about the price of milk, let me say that it is not the farmers who have been realizing from this advance, especially where they sold their milk to the city dealers. With these men the farmers had a contract for the season, so that they cannot get any more, no matter where the price goes. This is not a wise way of tying one's hands. It will be a lesson to our farmers, I am sure. Who wants to bind himself, hand and foot? Surely not any sensible man. Where men make their milk into butter they have done well, receiving good living prices. Butter has steadily advanced, as well as have all milk products. Surely we have no cause to complain.

Land is changing hands freely with us at present. Every few days we hear of some man that has bought a farm home. Young men are coming back to live with us. That is a favorable indication. The drift has been away. But men are coming to see that the farm is the best place to live. Good! Let them all come! Every good, honest man that comes to make his home in the country makes his country so much the better and so much the richer.

We are working hard to get our stock into good order for cold weather. It will not be easy to lay on flesh when winter comes. By far better do it now. Surely we must not let the cows pass through winter thin, so that they will come out next spring in poor condition to begin work. That would mean a heavy loss to us while the cows were getting up into prime shape.

**A HOSPITAL FOR ANIMALS**

A sanatorium for dogs is described by Miss Annesley Kenealy in a recent issue of the "Lady's Realm" (London).

Of course only wealthy dogs could afford so expensive a private nursing home, which is what it practically is. Poor dogs must go to the out-patients' department of the Royal Veterinary College. Among the patients are a King Charles' spaniel fitted with a glass eye; another tiny spaniel with a false leg and paw; a kind of dachshund in a surgical night cap; a cat with its leg in a splint—in fact, there seems little that surgery cannot do for these pampered canine and feline darlings, except to make for the former an artificially wagging tail. The Roentgen rays prove most useful when frolicsome kittens swallow hat pins, hair pins, tape and other unwholesome substances. A costly diamond stud, swallowed by a pet dog, was recovered by their aid. Much dentistry is done for dogs. Sets of artificial teeth can be put in with the utmost success—such success, in fact, that one dog, of hitherto unblemished reputation, went and stole a chop the moment he had got his new teeth in. An old collie, however, swallowed the first set of teeth, smashed the second over a bone, and became highly expert in removing subsequent sets with his paw. A permanent plate on the American bridge plan had to be put in to prevent him taking them out. An electrical motor pump has now been invented for administering anesthetics to dogs. British veterinary surgeons have, it seems, a very high reputation, and sometimes journey abroad to attend distinguished dogs. The nurses and surgeons at Mitcham wear proper linen dresses and blouses; and the wards are admirably fitted up, though certainly they look like ordinary hospital wards. They are, of course, private wards. There is also an elaborate larder, and a maternity ward. It is all very absurd, yet, as many of the dogs treated are pedigree dogs, it is perhaps not quite so ridiculous as it seems at first.

**Here is Your Opportunity**

There is no place in all Texas where greater opportunities exist than in the territory which lies between the Trinity and Brazos rivers. For over 300 miles these two rivers flow parallel to each other, about 70 miles apart, forming a wonderfully fertile region, known as the Trinity and Brazos Valley. This rich district lies right

**In the Heart of Texas**

with rich lands and prosperous towns on all sides of it.

Within the past few months the Trinity & Brazos Valley Ry. has been built through the very centre of this fertile valley, connecting Dallas and Ft. Worth on the North with Houston and Galveston on the South, and giving the territory along the line a direct railroad to four large markets, which it has needed to develop its great resources. Land in this valley varies in character from the finest black waxy land, capable of growing enormous crops of staples like cotton, corn, wheat, etc., to the light, sandy soils, which produce fruits and vegetables in great abundance.

At present these lands can be bought at from \$5 to \$40 an acre, according to character and location, but, with direct railroad transportation and the large number of settlers buying up the land, the price will not long remain so low.

Don't you want a farm in

**The Trinity and Brazos Valley**

at a quarter to a half of its real value? Think of getting land at these prices in The Heart of Texas. It is a chance that will come but once in a lifetime. Don't let it slip by. Investigate.

Take advantage of one of the low-rate excursions on the Rock Island-Frisco Lines, only \$20 from St. Louis or Kansas City, \$25 from Chicago, to any point in the Trinity and Brazos Valley and return.

If you would like to read something about the opportunities open to you in the Trinity and Brazos Valley write for my book on Texas. You will find it full of good, reliable information. I will send you one, without cost, if you will give me your name and address.

The Rock Island-Frisco Lines have no land for sale and are only interested in getting good, energetic settlers for the desirable, but unoccupied, lands along their roads.

I have chosen several specific sections, where conditions are especially favorable for new settlers, and am advertising their advantages. If you would prefer some other section than the Trinity and Brazos Valley, look for my advertisements in other issues of this paper, or write me for specific literature about the section you are most interested in.



JOHN SEBASTIAN, Passenger Traffic Manager, Rock Island-Frisco Lines, 1222 La Salle Station, Chicago, or 1222 Frisco Bldg., St. Louis

**Amatite ROOFING**

**WHY IT NEEDS NO PAINT**

Amatite is a new and better kind of ready roofing. The old kind was smooth and coated with paint. The new kind—Amatite—is surfaced with real mineral matter (see diagram) and requires no paint.

No looking after your roofs every spring if you use Amatite! No paint to buy! No work to do! Just leave the roof alone, year after year, and you'll be free from the annoyance of leaks. Amatite is easy to lay, requiring

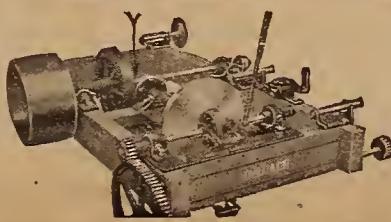
no special tools. Cement for laps and nails packed in center of every roll.

Free Sample will be gladly sent on request to anyone interested in this "no-paint" roofing.

**BARRETT MANUFACTURING COMPANY**

New York Chicago Philadelphia Cleveland Cincinnati Minneapolis Boston St. Louis Allegheny Kansas City New Orleans London, Eng.

ENLARGED SECTIONAL DIAGRAM SHOWING HOW AMATITE IS MADE



**THE ORIGINAL DeLOACH SAW MILL**

For 25 Years the Standard.

Copied by Many. Equalled by None. MILL MACHINERY of ALL KINDS ENGINES, BOILERS AND GASOLINE ENGINES

We Pay the Freight.

DeLoach Mill Mfg. Co. Box 300, Bridgeport, Ala.



# Thanksgiving Offer

## To Both Old and New Subscribers

As a special Thanksgiving gift to the FARM AND FIRESIDE family we have extended till Saturday, November 30th—and no later—the time when you can get one of the beautiful polychrome replicas of the \$1,500 oil painting below free with a new subscription or a renewal to FARM AND FIRESIDE. If your letter bears a later post-mark than November 30th you will not get the handsome replica.

We intended to withdraw these offers November 15th, because we can't afford to give away these beautiful polychrome replicas any longer—they cost too much. Although they would easily sell for \$2.00 or more in any art store if we allowed them to be sold, we have given away thousands of them free within the last few weeks to our readers who have renewed promptly, and to new subscribers. But to give you one grand last chance to get one of these superb reproductions for your home, and as a **Thanksgiving Gift from FARM AND FIRESIDE** to our old and new friends, we are going to hold these offers open until Saturday, November 30th. **That will be the very last day.**

No matter whether you are an old or a new subscriber, we want you to accept one of these liberal offers so that we can send you this beautiful Thanksgiving gift. This great painting is so beautiful that we want one of the handsome polychrome replicas of it to be in every FARM AND FIRESIDE home because they are just like the original painting. This special FARM AND FIRESIDE edition of the polychrome replicas is reproduced in such a way that all the delicate shading and color values, all the deftness of technique and lightness of touch of the original painting have been preserved. We won't allow them to be reproduced except for our own readers. Remember, November 30th is the very last day.



THE ARTIST'S POLYCHROME REPLICA "MOTHER AND BABE"

This is the magnificent \$1,500 masterpiece of Mr. Earl Stetson Crawford's which took first prize in a contest where there were over 5,000 paintings submitted from all over the world. It is one of the world's greatest paintings. We thought it so beautiful that we bought it purposely to reproduce for our readers. The reproductions are made in all the colors of the original painting and are 10½ x 16½ inches. They are sent carefully packed and all ready to hang up in your parlor or sitting room. This picture cannot possibly show you anything like the beauty of these handsome reproductions: Remember, you cannot buy these reproductions for any amount of money. They are not for sale. But you can get one absolutely free by accepting any of the offers below by November 30th. Surely you want this great masterpiece in your home when it doesn't cost you a cent!

**These Offers Are Open to Both Old and New Subscribers**

Offer No. 1

**\$1.00**

Offer No. 2

**50c**

Offer No. 3

**25c**

gives you Farm and Fireside seven whole years—168 big, helpful numbers—and the magnificent polychrome replica, the publishers' Thanksgiving gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but six-tenths of a cent.

gives you Farm and Fireside three whole years—72 big, helpful numbers, and the magnificent polychrome replica, the publishers' Thanksgiving gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but seven-tenths of a cent.

gives you Farm and Fireside one whole year—24 big, helpful numbers, and the magnificent polychrome replica, the publishers' Thanksgiving gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but one cent.

### These Offers Expire Saturday, Nov. 30th

CUT ALONG THIS LINE AND SEND TO-DAY

**A BLUE MARK**  
in the square below indicates that you are an old subscriber and that your subscription has expired.

Renew by accepting one of these offers before they are withdrawn.

**THANKSGIVING GIFT COUPON**

---

FARM AND FIRESIDE  
SPRINGFIELD, OHIO.

I accept your special Thanksgiving Offer No. .... for which I enclose..... Please send both FARM AND FIRESIDE and the polychrome replica to

Name.....

Rural Route.....

Town.....

Date..... State.....

which means "take," and the little dart (originally a thunderbolt) is the symbol of Jove or the Latin god Jupiter, which invests the writer with authority. The sign therefore means "By my authority take this," but properly translated is "By Jupiter, take this."

WHY do soldiers fire a volley over the grave of a dead comrade?

BECAUSE in days gone by, when superstition was practically universal, it was generally believed that making a noise kept away evil spirits, and the passing bell came into vogue for that reason. When firearms were invented, volley firing was substituted for the passing bell, the belief being that the sound of battle would be more efficacious in the case of a soldier.

WHY, when a person displays a cowardly spirit, do we say that he "shows the white feather?"

BECAUSE in days when cock fighting was a popular sport a white feather in the tail of a bird was taken as evidence of inferior breeding and courage, and the term became common among the slang phrases of the period as applied to persons who showed a lack of courage.

WHY do brides wear veils at the marriage ceremony?

BECAUSE it was the Anglo-Saxon custom to perform the nuptial ceremony under a square piece of cloth held at each corner by a tall man, the object being to hide the bride's blushes. From hiding both the bride and bridegroom the custom changed until only the bride was shielded from the inquisitive gaze, and a veil was substituted for the cloth.

#### Number 9 Church Walk

[CONTINUED FROM PAGE 19]

There was a blinding flash of light, a scream from the woman, a roar of alarm from Bud and a curse from the lawyer, and the next moment they were in the grasp of the policemen.

It was a short, fierce struggle that took place, and ten minutes later three badly used people were escorted out to the waiting officers in front.

It was a nine days' wonder in the little English watering town, and when at the assize's, two months later, the three rogues received their desserts in the shape of a long term of imprisonment, everybody nodded their heads and said: "Served 'em right, too."

The old house which had been the scene of the attempted conspiracy was found to contain many such secret doors and panels. It was a bit of old Cheltenham, and the bricked-in tunnel, down which Roger and Laura had climbed, connected with the old "Chelt," a little stream that wandered through the town. The woman "Sadie" knew of its existence, and suggested it to her accomplice as a good place for their purpose, where they could hold their prisoners until the court had acted upon the forged papers which had been filed. After that they intended to convert into cash the securities, and then get away.

The little lawyer Hickins had been convicted of forgery previous to this attempt of his, and "Bud" was an old jail bird, while the woman known as "Sadie" was his common-law wife.

"Did you ever see this before?" inquired Roger, holding up a photo.

He and Laura were seated in the Big Pump Room at the Pitville Gardens in Cheltenham, overlooking the beautiful lake. They had been enjoying an afternoon's skating, and on the morrow Roger was to leave for the north to resume his interrupted business trip.

"What is it?" cried the girl, starting up. "Why—why, it's my photo! Where on earth did you get it? I never gave it to you."

"No, I bought it," said Roger solemnly; "or rather, it was flung in for good luck."

"Bought it!" she repeated in bewilderment. "Flung in for good luck!"

"Sure. That and some other things cost me two dollars and twenty cents. The other things have all gone, but the photo remains, and it's well worth the money, I think."

Then followed the story of the Dead-Letter Office Sale.

"Why, I sent it to Clara three, no, four years ago. Clara was an old school chum of mine, and we studied telegraphy together. I thought it odd she never acknowledged it. And to think of its going to the Dead Letter Office and of your buying it."

"I want to buy the original now," whispered Roger. "Do you think I can?"

"She's not for sale," retorted the young lady with a saucy toss of her head, while the telltale blush suffused her face.

"I'm awfully sorry—" began Roger, but Laura cut him short with:

"You didn't buy that photo; you said so yourself just now. It was only thrown in for good luck. So you can't buy the original, but—but she might—perhaps fling herself in—just—just for good luck."

THE END



**MILITARY SCHOOLING FOR OUR BOYS**

IN AN article under this title in a recent issue of "Army and Navy Life and the United Service," Capt. R. F. Walton, of the 6th U. S. Infantry, after stating that he has studied the subject for years, says:

"One reason for the bad carriage you see in people is that they do not know what is good carriage, nor how to acquire it. The commonest direction is 'Hold up your head.' That does not hit at the real difficulty at all. A man can take any amount of pains with his head and chin, and still keep in an abominable position. Changing the angle of the head does not improve things. 'Throw back your shoulders,' is another familiar piece of advice, and one which comes no nearer to the point than the first. The position of the shoulders has hardly any effect upon the position of the body. The shoulders hang upon the outside of the body, like blinds on a house. Shift their place as much as you like, you do not change the shape of the chest cavity.

"There is only one way of doing that—by getting the back and neck where they belong, by keeping the spine erect. This proposition is easier to talk about than to carry out. It cannot be carried out unless a man is willing to make a determined effort. Attention is what counts. Students in military schools acquire good habits of standing and walking during the first six or eight weeks of their course. They acquire them so thoroughly that the matter needs practically no further care during later years. Constant attention is the explanation. At a military school a new student is kept watch of during all his waking hours. He is not allowed to stand, to sit, to walk, in any position except the best. Thus the whole organism gets gradually trained into the new habit.

"The military student is also put through special exercises for arms and back; but exercise is not the main factor in the process. People have the notion that exercise will make the muscles of a man's back so strong that they will pull him up straight without any thought on his part. This is contrary to facts. The back of the coal shoveler is bent, even though it be covered with coils of muscle. The truth is that a man's back tends to keep the same position in rest which is had during exercise. The coal heaver does his work with a bent back, and during rest it stays bent. Standing straight is primarily a matter of habit, not of muscle. It depends upon a man's nervous control. The nerve centers need to be trained; and this can be accomplished only by constant and persistent attention.

"It is clear enough that a stooping posture must decrease the efficiency of the heart and the lungs, and injure the work of the liver. But its bad effects do not stop there. When the abdomen is habitually relaxed and allowed to sag forward, all the important organs inside slip downward a little; they lie lower than they ought to. I have often known the lower border of the stomach to have dropped two or three inches from this single cause. Just why this condition should result as it does I am still uncertain. Perhaps it is due to a stretching of the nerves or blood vessels; but, at all events, the tone of the whole system is sure to be lowered; the organs grow flabby and do their work sluggishly.

"Good carriage is generally connected with a man's feeling of self-respect. If he slouches along with his eyes on the ground and his abdomen sagging, he is not in the position to have the strong and healthy feelings of self-respect that the man has who stands erect, looks the world straight in the eye, keeps his chest prominent, his abdomen in, and his body under thorough control—a 'chesty' man.

"If you are walking along the street, and wake up to the fact that you are carrying yourself poorly, take the mental attitude of standing straight, as well as the physical one. Look at the men you meet and imagine that each one of them owes you a dollar. Put even a suggestion of arrogance into your position. Hold your head well back, look people squarely in the face. This will not only give the impression to others that you possess the power you want, but will actually tend to bring that power.

"Keep the neck against the collar." "I have been told that some people objected to military in a school, on the ground that the time so spent at the work could be better spent in the study of Latin, Greek and kindred subjects. I cannot see how any one can come to such a conclusion.

"Some say the uniform is irksome, and perhaps this is so, but the advantage of having all appear alike, rich and otherwise, more than offsets this objection. The discipline should not be harsh, but no boy should be brought up to consider only his own will, and a little firmness applied while young will be of great value to him in later years."

**Roofing Without Leaks in Any Kind of Weather**

Yes, it is possible and, better still, it is possible to have a roof that will never leak, a roof that when once put on will be good for life.

You've tried tin and shingles and found that tin will rust and shingles will rot. Either one of them costs a pretty stiff price. When you consider how short a time they last do you really think they are worth the price? Isn't it one continuous patch, patch, after they have been on the roof only a short time? With tin it is not only a bother but a considerable expense because tinner receive a good price for their labor.

**MICA-NOÏD READY ROOFING**

Why not try MICA-NOÏD READY ROOFING on that roof you are figuring on right now? MICA-NOÏD is a prepared felt roofing that we have manufactured for 18 years. During that time thousands have tested it and have proven that what we claim for it is true—It's **GOOD FOR LIFE**.

There is just as much difference in prepared felt roofing as there is in horses. The only trouble is that, unlike horses, prepared felt roofings all look very much alike and it is hard for anyone not an expert to tell what actual lasting qualities a given sample of roofing has. The only safe thing for you to do is to get MICA-NOÏD, a roofing that has stood an 18-year test in all kinds of weather, in all kinds of places; a roofing that

has made good. You can't afford to experiment with roofing that has not proven itself. Every time you buy one of these new roofings you can expect to patch leaks before long. Don't take the risk. Profit by the experience of thousands of others. They experimented with all kinds of roofings before they tried MICA-NOÏD—then they stopped, and have been using MICA-NOÏD ever since. MICA-NOÏD Ready Roofing can be laid over shingles or tin, if necessary. You can put it on yourself. With tin or shingles you must employ an expert roofer and the cost of his labor alone would probably pay for the amount of MICA-NOÏD you need. We furnish everything necessary to lay the roofing properly. Only you and a hammer are required. MICA-NOÏD can be put on by anyone on any kind of roof no matter how steep or flat it is. As a siding for buildings to keep the cold winds out it is unequalled. A chicken house thoroughly covered on all sides with MICA-NOÏD will keep the chickens warm in the coldest weather, because it keeps every particle of moisture out. MICA-NOÏD is the only felt roofing that will not crack in winter or melt in summer. MICA-NOÏD is not sold by dealers now. Our price is direct to you. Send for samples and booklet. Both free and glad to send them to you.

**Mica-Noïd Manufacturing Company**  
115 Mica-Noïd Bldg., St. Louis, Mo.

CAUTION:—No MICA-NOÏD ROOFING has been sold to dealers since January 1, 1903. Any dealers or jobbers offering any roofing under the name of MICA-NOÏD will be prosecuted.

**DIRECT FROM FACTORY TO YOU - WE PAY THE FREIGHT**

**NEW INVENTION. CLEANS CLOTHES WHILE YOU REST.**

NO WASH BOARDS, WASHING MACHINES OR CHEMICALS. NO WASH DAY. NOTHING LIKE IT. NOT SOLD IN STORES.

SEE HOW SIMPLE, different, easy. Put on stove—add water, then soap, then clothes—that's all. In 5 to 8 minutes, clothes clean. Laundries clean clothes without rubbing—EASY WAY does same at your home. You can rest or read between batches. Dirt removed automatically except to move knob occasionally. Clothes cleaned while you get breakfast. With wash board you rub, then boil 20 to 30 minutes, then rub again. Or you boil, then tire yourself running heavy machine, which wears, tears and rubs the clothes—and afterward rub by hand anyway. The EASY WAY does alone in one operation the combined work of wash boiler, wash board and washing machine—less time, almost no labor—no injury to clothes.

EASY WAY creates energy by mechanical manipulation associated with hot water, soap suds, heated steam, and scalding vapor, utilized as a compound force, all contained in a closed compartment. Special operating arrangements.

Cleans woolsens, flannels, blankets, colored clothes, as well as white goods, finest laces, curtains, bed clothes. Saves your time, fuel, labor, clothes, buttons. Saves your strength, looks, health, money.

WITH EASY WAY, 30, 40, 60 minutes cleans washing which before took entire day.

No rubbing, wear, tear or injury. No soggy, bad smelling, heavy wood,—but all metal, sanitary, light in weight. Easily used, cleaned, handled—always ready. Child can use it—no experiment.

**USED BY THOUSANDS WHO PRAISE IT.**

J. McGEE, Tenn., writes:—"One young lady cleaned day's washing by old method in one hour with Easy Way. Another in 45 minutes." E. CRAMER, Tex., writes:—"Gave Easy Way a thorough trial. After 10 minutes clothes nice and clean." ANNA MORGAN, Ills., writes:—"I washed a woolen bed blanket in Easy Way in just 3 minutes, perfectly clean." J. H. BARRETT, Ark., after ordering 38 Easy Ways, says:—"You have the grandest invention I ever heard of." J. W. MEYERS, Ga., says:—"Find check to cover one dozen Easy Ways. Easy Way greatest invention for womanhood, forever abolishing miserable wash day. Sells itself." I. BECK, Ga., writes:—"Enclose order. Easy Way as represented. Worked 4 days—have 15 orders." J. T. PEAY, N. C., says:—"Been out 2 days—sold 17, for which enclose order. Everybody is carried away that sees it work." C. O. GARRETT, O., writes:—"Showed Easy Way to 7 families, sold 6. Most wonderful and grandest invention." N. BOUCHER, Mass., writes:—"Enclose order for 75 Easy Ways. Everybody wants one—best business I ever had."

Price, only \$6.00, complete, ready to use—sent to any address. Not sold in stores. Order now. You won't be disappointed. Send postal card anyhow—full description, valuable information, testimonials—all free. Thirty days' trial. Guaranteed, everything proven, old house, responsible, capital, \$100,000.00.

**Harrison Mfg. Co., 473 Harrison Bldg., Cincinnati, O.**

**BEST EVER HAPPENED FOR AGENTS, SALESMEN.**

**MANAGERS—MEN OR WOMEN**—at home or traveling, all or part time—showing—taking orders—appointing agents. "EASY WAY" new. Nothing like it. World unsupplied—agents making big money. When operated, people stop, look, listen, crowd, push, squeeze, miss engagements, get excited—watch it as though a thing of life. 12 see-10 buy. Write today for special agents' plan. Act quick.

*Easy Way as seen by the Artist.*

**CROOKED SPINES—STRAIGHTENED**

CURE YOURSELF OR YOUR CHILD AT HOME, WITHOUT PAIN OR INCONVENIENCE, OF ANY SPINAL DEFORMITY WITH THE WONDERFUL SHELDON APPLIANCE.

No matter how old you are, or how long you have suffered, or what kind of spinal deformity you have, there is a cure for you by means of the wonderful Sheldon Appliance. It is as firm as steel and yet elastic at the right places. It gives an even, perfect support to the weakened or deformed spine. It is as easy to take off or put on as a coat, causes no inconvenience, and does not chafe or irritate. No one can notice you are wearing it.

**CURE YOURSELF AT HOME**

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**AGRICULTURAL NEWS-NOTES**

The California grape crop is the largest one for many years.

Where apples are exported, and boxes are substituted for barrels, three boxes are equivalent to one barrel.

In 1906 our importations of raw silk and cocoons exceeded those of 1905 by over nine million dollars.

Colorado is taking the lead in establishing at the agricultural college a course in scientific horseshoeing.

The general government now has about one hundred and fifty million acres of land to be used for the preservation and propagation of forest trees.

The wheat growers in the state of Washington are said to be so prosperous that they are holding almost all of this year's crop for higher prices.

In Pawnee County, Nebraska, a sixteen-year-old catalpa plantation when cut gave a net return of \$152.17 an acre, making the annual profit an acre \$9.51.

The Burt, Olney Canning Company, of Rome, New York, owns a one-thousand-acre farm, on which is grown peas, string beans and squash for canning purposes.

The president of the Southern Cotton Association says that "the annual output of all the gold mines in the world could not buy one annual crop of the Southern cotton fields."

It would be of interest to know how much unused land there is on the farms of this country that could be used profitably in growing nuts and trees valuable for posts and lumber.

In the great wheat-growing districts of the Northwest steam-plow outfits are run both day and night. The bright headlights on the traction engines can be seen in every direction during the night.

San Paulo is the great coffee-growing state in Brazil. One half the world's supply of coffee is produced in it. Four hundred and twenty thousand workmen are employed in its production and shipment.

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.

The state of Washington reports the largest apple crop in its history. The bearing trees number over three and one half million. The three counties leading in production are Spokane, Yakima and Adams.

Most of the states of the Union are deplorably deficient in the matter of agricultural statistics. A notable exception is the statistical work of Hon. F. D. Curn, Secretary of the Kansas State Board of Agriculture.

Our permanent prosperity will depend largely upon maintaining a state of equilibrium between the three great departments—the Agricultural, the Industrial and the Commercial—the latter two being handmaids of the former.

When exact information as to the various kinds of food is disseminated among the reading, thinking classes, the use of wheat flour becomes more general. White bread is rapidly becoming the bread of the civilized world.

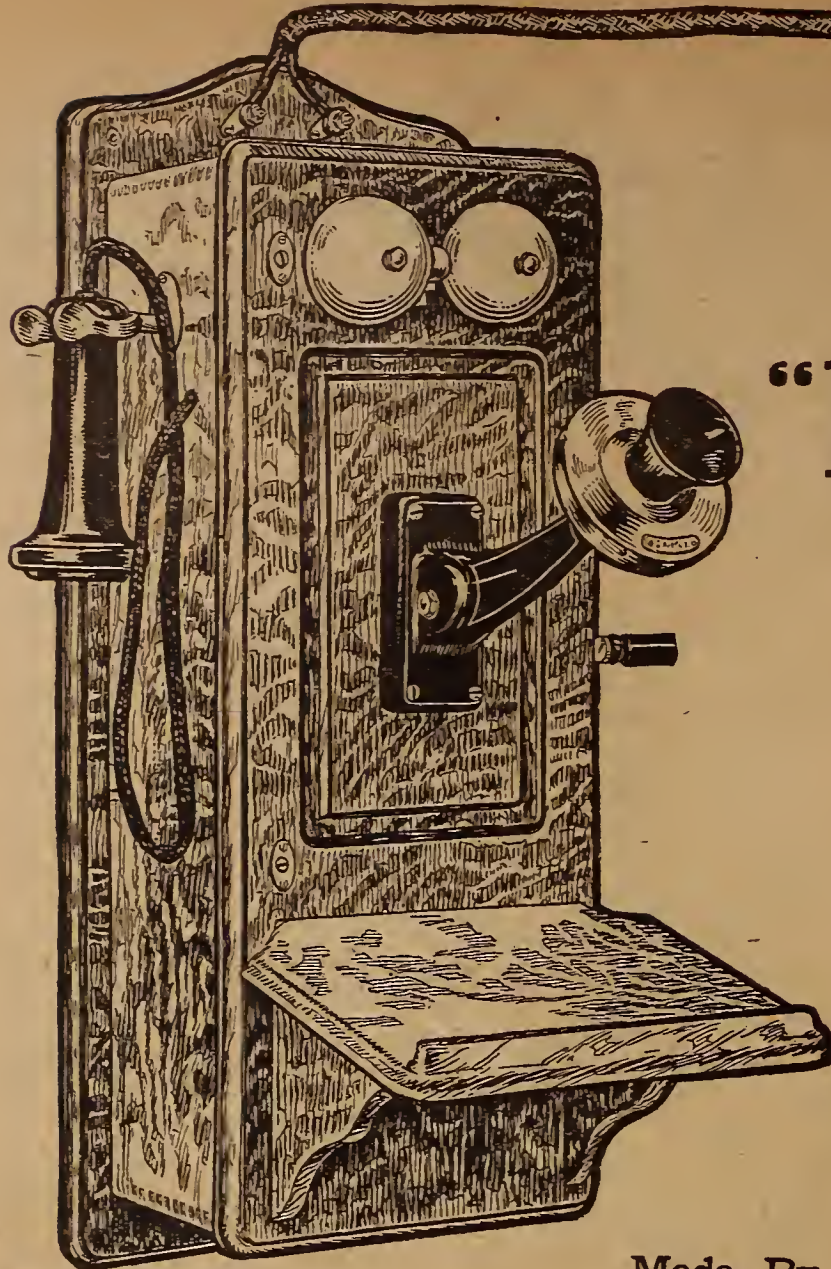
The railroad rate question is becoming interesting. The density of population to the mile of road in some of the states which have adopted the lower rate ranges as follows: Pennsylvania, 571; Virginia, 469; Wisconsin, 287; Iowa 226.

The owners of elevators in corn-growing states are being solicited to use their influence with farmers to induce them to improve the standard varieties, looking to the production of a uniform grade of higher quality and yield.

A despatch from Sioux Falls, South Dakota, says that Mr. Dickerson has an orchard of two hundred and fifty trees in Union County (the most southeasterly one), where he has grown peaches on a moderate scale for about twenty years.

About thirteen thousand acres are devoted to onion culture in the United States. This year's crop is estimated at 2,626,259 bushels. The general average yield is about 280 bushels an acre. As a rule, highest prices prevail during the month of April.

Secretary Wilson is said to be in favor of establishing one central beet-sugar factory in each state where there are now several factories. A number of smaller factories could extract the raw sugar to be forwarded to the central refinery. This would leave the pulp where it was produced for feeding purposes, which would be of advantage to the beet grower in several ways.



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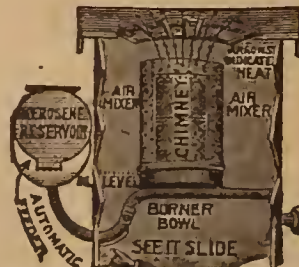
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D. CARN, IND., writes: "It costs me only 4 1/2 cents a day for fuel." L. NORRIS, VT., writes: "The Harrison Oil-Gas Generators are wonderful savers of fuel, at least 50% to 75% over wood and coal." E. ARNOLD, NEB., writes: "Saved \$4.25 a month for fuel by using the Harrison Oil-Gas Stove. My range cost me \$5.00 per month, and the Harrison only \$1.25 per month." M. KING, VA., writes: "Using one Burner and Radiator, I kept a 16x18 foot room at 70 degrees, when out doors 13 to 20 degrees were registered." REV. WM. TEARN, ME., writes: "This morning 16 below zero, and my library far below freezing point. Soon after lighting the Harrison Oil-Gas Stove temperature rose to summer heat." WM. BAERING, IND., writes: "We warmed a room 13x14 feet, when it was about 10 below zero with one Radiator." Objectionable features of all other stoves wiped out.

Not like those sold in stores. Ideal for heating houses, stores, rooms, etc., with Radiating Attachment; also cooking, roasting, baking, ironing, etc. No more carrying coal, kindling, ashes, soot and dirt. Absolutely safe from explosion. Not dangerous like gasoline. Simple, durable—last for years. Saves expense, drudgery and fuel bills. ALL SIZES. PRICES LOW—\$3.25 and up. Sent to any address. Send no money—only send your name and address. Write today for our 30 day trial offer—full description—thousands of testimonials. 1907 Proposition. Catalogue FREE. World Mfg. Co. 6680 World Bldg., Cincinnati, O.

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# FARM AND FIRESIDE



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It is Worth Your While to Read Our Liberal Offers on Pages 23 and 26



## STABLE MANURE AS A LAND IMPROVER

By E. P. WALLS, M.S., ASSISTANT BOTANIST AND VEGETABLE PATHOLOGIST MARYLAND AGRICULTURAL COLLEGE.

Regarding the use of stable manure as a fertilizer, the opinions of farmers seem to vary widely, but the general consensus seems to be that it is of the greatest value. Some probably overestimate its power for good, although it would seem this would be extremely difficult, while we find a few in every locality who believe that the time spent in the application of it is wasted. It is true that in sections of the West, where stable manure as a fertilizer is unknown, the land is still productive of enormous crops, but it does not require a second thought to assure oneself that this is not due to the absence of stable manure, but to the natural fertility of those comparatively virgin soils, whose plant food, though present in large quantities, is not inexhaustible, and the time is sure to come when every Western agriculturist must resort to some means of artificial improvement. Every tiller of the soil should so strive to utilize the home products of the farm as to reduce the expenditure of ready cash for farm purposes to a minimum; and there is no department of the farm where a greater reformation could and should be made than in the purchase of fertilizers. It is true that we must apply plant food to take the place of that consumed by plants, but the purchase of commercial fertilizers calls for a considerable money outlay, and the same improvement can undoubtedly be obtained much more economically by a judicious growing of cover crops and the application of manure manufactured through the repertoire of general farming. Below is given a table including the principal materials used in the manufacture of fertilizers, with their average content of plant food. This table is the work of some of the best agricultural chemists in America, and is thoroughly accurate and reliable. By adding up the number of pounds of plant food contained in one hundred pounds of each, and subtracting from one hundred, we have left the percentage of what is usually classed as waste material in each, and it will be noticed that stable manure contains a larger amount of "waste material" than any of the others named. But is this waste material, and is it therefore of no value? I shall endeavor to discuss this point, and to show its true value when applied to the soil. The table is as follows:

Name	Pounds Plant Food in 100 Lbs.		
	Nitrogen	Phos. Acid	Potash
Sulphate of ammonia.....	20		
Nitrate of soda.....	16		
High-grade dried blood.....	12		
Concentrated tankage.....	12	1.5	
Low-grade dried blood.....	10	4	
Bone tankage.....	8	10	
Dried fish scrap.....	8	8	
Cotton-seed meal.....	7	1.5	2.5
Steamed bone.....	2	2.5	
Ground bone.....	3.5	22	
Thomas slag.....		20	
Dissolved bone.....	2.5	14	
Dissolved S. C. rock.....		14	
Muriate of potash.....			50
Sulphate of potash.....			50
Kainit.....			12
Unleached wood ashes.....		1.5	6
Leached wood ashes.....		1.5	1.5
Well-kept hen manure.....	1.10	.56	.85
Well-kept stable manure.....	.57	.30	.57

A glance at the above table seems to indicate that stable manure is the poorest fertilizer known, being made up largely of waste and unavailable materials. But let us not stop with a casual inspection. Cause and effect are what determine results. It is seen that stable manure does contain some available nitrogen, phosphoric acid and potash, enough to stimulate plant growth at the beginning. A portion of the remainder becomes slowly available during the growth of the plant, and the remainder makes available the unavailable plant food already in the soil. There is perhaps enough plant food in the soil to furnish nourishment for a continual cropping until the end of time, but the farmer cannot make use of it because of the very limited means at his disposal for making it available. By the slow decomposition of the material contained in stable or barn-yard manure, that material being of a much varied nature, a sufficiently large number of chemical products are formed to furnish a solvent for every conceivable variety of unavailable plant food in the soil.

Aside from being a direct chemical agent, stable manure also has an indirect part to play in decomposition of matter already in the soil. This power is based on the same principle as the old doctrine of the great Jethro Tull, who argued that "Tillage is manure." He was right, but it was difficult to convince the farmers of his day. No decomposition can take

place except when air is present. The stirring and working of the soil improves its mechanical condition and makes it more accessible in the atmosphere. And this is just what stable manure does. By improving the mechanical condition of certain soils it makes decomposition go on more rapidly, and thus increases the fertility. It has the property of making "stiff" soils "light," and sandy soils "heavier." Thus it is not a question of what sort of soil we have, but whether it will be benefited by the use of manure. There are thousands of acres of farming land in the United States that are sending out a silent appeal for help in the way of diminished crops. What the practical farmer wants is to be able to satisfy that need in the most economical manner. I have answered that question in the first part of this article—that is, by growing cover crops and green manuring crops and the constant application of stable manure.

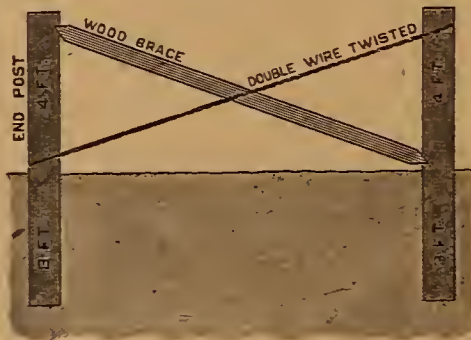
There is another factor in soil fertility with which manure has a great deal to do. All plant food must be in the form of solution before the plant can take it up from the soil. This, of course, necessitates the presence of moisture. This water comes from the water level, which may be several feet below the surface, and is brought up by means of capillarity and surface attraction. Some soils are so compact that the capillary spaces—that is, the pores or interstices between the soil particles—are so small that they do not allow the upward passage of sufficient moisture for the needs of crops. Such soils require that their mechanical condition be improved, in order that crops growing thereon be insured of a sufficient supply of moisture. Well-rotted stable manure will work wonders in this respect. Or, on the other hand, a soil—for example, a very sandy soil—may be so porous that capillarity is destroyed on account of the very large spaces between the soil particles. The use of well-rotted manure here makes the soil more compact, and provides for the lifting of a proper amount of moisture. If stable manure is used as a mulch, and allowed to lie on the surface as a top dressing, it will conserve the supply of soil moisture by preventing surface evaporation. But if manure that is not well rotted is applied to the soil and immediately plowed under, it will for a long time—in fact, until thoroughly decomposed—act as a waterproof blanket at the depth below the surface where it has been turned by the plow, allowing the water to rise to that point, but preventing its further ascent,

there seems to be only one first-class and thoroughly practical method, and that is by the use of the manure spreader. It makes no difference whether there is a large or small quantity of manure to handle, it will always pay to use the spreader. Some of the points in favor of this machine are the avoidance of bunching, so common when the old method of spreading with a fork is used; the same quantity of manure can be made to cover twice the quantity of ground to the same advantage; the disintegrating action of the cylinder teeth leaves the manure so finely divided that it readily goes into solution; the rapidity with which the work can be carried on, etc.

The subject of manuring is such an extensive one that it is impossible to touch on every phase of the work in an article of this length. This is simply elementary, and has been submitted in the hope that it may directly benefit some farmers and stock raisers and stimulate their interest to a more thorough reading and investigation of the subject.

## BRACE FOR WIRE FENCE

I like Mr. T. M. Coryel's brace for an end post of a wire fence, but send you a sketch of one I use, which is more easily



made. It gives good service. The construction is fully explained by the accompanying cut. G. C. GRAVES.

## THE FEEDING PROBLEM

I am one of those unfortunate soil tillers who do not raise grains enough for stock feed, and have to buy a good share of what the fowls, cattle and horses on the place require during the winter. The selection of grains and meals in these times of excessively high prices of such things is quite a problem, and puzzles me not a little. Wheat bran and oil meal have in past years been my main dependence for the purposes mentioned. I have also used oat and corn chop and middlings, though to a lesser extent. But when we are asked to pay twenty-seven dollars a ton for coarse wheat bran, and thirty-four dollars or more for a ton of corn and oat chop, it means that we have nearly reached the limit of what we can afford to pay.

Many farmers consider coarse bran as very little better, so far as feeding value is concerned, than sawdust or shavings. It is true that bran contains much indigestible matter, and it may be a question whether its protein contents are all utilized for nutrition. This is, perhaps, to nearly the same extent, true of other feeds, even oil meal, oat meal, etc. And yet I confess to have a slight prejudice against the bran at present prices. Oil meal has not advanced in the same proportions. Neither has gluten feed, nor dried brewers' grains.

In the first place, I shall give less grain or meal to horses that are usually standing idle in the stable than I have been feeding for some winters; but poultry, and cows giving milk, must have their full rations as usual. I have made up my mind, however, to feed oil meal a little more freely and other meals a little more sparingly than I have heretofore, and also to use gluten feed to some extent in place of bran until there is a new and to us more favorable adjustment of prices.

In these times we have to keep our eyes open and study the price lists of feeding stuffs very carefully. It would be easy to let our stock eat us out of house and home.

## MINERAL FERTILIZERS

People still ask about the value of wood ashes as a fertilizer. We have been taught and been telling of the good effects which free applications of wood ashes have had on garden and fruit crops, and that "potash paints peaches." We have thought that feeding our grape vines and apple trees with this fertilizer would make the grapes sweeter and the apples more highly colored.

Bulletin No. 289 of the New York State Experiment Station, entitled "Unprofitable Orchard Fertilizing," by Prof. U. P. Hedrick, and summarized in the popular edition by F. H. Hall, tells of the rather unsatisfactory results of yearly applications of wood ashes, with acid phosphate added during the last seven of the twelve years of test, and is there-

fore a disappointment to many of us. The facts in the case are, however, that the soil at the station, like that in many other sections of the state, and like that in my own orchard and garden, a strong clay loam, was originally, and still is, well supplied with potash and phosphoric acid, and that the trees and vines, feeding in a soil many feet in depth, have even in forty or fifty years not been able to lower the supply of these plant foods in their feeding grounds to any appreciable extent. Our trees and vines still find the needed plant foods for full crops.

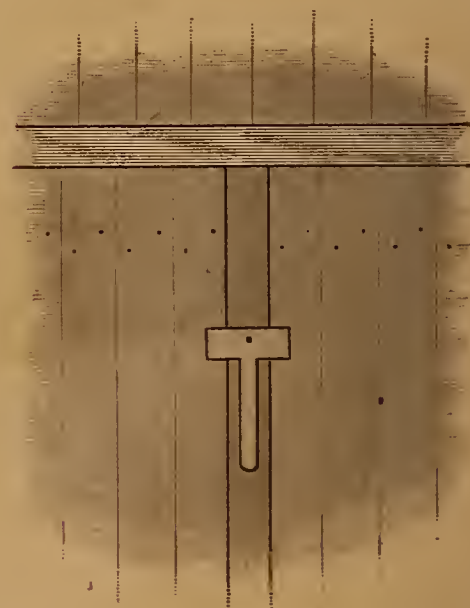
We grow just as good apple crops now on our trees as we did many years ago, except when we allow codling moth, scale, etc., to get the upper hand of us. The apples on an average in this vicinity were very wormy this year, but we had them as highly colored as we ever had them, especially where the trees were standing in sod, and where they have not had a bit of manure, whether from the stable, from stove or from mine, for many years. Larger crops, although not higher-colored apples have been obtained on land that has been kept under cultivation, and where cover crops, such as clover, vetches, etc., have occasionally been plowed under. Either the organic nitrogen, or the humus in the cover crops, or the better preservation of moisture secured by cultivation, must be given the credit for the increase of yield.

Yet quite opportune is the warning against the hasty conclusion that wood ashes and superphosphate do not amount to much in orcharding, or are always unprofitable. My own experience shows me that on lighter soils, gravelly loam or sandy loam, for instance, both wood ashes or other forms of potash and superphosphates often give wonderful results on both yield and quality of fruits. I have had astonishing crops of Columbus gooseberries on bushes generously treated with a mixture of wood and coal ashes in these clay loams, too.

For the more shallow-feeding garden crops, onions, celery, beans, peppers, egg plants, tomatoes, etc., the application of fresh wood ashes has seldom failed to give striking effects even on soils, like our own, that are supposed to contain plenty of these mineral plant foods. A few rows of celery, where the ashes, coming from the cook stove during summer, were applied as a top dressing along the rows, and were worked into the soil in due course of cultivation, give ample evidence of the usefulness of the applications. I find the celery roots feeding right into the spots where ashes are mixed in most thickly, and after the applications the growth has been remarkably thrifty, and the stalks brittle as glass and of the true chestnut flavor and sweetness. I am not "going back" on wood ashes by any means, and shall continue to carefully save and apply them, Professor Hedrick's unfavorable report notwithstanding. T. GREINER.

## DOOR LATCH

This easily constructed latch I have used for years on carriage doors that close together. It must be made of hard wood and bolted loosely to the upright



post. A turn to either side will release the opposite door, and the weight of the handle holds it in position. It can be used as well on a single door.

J. M. HURST.

Secretary Wilson's determination that the pure-food law, which is one of the best that Congress has passed in recent years, shall be rigidly enforced will meet with the hearty approval of food consumers throughout this and foreign countries. The difficulties to be contended with will only serve to increase the determination of the secretary to enforce the present law as long as it remains on the statute books.



## Mid-Winter Celery Growing

By Charles Alma Byers

WITH the coming of Thanksgiving and the other winter holidays it will interest many persons to be made acquainted with the nation's winter celery patch and its location—the place from which one of the principal "trimmings" of the turkey dinner comes. The United States every winter consumes tons of celery, and it is a safe surmise that comparatively few of the consumers know aught of whence it comes or anything about its raising. Many of them may know that a portion of the winter supply comes from cold storage and some of it direct from a winter celery patch located somewhere, but that in most instances constitutes the extent of their knowledge on the subject.

In Orange County, California, about forty miles south of the city of Los Angeles, there is a low, flat, moist tract of land, five thousand seven hundred acres in area, devoted exclusively to celery raising. This is the winter celery patch of the United States. This little corner of Orange County, known locally as the "Peatlands," has revolutionized the celery industry for the winter months of nearly the entire nation, and of a portion of Canada. During the season of 1905-6 more than three thousand carloads, or about 2,868,490 dozen bunches, of this pungent crop were shipped to outside markets, and in money this brought an income to the owners of these five thousand seven hundred acres of something more than seven hundred and fifty thousand dollars. And even this sum does not represent the true value of last winter's crop. There was an unusually large shortage of freight cars at the celery-shipping season, and it is estimated that between one hundred and fifty thousand and two hundred thousand dollars was lost to the growers on this account.

The other celery-producing countries of the United States which figure to any great extent in supplying the markets are Florida and Michigan. The former's crop begins to make its appearance toward the latter part of February, and the latter's supply ends the first of November. A few years ago a large part of the Michigan crop went into cold storage for a few weeks, and then came forth, more or less wilted and tough, to supply the demand of the winter months. A small portion of the winter consumption still comes from this source.

The larger portion, however, comes direct from the "peatlands" of Orange County, California, and is fresh and crisp and much more desirable for table use. The product of these five thousand seven hundred damp acres is marketed during the latter part of November, all of December and January and the early part of February, and thus it fills the breach between the Michigan and Florida seasons.

The celery growing industry in Orange County was started about fourteen years ago by D. C. Smeltzer, a former produce dealer of Kansas City, Missouri. From that time the industry has steadily increased in every direction, and at present there are about one hundred and fifty celery farmers in charge of the five thousand seven hundred acres of exclusive celery land. The value an acre placed upon this area ranges from five hundred to seven hundred and fifty dollars, the average price being about six hundred dollars an acre. The growers are banded together in an organization known as the Celery Growers' Association of Orange County, and it is through this association that almost the entire crop is shipped.

In preparation for shipment, the celery, crisp and pungent from the field, is put up in crates, each of which holds from seven to eight bunches, and an acre of ground usually produces about two hundred cratefuls, or from one thousand four hundred to one thousand five hundred dozen bunches. There are three grades of the product, for which the growers receive, respectively, seventeen, twenty and twenty-five cents a dozen bunches. The average for an entire crop is usually twenty cents a dozen. The cost of production is rarely more than forty dollars an acre, and each farmer controls about thirty or forty acres of land. It is a very profitable industry and one to which is attached not a great deal of work.

The celery-producing area of Orange County is a sort of peatland with a mix-

ture in some localities of a wet clay. The peatland portion of the soil forces the plant into quick maturity, and from such localities comes the earlier part of the winter supply. The crops in the clay soil area are developed much slower, and in this way the output is prolonged over a larger period. The clay soil is also more pregated with "holding" qualities, and by "banking" the crop a farmer can have a fresh supply for almost any time desired. The climatic conditions of the country are such that celery can be grown even better in the winter than in the summer months, the rainy season then being in progress; and of course it is at this season that the demand is greatest and the price best.

The sowing of celery seed begins here about the last of March and lasts until the first of May, and the transplanting is done from the middle of June until September. One acre sown with celery seed will plant forty acres of field. The plants are arranged in rows and are continually "banked" until the harvesting time, which bleaches the stalks and causes the plant to become white and crisp. At the marketing season the visitor to Celeryland, of which Smeltzer is the recognized capital, will see large caravans of large wagons stacked mountain high with crates of celery, and all during this season the air is heavily laden with the redolent odor of the plant. The crop is shipped by way of a spur of the Southern Pacific Railroad—and in this way is provided part of the Thanksgiving dinner.

### PROFITS FROM THIS YEAR'S CROPS

The crops this year are not so large as they were last, but I am satisfied they have been made at a little less cost. And as prices are higher, the farmer will have about as much, or maybe a little more, cash than he got last year. The crop has been made for a little less cost, because farmers could not obtain the help they would have hired if they could have gotten it, and therefore they arranged to get along with less even than they employed last year. Improved machinery has enabled them to do this. One man now accomplishes as much as two or three formerly did, and better.

Last year was a bumper year in almost all crops, and we must keep this in mind when we compare the crops of this year

land, is preparing to make a concerted attack on the great catalogue houses and put them out of business, then compel consumers to buy of them or go without. They are especially bitter against farmers who trade with the big department stores, or catalogue houses, as they call them. The journals devoted to their interests go into hysterics over the great prosperity of the department stores, and have been doing some fine advertising for them by their attacks. The small country village papers have also been helping these institutions along amazingly by their attacks on them. These people want the farmers to spend their money with them, regardless of expense, and to "build up the town" for their use by paying them a large percentage more for goods than the department stores charge for them.

These people do not help farmers in any way. They opposed rural free delivery of mail because they wanted to make the farmers come to town for their mail and buy something. They are bitterly opposing a parcels post and postal savings because they fear farmers will buy still more goods from the catalogue houses, and because they want them to spend their money in their stores instead of putting it in postal savings. One of their writers says: "We must go after the farmer trade. We must compel him to buy his goods from us. We have pointed out the advantages of trading with us, but he ignores our arguments and persists in trading with the catalogue houses."

The farmer won't be forced, but he can be led. Put your prices on a level with those of the catalogue houses, and the farmer will be your steady patron.

FRED GRUNDY.

### WHEN THE WORLD GOES HARD

When the world goes hard.

It will sometimes. There is a great deal said and written in these days about the beauty of farm life. There are some writers who in their enthusiasm paint the attractions of the country in such rosy hues that one would think from their sayings and their articles that there is no side but the sunny side on the farm. That these writers do a great deal of harm to the cause they are anxious to help there can be no manner of doubt. It is never well to overdraw a picture; and all of us who know anything about farm life know that there are times on the best-regulated farm when the world does pull back and it is the hardest kind of work to keep a level head. To overlook these days and say nothing about them is to be one-sided. In all fairness, especially to those

eternity. Every time the farmer has a chance to vote on the question he should put his foot on the saloon.

\* \* \*

And then there is the matter of hired help. This is one of the most serious problems with which the farmer of the present time has to deal. It is almost impossible to get a man that does not drink or swear or use tobacco. To bring such a man as this right into one's home and place him in contact with the boys and girls is a thing from which we may all shrink. But what can we do about it? We cannot do all the work ourselves. Somehow or other we must have help.

It is my opinion that the most feasible solution of this problem is the farm tenant house. Where there is such a house on the farm we may secure the services of a man who has a family of his own, and such a man is more apt to be steady and cleanly in his life, his words and his habits than is the one that has no home relations. When the day's work is done, the married man, instead of tramping away to town to spend the evening in things that are of questionable worth, is likely to be at home.

I would not be understood as sweeping all hired men into the list of habitual drunkards and profane persons. There are hosts of good, clean men working out to-day; and they are a help and a blessing to us all. I would not say one word against these faithful helpers. They are the salt of their profession and something better than the life of farm hands lies before them. It is only the profane, reckless men that I am speaking of now, and I am sorry it is so large a class of our farm help.

\* \* \*

Another thing that often comes with force to the farm is sickness. How can we avoid it, or meet it when it comes? The best way is to keep clear of disease, if possible. Some people seem to find a great deal of satisfaction in saying that farmers are more subject to certain diseases than any other class of men. I do not see why these dear people should get so much comfort out of that fact. Surely it is a thing to be deplored that consumption and insanity should be so prevalent on the farm.

The farmer women of the country are doing much to make the farm more healthful than it used to be. Good cooking is an art every woman ought to master. We have such a variety of good things, right from the earth, that it does not seem as if it should be at all necessary for any one to have poor or badly cooked victuals. Few farm papers but have a department telling the women folks how to make the best possible articles of food. The woman who can make good bread, cook vegetables and make plain pastry is a jewel. The young man who finds such a one should close a bargain with her as soon as he can, other things being equal.

\* \* \*

Overwork is another bane of farm life. Most farmers lose their heads on this point at some time or other. They see the work to be done; time presses, and they lose poise and work until they are about "ready to drop." A day or two goes on, and the doctor has to be called to see the man through a fit of sickness. All he gained by trying to do too much in a day is lost. Better by far take it a little easier and be a few days longer about it than to run the risk of sickness or death.

Working out in storms is a bad thing. Many a man has come to the grave just in that way. It does not pay from any possible standpoint. The place for us when the rain and snow falls is under cover. There are jobs enough we may do; if not, then rest for the days to come.

Pure water, good drainage and moderate eating are things for which every farmer should look out. Any one of the three neglected will bring trouble. Worry is the worst enemy the farmer has. If there is any one thing more than another we need to cultivate it is the art of keeping a steady hand on the throttle that controls worry. Worry will take the heart out of a man more quickly and do it more effectually than anything else of which I know. It stands us in hand to keep cool. There will be other days by and by; if not, we will not have to meet their problems.

In a word, the best way to meet the hard things of the farm is to keep calm, steady and sane.

E. L. VINCENT.



HARVESTING SCENE, OCEAN VIEW CELERY RANCH, ORANGE COUNTY, CALIFORNIA

with those of last. I have been a crop reporter sixteen years, with several helpers, and I note that my helpers have steadily become more and more conservative in making their reports to me, invariably going a little under the facts in their estimates than over. The department has aimed to select for crop reporters men who are not given to booming their respective localities by reporting great yields of this or that crop, nor who look at things through the big end of a telescope, and for this reason I have great faith in its reports.

Some men have a habit of beginning to destroy the crops before they are even planted, and continue to preach disaster to the end of the season. They do not believe what they themselves say; but they have gotten into the habit, and can't get out of it.

### THE SMALL SHOPKEEPER VERSUS THE CATALOGUE HOUSE

I note that the Retailers' Association, an organization supposed to comprise about all the small shopkeepers in the

who are thinking of making the farm their home, we ought to tell the truth, the whole truth and nothing but the truth.

If there never was any trouble on the farm, we need never look for a paradise beyond. Were that the case, we would be satisfied with this old earth and make no preparation for the great by-and-by. But few of us ever find that condition this side the pearly gates.

There are troubles on the farm. Take the saloon question. Few farms are exempt from its shadow. The town in which liquor is not to be had, either legally or illegally, is a rarity. Of the two evils the illegal saloon is far the worst. Both are bad enough. Both are a standing menace to the farmer boys of the country. But the open saloon always holds its arms wide, and says, "Come on! Let's all have a good time!" But it is a good time that has a sting to it.

What is the thing to do, then, with the saloon question in the country? Vote it out. It is a blight and a curse always and every time. How many farm homes have been made sad by the mildew of the saloon no one can tell this side of



### TREE GIRDLING BY MICE AND RABBITS

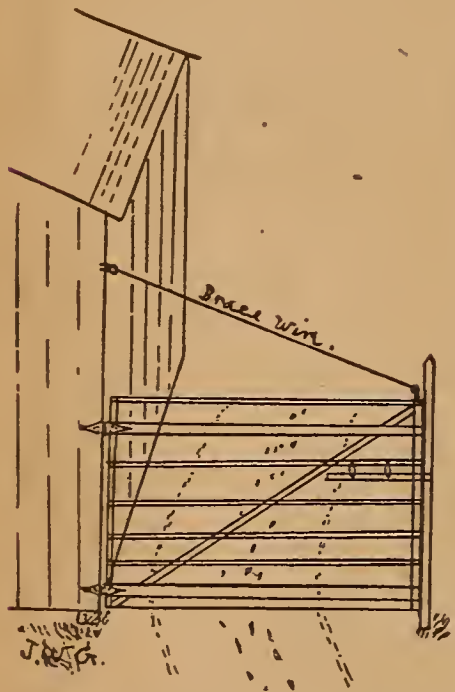
LAST winter many orchards suffered injury by rodents. In one instance noted by the office of experiment stations, every tree in a young grove of two thousand catalpas was completely girdled by meadow mice. Orchard trees when girdled in this manner are best remedied by bridge grafting; but less valuable kinds, like catalpa or locust, growing upon their own roots, should be cut off close to the ground and allowed to sprout again.

As a protection against such ravages, a woven-wire cylinder of small mesh about eighteen inches high is said to have given good results. The Minnesota Experiment Station says that some tree growers recommend the following treatment as a protection against mice and rabbits: "Make a thick whitewash about the consistency of cream, to which add enough blue vitriol—procurable at any drug store—to give a robin's egg blue color. Paint the trunks to a height of two feet." Another remedy is a poisonous solution, using one part of sulphate of strychnine, one third of a part of borax, one part of white sirup and ten parts of water. Shake well, cut fresh twigs from the trees being attacked, and with a small brush paint them lightly with the poison, especially the terminal buds. These are said to kill mice and rabbits without endangering other animals.

Mice may also be killed with strychnine powdered on cornmeal mush. Wheat or corn may be soaked twenty-four and one half hours in a strychnine solution, made by boiling a teaspoonful of the crystals in a cupful of water, the grain when dried to be scattered at the base of the trees. The chickens will have to be kept away from this.—Guy E. Mitchell in The American Cultivator.

### A CHEAP GATE LATCH AND SUPPORT

This latch and support may be attached to any style of gate. The latch swings on two wires and the end slips into a notch cut in the post. The brace wire runs from the top of the gate, as shown in the



cut, to the buildings, or a tall post may be used instead if the gate is in a fence away from any buildings. The higher the brace wire is on the building or post, the less strain there will be on it.—J. Wesley Griffin in The Farmers' Review.

### MAKING ALCOHOL ON THE FARM

#### REQUIREMENTS OF A RURAL DISTILLERY

Alcohol can be made on the farm from potatoes, corn or sorghum, the preference being given in different localities to the crop which yields best and can be grown on a large scale without too much cost. It will be necessary to build a complete distillery, and it would not pay to run it unless one hundred bushels are used a day.

The manufacture of alcohol from potatoes, as it is carried on on numerous farms in Germany, is thus: The potatoes are first washed, to free them from dirt and stones, then steamed, mashed, and to the mash green malt is added at the rate of five pounds to every one hundred pounds of potatoes, to convert the starch into sugar. This takes place at one hundred and five degrees Fahrenheit, at which temperature the mash has to be kept for two hours. It is then drawn off, yeast added, to convert the sugar into alcohol; cooled, and drawn off into the fermenting vats. In about six days the fermentation is finished and the alcohol is distilled off. Both the green malt and the yeast used in the process have to be made in the distillery.

Though the whole process is simple

and can be learned by any intelligent man in two or three months, it requires constant watching, and the used vats, vessels, buckets, etc., have to be kept scrupulously clean, to prevent the formation of harmful acids. The making of malt requires skill and experience, and the temperature of the mash during the different processes it undergoes requires constant attention. Changes in the temperature of the weather influence the temperature in the rooms in the distillery, and may hasten or retard the different processes. Very few farmers will find time to give the running of a distillery the needed attention.

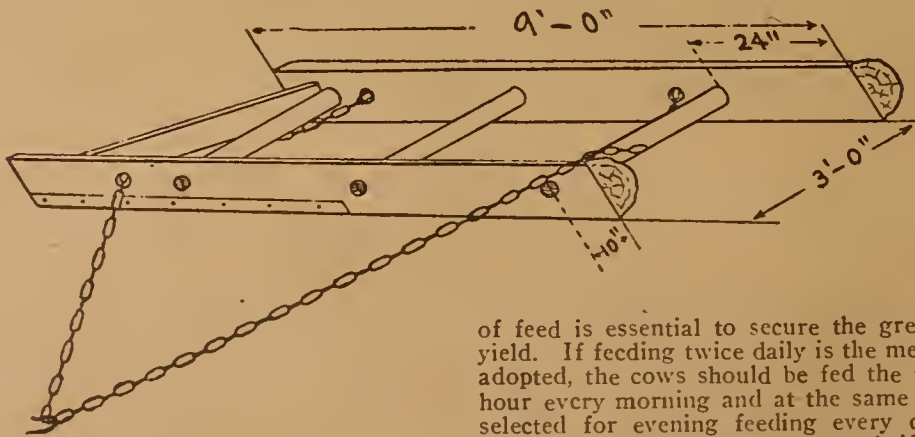
In Germany we find these potato distilleries only on large farms, where at least two hundred acres are planted with potatoes. The farmers conducting such a distillery can afford to hire a "stillmaster," a man who has made the running of a country distillery his business, and whose services can be obtained at a moderate salary. To judge from a four years' experience on a large farm in Germany, I do not think that it would pay a farmer having less than one thousand acres under the plow to build a distillery. For farmers farming one hundred acres or so the forming of co-operative farmers' companies would be the way to make a success of it.

It should, however, be understood that the main benefit derived from the running of a distillery is not so much the profit derived from the manufacture of alcohol as the retaining of the most valuable and costly constituents of the crops—the nitrogenous and mineral matter—for maintaining the fertility of the soil. This refers especially to the light soils. If potatoes, corn or sorghum are grown on a large scale, we will say on one third of the tilled area, the sale of these crops would be a heavy drain on the fertility, especially on the humus content of the soil. By converting the starch of these crops into alcohol, and feeding the remaining parts to live stock, the fertility of the soil through the production of large quantities of a rich manure is constantly increased.

So far as the profit from the manufacture of alcohol is concerned, the German farmers are, as a rule, content if the sold alcohol covers all the expenses, including the value of the potatoes, and the by-product, the slop, is free; or if about twenty-two cents is realized for a bushel of potatoes. The potatoes used for making alcohol must be rich in starch. At the present time our farmers grow potatoes with the view only of obtaining the largest number of bushels an acre and regardless of the starch contents. If they want to go into the manufacture of alcohol from potatoes they have to grow potatoes rich in starch. Crop rotation, manuring and fertilizing would have to be changed accordingly.—H. Winkelman in The Rural New-Yorker.

### SPLIT LOG ROAD DRAG

By reference to the cut of the road drag it will be noticed that the logs are framed together in such a way that the face of the drag lies at an angle of about forty-five degrees with the line of the road, thus drawing the material toward the center. The rear log should follow in the track of the first. Drags should be used just



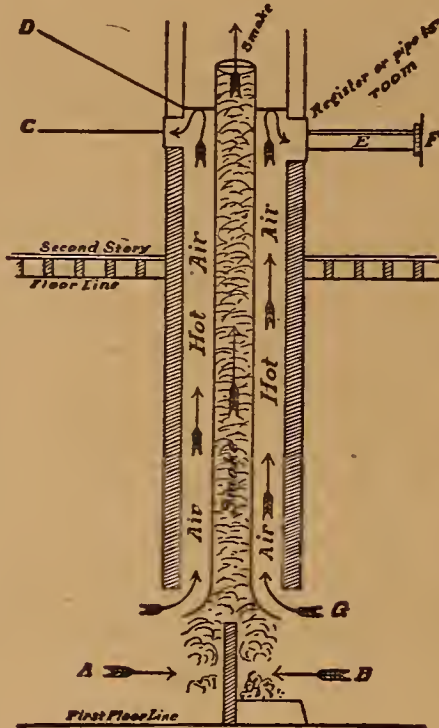
after rains or continued wet weather, to smooth the earth surface and prevent ruts from forming to hold the water. The drag not only smooths the road, but crowns it, and puddles the mud so that it is harder than ever when dried.

These drags have been used with very great success on clay or water-holding soils. Many stretches of black gumbo roads in the West are maintained by the use of this machine alone. Every farmer owns one, and after a rain he spends a few hours on the road adjacent to his farm. If there are many depressions to fill, the drag should be used when the

road is quite wet. After it has made the road fairly smooth, the drag gives the best results if used when the earth begins to dry.—The Wisconsin Agriculturist.

### UTILIZING HEAT FROM FIREPLACE

It is a very easy matter to utilize all the waste heat going up a chimney from a fireplace, if desired, but a simple way to get the benefit of a good portion is to fit the chimney with a false flue, like the accompanying diagram. If the chimney has an area of at least ninety-six square inches, one can put a six-inch galvanized-iron pipe in the chimney and still have area enough to carry off the smoke and gases; if the chimney has more surface, all the better. The modus operandi is to make a hood somewhat larger than the chimney, and have a round or square opening in the center of the hood equal to the diameter or square of the pipe one wishes to use; then extend the pipe up to six inches above the point where one



wishes to get the heat in the hall or room. At that point insert a baffle plate in the chimney, to direct the heat toward the room. One can put a register in the chimney or fit a conducting pipe there, and extend it off to a room at some distance. In the cut A B is the hearth; C E F, pipe or register; D, baffle plates; G, cold-air currents to mingle with hot air in chimney.—J. C. Benang in The Rural New-Yorker.

### COMFORT OF A COW

Whatever adds to the comfort of the dairy cow increases the yield of the milk. Comfortable shelter and dry bedding and comfortable methods of fastening add to the milk yield. Frequency of feed, and water twice or three times a day, are largely a matter of habit, but regularity

of feed is essential to secure the greatest yield. If feeding twice daily is the method adopted, the cows should be fed the same hour every morning and at the same time selected for evening feeding every evening. The same rule holds good if the cows are given mid-day feeds. Regularity is very essential, for if the cows have to wait half an hour for their feed after the usual time it will cause them to fret and cut down the milk yield.—Prof. Oscar Erf in the Kansas Farmer.

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They get 2 to 2½ tons to a cutting on each acre, and they cut three, and some of them four, times a year. 'Tisn't like it is up North, you know. They don't have long winters to freeze everything up and keep it frozen all winter.

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Honest, now, are you getting on as well as the Pan Handle farmer? I'll allow, for the sake of argument, that you've got 80 acres and they cost you \$50 an acre—that's \$4,000. The Pan Handle farmer can get 400 acres for the same money and will raise just as much to the acre as you can. Looks to me like he's got about 5 times the best of you. Don't you see he has?

Why don't you go down to the Pan Handle and do the same? It would pay you to take a trip down there, just to look around.



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I have chosen several specific sections where conditions are especially favorable for new settlers, and I am advertising these sections. If you would prefer some other section than the Pan Handle country look for my advertisements in other issues of this paper, or write me for specific literature about the section you are most interested in.

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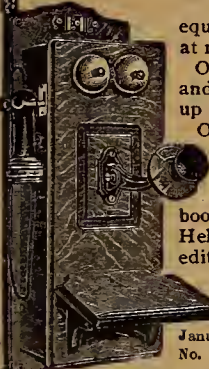


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**Review of the Farm Press**

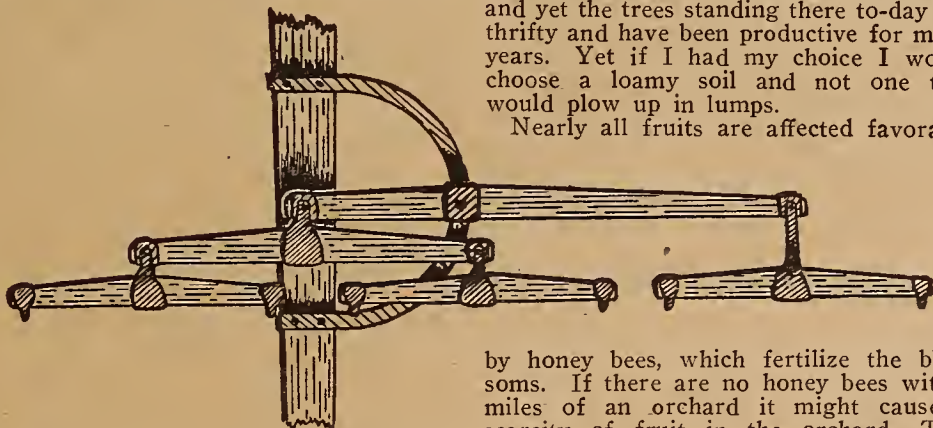
**MILK, AGE AND FEED**

WHEN a cow reaches a certain production, beyond that point, the milk is produced at more cost. With an average cow it is possible to get a production of seven or eight thousand pounds of milk in a year at a moderate cost, but when you get beyond this, and try to make a "big record," it adds materially to the cost. Every one hundred pounds of milk which a cow produces beyond her natural limit of production costs from one to three dollars; hence our dairymen have to study more and more closely how they can feed their cows economically in order to produce milk at a profit. It is not altogether the quantity of milk the dairy cow yields which should receive attention, but the net profit which she turns into her owner's pocket in twelve months is of more importance.

Economy in the production of milk is an important factor, and the greater proportion of roughage to grain a cow will use, the greater is the usual net profit. While the heavy meal feeding may bring large gross returns, it is the grass, silage, corn fodder and hay that make the profit. However, a certain amount of the expensive foods are essential in winter feeding, and it behooves every dairyman to learn to what extent there is profit in feeding them. Under ordinary conditions, with ordinary creamery and cheese-factory prices, it seems to have become a fairly well-established principle of feeding cows that the ration should be composed of about one part of grain to two parts of roughage during the winter season.—Professor Dean in The Inland Farmer.

**THREE-HORSE EVENER**

Some one asked for a three-horse evener to use on a tongue. Here is one. There must be an offset iron made in the form of a half circle. The ends may be bent down so as to hold against the side of the tongue. The one bolt in each end will be enough to hold it in place. It should be made of iron two inches wide and one half inch thick. There should be twelve inches from the center of the



tongue to the draw hole in the iron. The length of the long evener may be found by placing a singletree at the end of a set of whippletrees. It will be about fifty-four inches between the end holes. This would bring the draw hole eighteen inches from the hole in the short end. The side draft caused by the offset may be remedied by a strap from the hames of the third horse to the end of the neck yoke. Care must be taken to hitch the second

horse so that the iron semicircle will not interfere with his freedom of action while at work.

In using three horses try this way of arranging the lines: Take a pair of old single harness lines and make two cross lines a little longer than the regular ones. Fasten them to the inside bit rings of the outside horses. Let this run over the back of the middle horse and buckle into the regular buckle. It works fine and gives one full control of his team.—The American Cultivator.

**FEEDING ROOTS TO FARM ANIMALS**

As a part of the daily ration it is stated that roots have a decided value for all farm animals. Some Cornell experiments call attention to the fact that their effect is "tonic as well as nutritive, and that breeders of farm animals for exhibition purposes find roots invaluable."

Roots should not be fed alone, as they carry too much water. A root feed may vary from twenty-five to fifty pounds a day per thousand pounds of animal. Do turnips and rutabagas impart a flavor to milk? It is claimed not if they are fed just after milking and if no roots are in the room at the time of milking.

A greater average yield of dry matter to the acre may be obtained from mangels, half-sugar mangels, sugar beets and rutabagas than from average yield of corn. While it costs somewhat more to produce this dry matter in roots than in corn, yet it is the consensus of opinion that the higher digestibility of roots and their greater relish more than offsets this. Mangels are more succulent than sugar beets, but the latter produce a higher yield of dry matter. However, since they grow in the ground, the sugar beets are more difficult to harvest, nor do they keep so well. Rutabagas produce profitable yields and are well adapted to early feeding, and are particularly good for hogs, sheep and cattle. Carrots and parsnips, while not yielding so heavily, are well thought of as condimental foods for horses.—Guy E. Mitchell in Kansas Farmer.

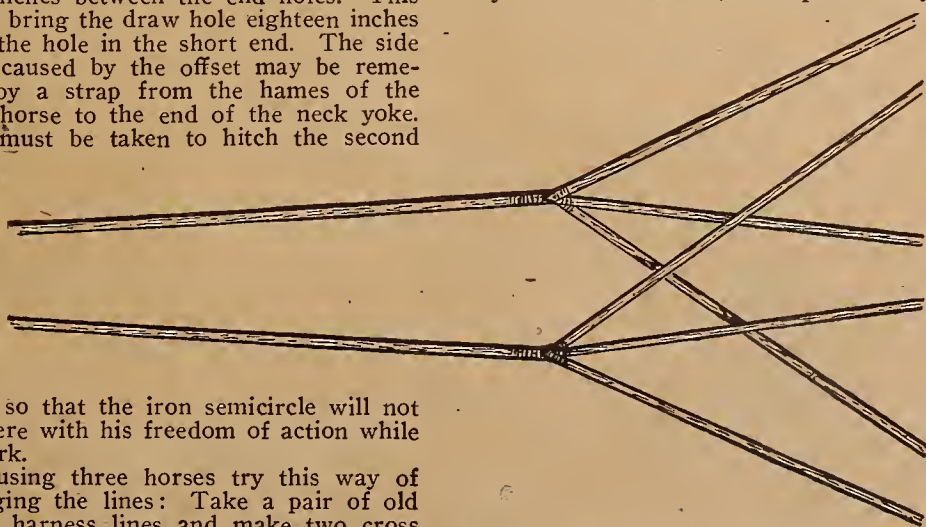
**CAUSE OF BARREN ORCHARDS**

I have seldom seen in western New York a barren orchard—that is, one that seldom bears fruit—but I have noticed that some orchards are far more productive than others, even in this favored section.

My opinion as to the cause of barren orchards is that the soil or location is not favorable for this fruit. Apple trees do not like wet feet; therefore, if the orchard is situated on low land imperfectly drained, you cannot expect the trees to be productive of fine fruit. It is possible for the soil to be of such hard, tenacious clay as to be unfavorable for the site of an orchard; but if the location is elevated, so that the land is well drained, I should have but little fear on this account, for I remember that a portion of the orchard which I planted when I was a boy was on soil so hard that in digging the holes a crowbar was necessary, and yet the trees standing there to-day are thrifty and have been productive for many years. Yet if I had my choice I would choose a loamy soil and not one that would plow up in lumps.

Nearly all fruits are affected favorably

by honey bees, which fertilize the blossoms. If there are no honey bees within miles of an orchard it might cause a scarcity of fruit in the orchard. This fact is illustrated by my strawberry plantation, which during a season of prolonged and frequent rains at blossoming time prevents frequenting by bees; thus many of the blossoms, and particularly



the later ones, are not fertilized by the bees carrying pollen on their legs from one flower to another. Consider the millions and billions of strawberry blossoms on an acre of land, and how industrious the bees must be to visit all these blossoms. We are told that most varieties of strawberry blossoms fertilize themselves, but they are benefited nevertheless by the pollen of other flowers carried by the bees.

Many orchards are injured, especially after they have remained long in sod and the roots have been encouraged to come near the surface, by plowing at a depth of seven or eight inches.—Charles A. Green in Green's Fruit Grower.



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## Gardening

BY T. GREINER

### WINTER RHUBARB

It is time now to get our plants in readiness for the winter crop of rhubarb. We have had a supply of this for several winters, and appreciate the fresh and brittle stalks grown at that season so much that we would greatly miss them if we had to do without.

If you have a place in the cellar, or a corner under some bench in a cool greenhouse, as we have, by all means dig a number of good clumps of rhubarb, and leave them exposed outdoors until about six weeks before the new stalks are wanted. The clumps should freeze, and when they are planted out in the cellar or under the bench in an average temperature of sixty degrees or so they will soon start into growth.

In the cellar, if rather cold, a lighted lantern may be set among the plants in such a way as to furnish some heat for them. Under the greenhouse bench I keep the plants boxed in and in the dark. But the stalks thus grown are very fine and far superior to stalks grown in open ground during the warm season.

### SOIL FOR ONIONS

A Florida reader says he has an old mill pond that has just been cleared up. It is "hummock" land and some muck, all well drained. Will this be good for onions as a first crop? That is the question. I can see no reason why it should not give a good onion crop. But if there is any suspicion of acidity, it may be well to apply lime. This will do no harm, at any rate. Odd corners or pieces of this description often produce great crops of onions or other vegetables.

### ASPARAGUS VARIETIES

I can easily tell the difference, by color, between the Columbian Mammoth White and the other asparagus varieties. But it is not so easy to pick a single plant of Palmetto or Conover's Colossal, or Argenteuil, etc., out of a mixed lot of all or any of these sorts.

The instructor in horticulture at the University of California says that here are some four kinds which are grown in that state—Conover's Colossal, Columbian Mammoth, Parr's Mammoth, and Palmetto. All these approximate very closely to each other, Conover's Colossal representing the type. All have about equal value, but preference is shown Conover's Colossal and Palmetto, the first because it is somewhat the largest, the Palmetto because it undoubtedly is a little earlier.

I think this is about right. I can see no material differences (except color as noted) between all these sorts, and very little in yield and in bearing season. Giant Argenteuil may be added to this list, these remarks being applicable to it also. We think much of Palmetto, however, as it is less subject to the attacks of rust than are the other varieties named.

Fortunately for us, the asparagus beetle has been about extirpated in this locality by the rigorous weather conditions of the past winter. I do not remember having seen a single specimen during the past asparagus season. Before that they were very plentiful every year.

### PREPARING POISONS AT HOME

It is true that the various directions given out for making arsenate of lead from purchased chemicals are contradictory and confusing. The trouble has arisen from the fact that the original formula as used for the gipsy moth in Massachusetts had simply been copied as applicable for general uses. Gypsin was at first simply diluted with water (one hundred and fifty gallons to four ounces of arsenate of soda and eleven ounces of sugar of lead), and a little molasses was often added to it to make it still more adhesive.

Now we almost invariably use it in combination with Bordeaux mixture, and we want it in small bulk to add it as needed to whatever quantity of Bordeaux we have in our tank. In short, we want it as a paste, and not in the original weak solution in water. A reader, W. R. Meserole, of Susquehanna County, Pennsylvania, gives us the following as his way of preparing this poison: "Sugar of lead and arsenate of soda will dissolve in four times their weight of cold water, and in less of boiling water. I take twenty-two ounces of sugar of lead and eight ounces of arsenate of soda and pulverize them thoroughly. To this I add boiling water sufficient to make one gallon. This will look milky, and there will be a slight pre-

cipitation. A little vinegar or acetic acid will clear it, but it is not necessary. It should be put in a jug or bottle large enough to give room for shaking before using. Stir often when using. To one quart of this mixture I add ten to twelve gallons of Bordeaux or water, and there is no danger of hurting the foliage. The twenty-two ounces of sugar of lead (acetate of lead) and eight ounces of arsenate of soda should not cost over forty cents.

Mr. E. Van Alstyne, one of the best-known institute workers of New York State, while not advising the making of arsenate of lead, and considering it difficult to make a good mixture, gives the following formula: "Dissolve eleven ounces of acetate of lead in one half gallon of water, and four ounces of arsenate of soda in another half gallon. Then pour the two solutions together in a tank containing forty-eight gallons of water. The white precipitate formed is arsenate of lead. Good chemicals should be used."

I find more difficulties in procuring the arsenate of soda at the common drug stores at anything like a reasonable price than to make the mixture after I once have secured the materials. In fact, I think it is an extremely simple process; nor can I see any necessity of using so much water. I just dissolved an ounce of arsenate of soda in a pint of water, and a scant three ounces of acetate of lead in about the same quantity of water, and then slowly poured the two solutions together. This, when well shaken up, gives us the arsenate of lead in a milk-like fluid. I poured it into about ten gallons of Bordeaux mixture and used it on potato and other vines in the garden. No fault can be found with this home-made mixture. It does good work without injury to the foliage.

Mr. Van Alstyne says it will be necessary to use at least three pounds of the paste to the fifty gallons of spray mixture for fruit, and five pounds for potatoes. I would not make much ado over the expense so long as it proves effective. Our friend Meserole, it seems to me, uses this poison in a rather strong dose; but it should "do the business."

### KEEPING DAHLIA ROOTS OVER WINTER

The winter storage of dahlias, about which a Pennsylvania reader inquires, is extremely simple. After the plants have been killed by frost, just lift the roots carefully with spade or potato fork, bruising them as little as possible; shake off all the soil, and expose them for a while to the air to dry, and then store them in a cool, frost-proof cellar in dry sand.

In a very dry cellar, or where not safe from frost, place them in a barrel or box, and cover with sawdust or other litter. In spring take them out, and plant them again.

### NEW REMEDIES FOR POTATO SCAB

J. C., a Michigan reader, writes that he has accidentally discovered a sure preventive of potato scab that is easy to apply, cheap and not a poison. But he says he cannot afford to give his new discovery away, and desires to "make something out of it."

In a general way I do not believe in agricultural secrets and agricultural patent medicines. From the standpoint of "the other fellow," however, it may seem that any one who discovers a good thing, or acquires some new and useful knowledge, is entitled to his reward. For instance, if scalecide is a safer or cheaper or more effective remedy for the San Jose scale than other known remedies, we will buy and use it even if we are a little in the dark about its exact composition or preparation or knowing that it is a proprietary remedy. We use in this way liquid lice killers for poultry, and nicotine preparations for green fly in greenhouses, and sheep dips, and many other things.

If our Michigan friend will put up a preparation that he can guarantee to prevent potato scab, and will advertise it in agricultural papers, and furnish it cheap enough, he may possibly sell enough "to make something out of it." First of all, however, he should be sure that he has struck a really good and effective remedy. He cannot be sure about this from one year's trial, or from a trial in one place or on one kind of soil.

Our present state of knowledge on this disease recognizes two sources of infection—namely, seed potatoes infected with scab, and soil containing scab fungus. We can easily disinfect the seed tubers by soaking them in corrosive sublimate solu-



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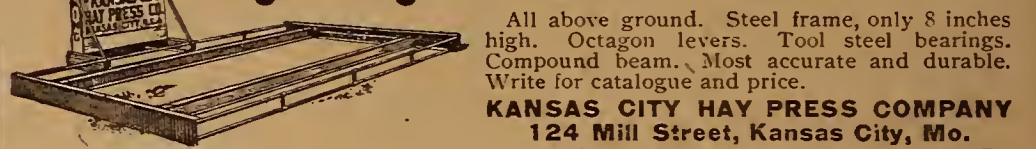
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tion or in formaldehyde, or by exposing them for a while to the direct rays of the sun, turning them from time to time. But to get rid of the infection already present in the soil is a more difficult matter. The most practical method probably is the use of clover sod, plowing the field after the clover has made considerable growth, or better, perhaps, plowing the second crop under in early fall, in hot weather, if possible, so as to make the land somewhat acid. Or any other soiling crop may be grown that will admit of plowing a mass of green stuff into the soil for the same purpose. Our friend may continue his trials, however, and if satisfactory, bring out his remedy in the way suggested.

### GREEN MANURE

A Minnesota lady tells me that last spring she heaped the mowings from a large lawn around gooseberry bushes. She noticed that it killed the weeds, and being afraid it might hurt the shrubs, too, she removed it and piled it on a heap to rot. It is now a rather salvy mass, and she wonders whether this has any value as fertilizer. Of course it has. But about as good a way as any would have been to leave it right around the bushes to rot down, or to be finally hoed into and mixed with the soil. If in a salvy condition, I think I would add dry lime or dry soil, or mix and compost it with barn-yard manure.

All manner of vegetable matter is serviceable as an addition to the manure pile, and rotted lawn clippings will make a manure not materially differing in value for any soil or crop of the average of barnyard manure.

### MANAGING ROSES

A New Orleans reader says that he has some fine roses, but cannot induce them to make much growth. Some of them are three years old and only fifteen inches high. One rose bush makes good growth, but does not bloom. Now he proposes to graft them, and asks for information how to do it. The answer is simple. Don't. Roses are generally propagated from cuttings under glass.

Sometimes improved varieties are budded on strong stocks, such as manetti, or in some cases grafted by the veneer method. The best way for the green hand, however, is to buy his plants from a plant grower or florist. Good roses can be had at very moderate prices. It depends, then, on selection and on treatment.

Our friend did not state what kind of roses he has, nor how he treats them. Generally speaking, all roses want a strong loam rather than loose sandy or other open and light soils. The very best that can be given them is a compost made from thoroughly rotted sods cut from an old meadow where the soil is of strong loamy character. In such soil almost any rose will flourish.

### ONION SEEDLINGS

Where onions have been allowed to ripen and spill seeds, young plants are likely to come up freely, and I sometimes have these young plants near the old rows, especially of the Welsh onion, that were left for seed, standing as thickly as hair on a dog all over the ground near those seed rows. We can easily kill them, and keep them from becoming a weed pest, by stirring the ground with cultivator, wheel hoe or common hand hoe.

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**ORNAMENTATION OF GROUNDS**

**W**E OFTEN hear persons say that it is not worth while to plant out trees, as it takes so long to get good results. This, however, is a mistake, since if the work is carefully done the results are very obvious in a few years. Illustrations 1 and 2 show what can be accomplished in six years by planting. They are views of the same residence taken from about the same point of view after an interval of only six years.

**APPLE RUST**

Recently I visited the orchard of a horticultural friend of mine that I had not seen for seven or eight years. The trees as a whole were healthy and well loaded with fruit, except for a row of Wealthys close to a red cedar hedge, and this was so badly injured by leaf rust that more than half of the foliage had fallen from the trees, and that which remained was badly injured and was unsightly, and the crop of fruit from these trees was of little value.

On examining the red cedars I found they were full of the little hard swellings commonly known as cedar apples. I was sure then that I had found the source of the leaf rust on the Wealthy trees. These trees were shaded by the red cedars and the foliage kept moist most of the day, and even in quite dry weather the foliage did not dry off until late in the forenoon. I found that my friend was not informed as to the close connection between the swellings or the cedar apples on the cedar trees and the leaf rust on the apple trees. It should be more generally known that wherever leaf rust is found on the apple trees the red cedar must be near by, since the disease cannot live more than one generation upon the apple, and the next generation it must live upon the red cedar.

This life history in plants is frequently referred to as alternation of generation, and it is found in a number of other parasitic plants. Under such conditions the removal of the red cedar would undoubtedly result in the removal of the rust from the apple, or the removal of the apple trees would undoubtedly result in the removal of the cedar apples from the cedar trees.

My friend is rather loath to cut down his red cedar windbreak, and will try to overcome the difficulty by spraying. He has, however, a hard proposition to do so satisfactorily. His trees of Patten's Greening in the same row with the Wealthys are not injured by rust, which only goes to show the great resistant qualities of this variety. This is true among animals; one will be immune to a disease that may carry off many others.

**SOME HARDY PLANTS AND BULBS**

Mrs. D. McG., Leroy, Minnesota—It is generally best to get the yuccas of rather small size. The garden yucca, *Yucca fila-*

*mentosa*, is quite easily transplanted when of small size, but when old is not easily moved.

The plant from which the leaf came, which you enclosed, I am considerably in doubt about, but if you would send me a whole plant I think I could identify it. It looks to me as if it might be the lower leaf of one of the *Centaurea* or other of the dusty millers, or possibly *Cineraria maritima*. I do not think it will endure our winters successfully in the open, but you may possibly be able to carry it through by giving it extra good protection.

The common bleeding heart may be successfully transplanted in the autumn, but should be heavily mulched in winter for protection. The irises may also be transplanted in autumn, and I think it a better time than in the spring, but all material

**Fruit Growing**

BY SAMUEL B. GREEN

**BITTERSWEET OR GARDEN NIGHT-SHADE AN EDIBLE FRUIT**

Mrs. T. K., Ruso, North Dakota—The sample of fruit which you sent is *Solanum nigrum*, commonly called garden nightshade or bittersweet. I know that this is used in the Dakotas and some other sections in large quantities for preserving, and is quite acceptable where other fruit is scarce. When this fruit is green there is a poisonous principle in it that would perhaps make it unfit to use, but when fully ripe it is often used in large quantities. It is closely allied to the potato and the tomato.

**FERTILIZER FOR FRUIT TREES**

J. O. B., Ponchatoula, Louisiana—Your inquiry in regard to the value of the fertilizers that are offered you I have taken up with Prof. Harry Snyder, the well-known agricultural chemist, and he replies as follows:

"The first sample of fertilizer contains, per two-hundred-pound bag, five pounds of nitrogen and thirty-seven pounds of insoluble phosphoric acid, while the second contains practically the same amount of nitrogen and forty-eight pounds of available phosphoric acid. If these samples are true to label, No. 2 is much the cheaper and more profitable. At five cents a pound for the available phosphoric acid and eighteen cents a pound for the nitrogen, fertilizer No. 2 would be worth about twenty-eight dollars a ton.

"It would be advisable to use with the bone meal about seventy-five pounds an acre of some potash fertilizer, as kainite or muriate of potash. Instead of the bone meal a complete fertilizer carrying about ten per cent of available phosphoric acid, three per cent of nitrogen and four per cent of potash can be used. Much will depend upon previous experience with these fertilizers. Upon some soils phosphorus in the form of bone meal gives best results, while upon other soils potassium or nitrogen may be needed with or without phosphorus."

**TRIMMING SUGAR MAPLE TREES**

M. H. D., Springfield, Ohio—For ordinary light pruning of the sugar maple and other hardy trees I think the best time is in June. For heavy pruning (which is always to be avoided if possible) the work may be done in the autumn or early in the spring, but all wounds over three fourths of an inch in diameter should be given a heavy coat of white lead, and even when this is done the sap will often flow from them in the spring.



Fig. 1—Showing the same place as shown in Fig. 2, but six years before planting was commenced



Fig. 2—The same place as shown in Fig. 1, but after six years had elapsed

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Live Stock and Dairy

ECONOMICAL CALF FEEDING

I HAVE written a good deal on the desirability of employing codliver oil in calf feeding, and this has brought me in a mass of correspondence. I can speak from practical experience in a small way of its efficiency, but it will be better to give details of demonstrations made on a large scale.

In the first case four lots of calves were selected and fed upon whole milk, upon five parts of separated milk with one part of whole milk, upon separated milk and cod-liver oil, and upon separated milk and cornmeal, which so many people use for the purpose of calf feeding.

Of course it is difficult to put a price on the oil, for it will vary a little, according to freight charges, but really so little for my purpose that no heed may be taken. The calves fed upon the whole milk did the best in the early days, but although reaching the highest weights, they did not realize the highest profits. Taking account of the cost of rearing the respective groups of calves, it was found that the saving effected by employing the oil was in the ratio of 31 as against 33 for mixed milk and 38 for separated milk and meal.

Much depends upon the purpose for which the calf is reared, and the remark applies especially to this experiment, where in the case of the calves reared to maturity for beef, the oil proved the most economical. In a second demonstration the calves were fed precisely the same as in the first. The fluctuations were equally marked during the period of calf life, and during the first winter, the second summer and the second winter; and yet when the animals were ready for sale, those which had received the oil in their youth had gained 759 pounds a head, while those fed on whole milk had gained only 734 pounds. The calves which had received the mixed milk gained 635 pounds, and those fed upon the meal, 678 pounds. It was especially noted that the animals fed on the oil were excellent thrivers. The result of the sale favored the oil-fed calves about twelve per cent. It may be remarked that the animals receiving the meal cost a good deal less for milk supplied, inasmuch as they were fed upon it for twelve weeks only, instead of twenty weeks. A saving was effected, indeed, in each case in which milk substitutes were employed, as well as when mixed milk was given instead of whole milk. The calves received from one and one half to two ounces of oil daily, and it is scarcely possible to contend that where the work is to be performed in a cleanly and careful manner there can be any possible danger to calves, even though they are supplied with separated milk from a creamery.

Assuming that a gallon of oil weighs about ten pounds, and that ten pounds of butter is a fair equivalent for that oil, the difference between the price of oil and that received for butter represents a saving and a gain.

The calf receiving oil in these experiments obtains a considerably smaller weight of fatty matter than the calf which receives new milk, and we easily take an example case. A gallon of milk containing three and one half per cent of fat contains five and one half ounces of butter fat, which is the equivalent of a still larger weight of butter, so that where only two quarts a day are supplied to a calf, which is a small ration, the quantity of fat consumed would be considerably greater than is consumed in the form of oil by calves fed with oil and skim milk.

I presume that the skim milk being used in larger quantities than the new milk practically makes up for the deficiency of the fat supplied. In rearing calves for maturity, it is apparently not essential to supply so large a quantity of fat in their early days, while if we may judge from the practise of the Norman farmer, it is no more essential to supply fat in larger quantities for the production of veal. This fact has been demonstrated on many occasions, and it will, I venture to believe, no longer be disputed. The milk supplied in Normandy is not separated milk, but milk which, having been skimmed in deep vessels, is allowed to coagulate, the calves consuming the curd, which may reach as much as three gallons in quantity.

It is surely needless to urge that in any dairy where butter is produced, the supply of large quantities of whole milk to calves is a most expensive process.

W. R. GILBERT.

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KANSAS,	Mrs. W. H. Coberly, Hutchinson.....	" 97½
ILLINOIS,	W. J. Kane, Morrison.....	" 96½
INDIANA,	T. C. Halpin, Trafalgar.....	" 96
SIOUX CITY,	L. P. Holgeron, Troy Center, Wis.....	" 97½
SOUTH DAKOTA,	A. H. Wilcox, Bloomer, Wis.....	" 95
KANSAS CITY, MO.,	Ike Oswolt, Topeka, Kans.....	" 97
COLORADO,	Mr. Parfeit, Golden.....	score not reported.

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## PART I.

IN A great many sections of the United States the breeding of beef cattle for the open market is a lost art. Take, for example, the best corn counties of Illinois, where fifteen or twenty years ago it was possible for a cattle feeder to go out and buy from his neighbor high-class feeding cattle which had been bred and reared in the community. To-day the cattle feeder is usually forced to go to the open market or to the ranges for his supply of cattle, notwithstanding the fact that in many sections of the corn belt, where land is poorly adapted for growing large crops of corn, very few beef cattle are bred. There are still localities in almost every state in the Union where beef cattle can be bred to an advantage. These sections are usually rough, broken lands not well adapted for cropping purposes, but which produce an abundance of nutritious grasses. Such lands are medium in price.

I do not wish to be understood to say that beef production on such lands is the most profitable branch of live-stock husbandry, but simply that beef production under present conditions will, where intelligently followed, produce some profit. It is extremely important that land to be well adapted for breeding and rearing beef cattle at a profit should be well adapted for growing grass and forage crops in general, because as a usual thing the cheapest feed for beef-breeding cattle is grass.

If the breeding of feeding cattle especially adapted to the cattle feeder's requirements is contemplated, only well-bred cows and heifers of the beef type and breeding should be selected. If combined beef and milk is sought, then the dual-purpose type should be selected. The present discussion will be confined to discussing the question of breeding cattle where beef production is the primary object.

## SELECTION OF COWS AND HEIFERS

Undoubtedly the selection of the bull to head a herd is of much greater importance than the selection of the females composing the herd. However, it has seemed to the writer that not enough importance is attached to the selection of the cows. While good steers may result from mating common cows with a well-bred beef bull, better ones are secured from well-bred cows, and there are fewer common steers resulting from such a mating.

If common cows are used, common steers will surely be bred all too frequently. It should therefore be the policy of the breeder of market beef cattle to use high-grade cows of some one of the beef breeds. The owners of herds of scrub or common cows may accomplish this end either by selling out and purchasing high-grade females or by grading up from the cows already on hand by successive crosses of beef bulls of approved merit. Where the financial circumstances of the breeder will permit of the former plan it is unquestionably the most rapid and satisfactory means of arriving at the end sought.

Whether Herefords, Aberdeen Angus, Shorthorns, Galloways or Polled Durhams should be selected will depend upon

## Breeding Beef Cattle for the Market\*

By Herbert W. Mumford

PROFESSOR OF ANIMAL HUSBANDRY, UNIVERSITY OF ILLINOIS

are hardy and produce a high quality of beef. They are hornless. The Polled Durhams resemble the Shorthorns in appearance and characteristics and are preferred to Shorthorns by some because of their being polled. As has been stated, high grades of any of these breeds will prove satisfactory; however, they do have characteristic differences in form and development, which render it advisable not to have the cow stock partly of one breed and partly of another. In the interest of uniformity all should be grades of the same breed.

It is not so important to select a particular breed as to secure choice individuals of whatever breed seems most desirable under the circumstances. The

be a strong demand at good prices for every good, pure-bred bull of the beef breeds that is offered for sale. As it is, there are many good bulls that breeders are obliged to sell at prices which render the breeding of pedigreed beef cattle by no means the most remunerative of enterprises. It is still true that "the bull is half the herd," and he may be more than half the herd if he is a choice individual backed up by good ancestry.

A brief discussion of the importance of the selection of a sire should tend to a more active demand for the better grades of registered beef bulls. In the first place, the writer wants to go on record as saying that the breeder of feeding cattle, whether he fattens them himself or sells

crease the value of each offspring but five dollars—a very conservative estimate—he earns at least two hundred dollars with his first crop of calves.

At the present time there are plenty of registered beef bulls of the various beef breeds that are well calculated to sire choice to fancy feeding cattle that can be purchased at from one hundred to two hundred dollars each. It is no exaggeration to say that as compared with the use of an inferior bull the registered beef bull pays for himself the first year. The most hopeful conditions surrounding the production of beef cattle to-day in the United States is the supply of choice bulls that can be secured at relatively low cost. In this, however, there is a danger to the future of beef-cattle interests in this country. Breeders of choice registered beef bulls cannot long afford to sell the kind that will produce high-class beef steers at prices at which certain beef producers insist upon buying them.

We have inferred that the bull selected should be pure bred and that his ancestry should be of the best. We would insist upon this as the only reasonably sure way of ensuring beef excellence in his offspring. Not only should a high standard of individual excellence be demanded in the ancestry of the bull, but attention should also be given their records as producers of stock of high quality. If one is familiar with the methods of the breeders of the ancestry, the pedigree may also be an indication of the conditions under which the bull and his ancestors have been developed. The breeder and his methods should be taken into consideration as well as the appearance of the cattle. Many pampered bulls prove disappointing when put to the actual test of heading a herd of beef cows.

It is always assumed that a good individual possessing the type and characteristics of a beef sire should be selected. These points have been so frequently described that extended notice of them here is unnecessary. However, there are some points which should receive special consideration—namely, constitution, quality, character and masculinity. These points, while difficult to define, are quickly recognized by the practised eye of the experienced cattleman.

Calves and yearlings are frequently purchased as sires because they can usually be purchased for fewer dollars a head, or because their period of usefulness is likely to be longer, or because the young bull in full flesh looks better. It is a mistake to discriminate against an aged bull that has proved himself a valuable sire.

Breeders differ in their opinion as to whether the bull should be allowed to run with the cows. The writer believes it advisable to keep the bull by himself in a well-fenced pasture lot provided with shade and shelter. If it can be made sufficiently large to furnish ample pasturage for the bull, so much the better. By keeping the bull confined and breeding the cows as they come in season it is possible to keep a record of when the cows will calve. A bull so handled can also serve a larger number of cows during the year. The number of cows which a bull should cover within a year will depend upon his age, condition and treatment, together with the distribution of



A GOOD TYPE OF COW FROM WHICH TO RAISE BEEF CALVES

fact that a cow or heifer is a high grade of some one of the beef breeds does not in itself ensure satisfactory quality. There is a wide difference in individuality between different animals of the same breed. The matter of selection of individuals within a breed may thus become a more important matter than the selection of a breed. Select as far as possible females which conform to the standard of excellence of the breed. If this is accomplished it will ensure a uniformity in type that is highly desirable. If, in addition to this, it is possible to select cows and heifers that are similarly bred, they will be more likely to produce uniformity in their offspring, and a uniform lot of stockers, feeders or fat cattle sell for more than an uneven lot.

There are a few general considerations in selecting beef cows which should be mentioned, such as form, quality and constitution. The main characteristics to be sought in form are shortness of leg, breadth, and a general smoothness, good

them to cattle feeders, cannot afford to use a common bull of indiscriminate breeding. There can be no doubt about that. Feeding cattle that are well bred and possess quality enough to weigh one thousand pounds or better at two years old are worth all the way from forty to fifty dollars a head, depending upon their individual quality and condition. Such feeding cattle can be, and are, produced from grade beef cows mated with choice registered beef bulls. Common and inferior feeding cattle that are produced from common cows and scrub or grade bulls frequently attain an age of three or more years before they reach one thousand pounds in weight. Such feeders at such an age and weight are worth from twenty-seven to thirty dollars each.

The lesson should be plain that it does not pay to use an inferior bull that sires the steer that pays the owner but nine dollars a year for his keep as against the one that pays twenty-two to twenty-five dollars a year. But you may say the



A CHOICE HEREFORD, A GOOD SIRE FOR BABY BEEF



A MONSTROSITY OF THE PAST, ALWAYS UNPROFITABLE AND NOW SELDOM SEEN

the breeders personal preference and the conditions which prevail. Good individuals of any of these breeds, if properly managed, will give satisfactory returns. Each breed has its peculiar advantages, and when these are understood and recognized there exists good arguments in favor of each. The Herefords are excellent grazers and mature early. The Aberdeen Angus produce a high quality of beef and are much sought in our markets as fat cattle. Their hornless character recommends them to those desiring a polled race. The Shorthorns nick well with common cattle and other beef breeds. They are widely distributed, easily available, and quiet in disposition. Galloways

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top and under lines, full flanks and straight legs. The bone, head and hair should indicate qualities as opposed to coarseness on the one hand or delicacy on the other. A good constitution is evidenced by a broad, deep chest, a good heart girth and a lively condition of the coat of hair.

## SELECTION AND USE OF BULLS

There is perhaps no other important factor connected with beef production that is as often disregarded as that of the selection of bulls to head the herds of grade cows from which are produced the feeding cattle of the country. The importance of this item cannot be generally recognized, for if it were, there would

fault is not altogether with the bull. We grant that. But suppose the cows are the same in either case, the well-bred beef bull will produce feeding cattle which will grade at least two grades higher than the feeding cattle produced by the mediocre bull. There is usually about thirty-five cents a hundredweight difference in the price between one grade of feeding cattle and the next higher. If the well-bred bull raises the grade of his offspring two grades he adds seventy cents a hundredweight to the value of each animal he sires, or seven dollars to the one-thousand-pound steer. Properly cared for a bull should sire from forty to fifty calves in a year. For the sake of argument, suppose we say he sires forty. If he should in-

the cows bred to him. The number should vary from thirty to sixty in a year.

The feed of the herd bull should be nourishing, but not too concentrated or heating. The best of roughage in the way of clover hay or alfalfa and silage or roots should be used. A small percentage of corn with a large percentage of oats and bran constitutes a satisfactory ration. The amount to be fed will vary according to the age, weight and condition of the bull, as well as the work required of him. He should be kept in good, thrifty condition, and if it is found that it requires an abnormal amount of feed to maintain this condition, he should be replaced.

[CONCLUDED NEXT ISSUE]



## Live Stock and Dairy

### THE COLT'S FIRST YEAR

**T**HE first year's training of the colt will have much to do with its ways in after life. As the colt is trained, so the horse will be. It makes little difference what type of colt it is. They all need about the same training and care the first year.

Make the colt tame and gentle, by patting him often. Go over every part of him. Rub his legs so he will not be touchy there when currying. Raise his feet often and lightly tap the bottom of his hoofs with your hand. This will get him used to standing on three legs, and he will stand much better if you ever have him shod. It will also keep him from fretting and jerking around should he accidentally get his foot caught in the wire fence. I have seen horses that were trained in this way while colts get caught in the fence. They would stand for hours and wait for their master to come and take them out. All they would do was to lift their foot and gently try to get it out; but if it did not come, they would never jerk.

Colts should be halter broke while quite young. The best way to do this is to put a light halter on them after they are a few weeks old and let them carry it. At times they should be led around by the halter, and they will get used to it without really knowing it themselves. The first time he is tied, however, make sure that both halter and strap are strong enough to hold him should he use his utmost strength. He will pull back, but he must not get loose this first time, for if he does he will try it again, and the chances are that he will become a halter puller.

The colt should be given the privilege of plenty of exercise in the open air. He should never be kept shut up in the barn for any length of time. Above all, the colt should have plenty of food of a bone-and-muscle-making nature. Never allow the colt to run down in condition, for it is the scrubby colt that makes the hard keeper.

GREGOR H. GLITZKE.

### HOW I HANDLE MY SHEEP

Every farmer should be the owner of at least a few sheep. He will scarcely miss the amount of food required to carry them through the winter season, but he and every one else will notice the cleaning-up process, at which they are continually busy in fence corners, along hedge rows and around the lots, especially if there is undergrowth or brush sprouts and weeds.

Four years ago I purchased a piece of land which lay adjoining my farm, which was, to say the least, one of the worst run-down pieces of land in the country, with obnoxious weeds of all sorts, the burdock very rank. I turned in my sheep and in a few weeks they had the burdock eaten right into the ground.

The sheep, while it is one of the daintiest of animals, will live and grow fat where a cow would starve to death. Every fall I cull out and ship off all old and weak ones; also fatten and ship the wether lambs during the fall and winter. I make it a point to always buy the best registered rams I can find. There is nothing gained in using a "cheap ram" on a flock of grade ewes.

If you want to raise early lambs—that is, winter lambs—you must be thoroughly prepared and clearly understand the business. It means sleepless nights, nursing bottles and warm blankets. But they usually bring a good price in the markets, which I think pays for the trouble. I aim to have my early lambs come in January and the first of February, the earlier the better. My ewes are kept in a good, thrifty condition, and fed a little sheaf oats and clover hay. They must be made to take plenty of exercise and not be housed until just about lambing time, except in stormy weather.

When lambing time comes I watch my ewes very closely and am obliged to be with them both day and night almost continually. Of course I keep them in a good, warm barn. I fence off little pens about six feet square and put a ewe and her lambs in by themselves for two or three days, until the lambs have become strong enough and sufficiently acquainted with their mother to know her and find her when turned in with a number of ewes and lambs in a large place provided in the barn. I now feed the ewes a little corn and oats and all the clover hay they will eat, also shredded fodder, which makes an excellent roughness for sheep. I also have in a convenient corner in a place where the lambs can run to, a small trough with coarsely ground cornmeal and oats. They will soon find that corner and visit it many times a day. On bright,

sunny days they have access to a dry lot on the south side of the barn. Of course plenty of good, pure water is by them all the time. By the middle of March or the first of April the earliest lambs weigh about forty pounds and are ready for the market.

I insist on my breeding ewes taking plenty of exercise, allowing them to run in the corn field where rye has been sowed in the fall. In the spring they go onto blue-grass pasture. Here I would say, in absence of plenty of blue grass I would advise sowing some rye for fall and spring pasture, as it is an excellent substitute for blue grass.

Try a small flock of sheep on your farm. Encourage the boys, and let them have a few sheep, and when they have learned by experience, add more; for by keeping the ewe lambs you can soon grow a flock of any size you wish. When you get started, stay by it and don't sell out when sheep are down to the lowest notch (and start in again when high), or when you lose part of your lambs from the dreaded stomach worm, but stay by it, and I am satisfied you will find that as a part of your business it is more profitable than most of the other departments of the farm.

R. B. RUSHING.

### THE OHIO DAIRY SCHOOL

Heretofore the short course in dairying at the Ohio State University consisted of two ten-week terms. The work was done in the animal husbandry, veterinary and soils departments, as well as in the dairying department. Beginning with the coming winter the work will all be done in the dairying department, and will consist of one twelve-week term only.

The advent of the winter course in agriculture last year into the curriculum has made this change possible. The students who wish to return to the farm may take a little work in milk and cream testing, and perhaps put some time on hand separators. The student who wishes to go into the handling of milk products alone will be required to have one year's experience, six months of which must be after having had the course, before he is granted a certificate. This experience must be in a cheese factory, creamery, milk plant, condensery or skimming station, and not on a dairy farm. All of the work must be approved by the dairying department. It is readily seen that the work is on a more practical basis than heretofore.

The term will begin December 3d instead of in January, and will be under the supervision of Prof. Oscar Erf, formerly of Kansas. Mr. E. S. Guthrie will be instructor in butter making, Mr. A. B. Nystrom, assistant in dairy mechanics, and there will be some one employed to take charge of the cheese making.

DEAN OF THE COLLEGE OF AGRICULTURE AND DOMESTIC SCIENCE.

### CARING FOR THE DAIRY COWS

While the milk cows are browsing the long fall grass, keeping fat and giving abundance of milk, the farmer is apt to forget that soon the frosts will come and the wintry winds will be blowing. Then without a shelter the cows will be shivering behind fences and old, tumble-down straw stacks while they consume their surplus of feed in keeping warm instead of making milk. After they have fallen off decidedly in their quantity of lactic fluid the farmer will begin to realize he must prepare a shelter for them. And even though the cows are housed, it takes them quite a while to get back to their natural flow of milk.

The wise plan for the farmer to pursue is to build his shelter before the winter comes. If the farmer expects to make his milk cows profitable he must provide dry, warm stalls in a good building. Then in the cold or rainy weather they can be kept under shelter and only turned or led out to get water. Not long ago I saw an ideal dairy barn. A long hall ran through the center the entire length of the building. On either side of the hall was arranged the commodious stalls, which were equipped with good hay mangers and feed boxes. The floor was made of heavy oak boards, and at the back of the stalls there was a trough-like drop which received the waste matter. The cows were kept in the stalls at night, each being tied with a good stout rope. The barn could be closed very tightly in cold weather, and had plenty of windows and doors for ventilation when it was warm. The owner could come into the hall and feed his entire herd of twenty cows without stepping outside, as there were good cribs and a spacious hay mow. This farmer shipped cream to a creamery winter and summer, and averaged close



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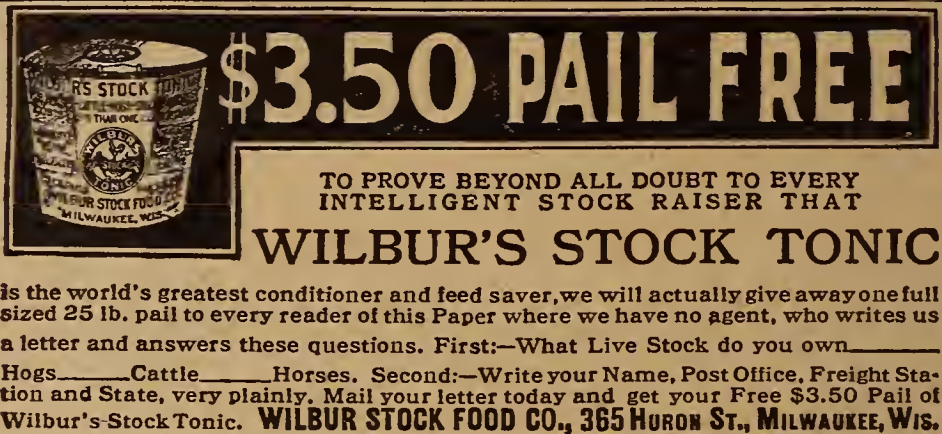
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to forty dollars a month profit the year round. There is no doubt but that it pays to provide a good shelter for the cows in the winter, when one considers the fact that one day or night in the cold rains or snowy blizzards will materially decrease the quantity of milk a cow gives. I have known a cow to decrease the amount by half when caused to stand out in the rain and sleet of one winter's day. Standing in the storm of snow, rain or sleet during the day and in a muddy, half-protected stall at night will soon put a cow out of the milk-giving business.

Then, too, the dairy herd should have tempered water in the winter time. Cistern or well water will be the best, but if a farmer has a tank heater he can bring the water in his windmill tank to the proper temperature before letting the cows drink. Never send the milk cows to an ice-covered pond to drink if it can be avoided. In the first place, they don't like to go on the ice, and besides, the water is so cold they will not drink more than half enough to keep up the uniform flow of milk. A decrease in the quantity of milk is the inevitable. It is a wise expenditure of money when the farmer goes to the expense of putting down a well at his barn or digging a cistern. He will get his money returned several times over inside of a few years.

The milk cow's ration is also very important. Her food should be wholesome and plentiful. The farmer should feed what the cow likes. Musty hay or rotten straw is disgusting to her appetite, and she will eat such only when extreme hunger drives her to it, and then she takes it only in sufficient quantities to keep her alive not to produce anything for the farmer's milk bucket. It never pays to give poor hay. Bright straw or juicy hay and clover she will relish, and good fodder she also rejoices to behold. Turnips, pumpkins and carrots chopped fine will often be eaten by the milk cow to a profit. Successful dairymen seldom feed much corn unless it is ground. Bran mixed with oats or a little crushed corn is a first-class feed for the milker. Chopped fodder can also be fed to a profit. It is best to give the milk cow a little feed each time she is milked in the summer or fall, although she may get plenty of grass. As winter comes on her feed of grain must be increased and she must be given plenty of hay at night.

W. D. NEALE.

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**TURKEYS**

**W**HILE the subject of raising turkeys is a little out of season, so many FARM AND FIRESIDE readers have requested certain phases of the turkey question to be published, it is not out of place to mention them.

There is no class of poultry that pays better. Even with heavy loss of young ones there is a great deal of profit. A great deal of loss, however, could be avoided if more care were taken and the little turkeys watched more closely. After the first three months of a turkey's life it should practically cost nothing. Turkeys search everywhere for food, and the refuse grain in the stubble fields, seeds, worms and all kinds of insects are readily eaten. They work constantly from morning until night.

When the snow comes, however, the turkeys must be fed, but the greater portion of them are sent to market for Thanksgiving and Christmas. A short time before they are marketed they should be fed on strictly fattening food and confined to small quarters, where they will have but very little exercise. This should be done as long as they eat greedily and keep gaining in weight. By this way they will be fattened quickly and economically, and the meat produced will be more tender and juicy than could be obtained in any other way. Milk, celery tops, onions, corn, wheat, meat, ground bone and stale bread are all good foods for turkeys. Never feed any sour or sloppy food of any kind, except sour milk, and never allow them to dwell in unclean coops.

A turkey will not fatten in a small, close coop, refusing the food if entirely deprived of its liberty. Fatten them in small yards, where two or three may be kept together.

Turkeys are subject to all the diseases that affect chickens, especially cholera and roup. The greatest enemy of the turkey is the large gray louse on the heads, necks and vents. Grease the affected parts with lard, but never use kerosene. Watch them carefully, feed them well and there will be great profit in them.

**OPEN SHEDS**

The open shed, if so arranged as to allow the rays of the sun to penetrate the interior during a large portion of the day, is cheap and excellent for promoting the health of the fowls at all seasons of the year. The open shed does not interfere with egg production; it is rather an advantage. However, the birds must be protected against the winds of winter. When hens do not lay in winter it is sometimes due to overhead drafts from ventilators. A cold draft upon the fowls at night, even if it comes from a small crack, will do more harm than direct exposure in the open air to cold winds.

Fresh air is essential, and the fowls enjoy the outdoor life, but the most advantage is secured when every portion of the open shed is sealed tight except the front. An open shed may be attached to a poultry house, and it will cost but very little, as the outside of the walls and roof may be rendered dry and wind proof with roofing paper.

Insignificant matters often do not attract attention, yet a little crack in the poultry house, if near where the fowls roost, will cause suffering sooner than if the bird was outside. When hens are thus affected they sometimes become entirely blind, and soon are too weak to stand up. When the hens show signs of this trouble the first thing to do is to examine the poultry house for cracks. They may be so small and insignificant as to escape observation, but they will surely be found upon careful search, and no time should be lost in closing them. The roof should not be overlooked, as dryness is also very important.

With an abundance of leaves, cut straw or other scratching material on the floor, dry quarters, and fresh air without drafts, the hens should go through the winter season comfortably and in condition for filling the egg basket promptly in spring.

**PROFIT IN DUCKS**

A duck should lay one hundred and twenty eggs a year if of a good breed, and in March or April the eggs sell for twice as much as hens' eggs. If the weight of the eggs is taken into consideration, the duck lays as much in one year as the hen does in two years. As ducks make rapid growth and lay large eggs "early and often," they are, as a consequence, very voracious, and require a large amount of food; but as they will eat anything that is eatable, and prefer bulky food, they are not expensive, considering the service they perform.

A good Pekin, Aylesbury, Brazilian or Rouen duck will show excellent results from the management given, and will yield a profit far beyond anything that can be derived from the common duck. A mess of cooked turnips or potatoes makes an excellent meal for them. Grass chopped

fine and sprinkled with meal is another cheap food. If they have a pasture they will seek their own food, requiring only a little grain at night. In winter, chopped, scalded hay is excellent for them. When laying they should be given an allowance of chopped fresh meat three times a week. Soft food is preferred by them to whole grains. Though an aquatic bird, the duck loves a dry place at night, and should sleep on a board floor.

**FRESH EGGS**

Every resident of a large city will admit that fresh eggs are not easily obtained even when the market is well stocked. It is true that eggs are always sold as "fresh," but doubts are often strong on the part of the purchaser. It is only when it is too late that the buyer finds out his mistake, and as a rule he is always willing to pay a larger sum for eggs that he knows to be fresh and are delivered to him from the yards.

In order to procure higher prices than any one else, let the customers never receive an egg over one day old. Secure their confidence and deliver the eggs in person. Invite them to visit the egg farm and give them every opportunity to know all about the methods. Do not hide a thing from any one. When once the confidence of customers is secured they will pay a large price for fresh eggs before going to the store and procuring what they know nothing at all about.

**CAUSES OF CROP BOUND**

Crop bound is generally caused by careless feeding. If green food be withheld for some time, and then given in unlimited quantities, the fowl will eat to repletion, and as the crop cannot get rid of this mass of undigested food all at once, it becomes hard and not only cannot of itself pass into the stomach, but effectively bars the passage thereto. This same disease may be caused by the giving of new grain, which, swelling in the crop, becomes a solid mass. Or, on the other hand, bound crop is often caused by an obstruction in the outlet, such as a twig, string or some indigestible substance that has been swallowed by the fowl.

The proof of crop bound is purely external, but is, fortunately, very easily dis-

color of the skin and legs, and the fat or lean appearance of the carcass.

The farmer who will breed something that is ahead of the market in quality, and who will take his poultry direct to the consumer, explaining the excellence of his birds, will find a large number of wealthy people willing to pay for the best; and if one begins such work, it will not be long before the orders will come in instead of having to be sought.

When the purchaser knows what he is buying, and receives a sample indicating quality, he is sure to send for more, and the breeder can fix his own price, as he will have no competition.

**EGG EATING**

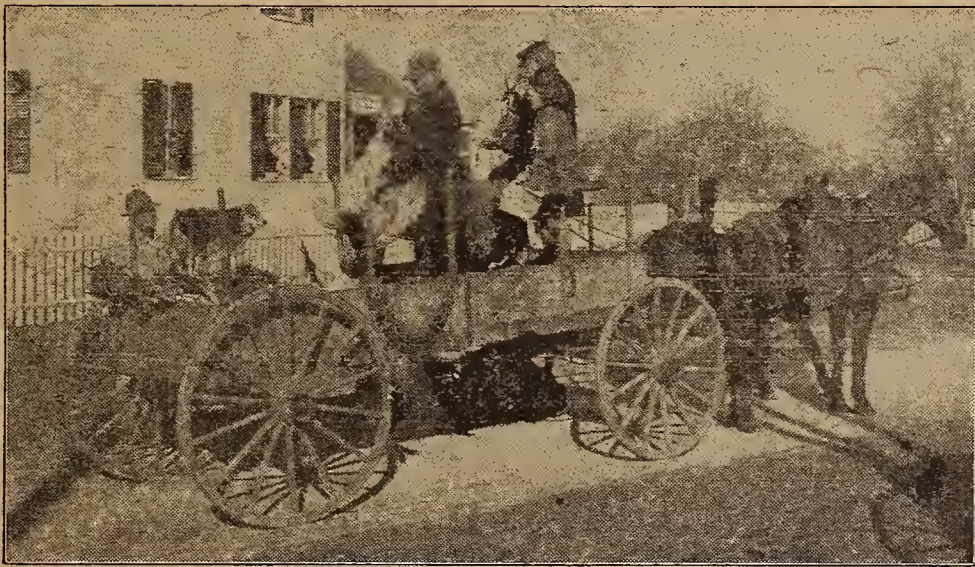
There are hens that eat eggs, and thus cause considerable loss. One of the causes of hens eating their eggs is that they require albumen, for which reason they are not so much at fault as may be supposed.

To produce eggs, the hens must have nitrogenous food in some shape, and if they are deprived of it they will seek it wherever it can be procured. The first time an egg is broken, and a hen partakes of its contents, she will learn to associate the egg and the food supply together, and will learn to eat eggs simply because she requires such food. To prevent it, give her meat, milk, linseed oil, bran and green food, and make the nest in such manner that but little light can enter, and she will soon cease the practice of egg eating.

One plan is to have the nest box about ten inches from the floor, or of sufficient height to prevent the hens from reaching the eggs from the floor, the box being arranged with a top, so that each hen must walk into the nest instead of upon it. If not too large, the nest box will be inconvenient for the egg eaters, as it will allow them to lay in the nest, but not eat the eggs.

**THE HENS MUST WORK**

One reason why the farmers get eggs in winter when careful breeders do not is that the latter get their stock out of condition by overfeeding. The farmer's hen is obliged to work, and if she gets any



DELIVERING THE THANKSGIVING TURKEY

cernible. Instead of the crop having a firm, close appearance—in fact, not being noticeable—it is seen to hang down like a bag, and on being felt there is found to be inside a lump or ball of food. This does not appear harmful in any way until it has grown very large, when it then incommodes the bird, which often seems to eat more than usual, for the reason that the food it is eating is not feeding it, but going to increase the mass in the crop.

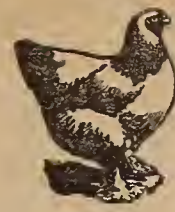
**EDUCATION OF CONSUMERS**

It is not creditable to the American consumers of poultry and eggs that they are willing to pay something extra for a fowl which has yellow legs, or for eggs that have white shells or dark shells, as the preference may be, for these factors do not indicate quality. To show that all Americans are not alike in this respect, it may be mentioned that buyers in New York markets prefer eggs with white shells, while Boston purchasers select those with yellow shells.

The fact is that consumers as a class require education regarding how to select poultry, for many do not know good from inferior, being guided solely by the

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Don't put it off, but do it now! See that the stables and sheds are made snug for the winter. Lumber is high in price, but hay and grain are higher.

There must be no "standing still" process in the growth of the young stock. If they are to become profitable animals they will have to be kept in a thrifty, growing condition, in winter as well as in summer.

Have you arranged to supply your stock with good warm water this winter? This can be done at small cost, and nothing is better for keeping the digestive organs in healthy condition than good warm water.

Don't keep any stock over this winter that you don't feel sure will pay for its keep. Why play a losing game? Work as hard as you will, you cannot be a success if you feed your grain to stock which will not pay you well in return.

No doubt you have made some mistakes during the past season. You would not be human if you hadn't. Now, as you see where you were wrong, plan to avoid these mistakes next year. It is by building on our mistakes that we succeed.

Are you satisfied with your corn crop this year? Many farmers are not, and are planning to take better care of their seed corn this winter. They are going to test it, too, and discard all ears that fail to germinate or show lack of vitality. In this way they may be able to make two ears of corn grow where only one grew before.

Does your land repay you for the labor and expense you have bestowed upon it? Probably not as well as it should. Remember that a plant will not give the greatest returns if its soil home is not congenial. Study your soil. It may be that a little more humus added here and a little drainage provided there is all that your crops desire. A little thought and a little labor may double your returns.

**PARCELS POST AND COUNTRY MERCHANT**

Postmaster-General Meyer has made a ten-strike in his proposed recommendations to congress regarding the improvement of the parcels-post service.

"I propose to recommend," he said in his address to the New England postmasters, "the establishment of a parcels post on rural routes which will meet the objections of the small storekeepers and retailers. This will be a boon to our rural population and to the storekeeper, as the latter can receive his orders by mail or telephone and despatch the described merchandise by the rural carrier.

"The farmer will be saved from hitching up his horse and losing the time he needs for planting or harvesting his crops, and it will enable the storekeeper to increase his sales and meet the requirements of modern trade. If my recommendations are adopted, it will cost twelve cents a pound for the mail-order house to send parcels to the rural delivery patron from any city post office, while for delivery from the distributing office of the rural route, or if mailed by a patron of any route for delivery to a patron on the same route, or at the distributing post office of said route, the charge will be but five cents for the first pound and two

cents for each additional pound, up to eleven cents, or twenty-five cents for a package weighing eleven pounds."

\* \* \*

This plan for the extension of the parcels-post service over rural delivery routes was immediately approved by representatives of the retail-trade interests. In a letter to the Postmaster General, Editor Carr says:

"The Trade Exhibit, I am pleased to state, is the first trade paper in the United States to approve your position as to a parcels post. During the past four years I believe I have circulated more antiparcel-post literature than any other individual in the United States. All my work has been directed against the establishment of any parcels-post system that would be unfair to the retail merchants, and which might be considered a subsidy to the mail-order system of business, and by making a rate much lower than cost of transportation to the government would tend to concentrate business in districts where the price of labor is the lowest.

"After a most careful study of the plan you propose, I cannot discover a single objection that can be based upon sound economics. Rather, a parcels-post extension, as you propose, will be helpful to enterprising retailers, and will assist in the building up of home industries in the so-called agricultural towns."

\* \* \*

Elisha Winters, the New England organizer of the National Association of Retail Merchants, in a letter to General Meyer says:

"From being your extreme opponent I am now your strongest possible supporter. While prophesy is dangerous, I predict every state association in New England of retail merchants will reconsider their votes of opposition and all vote their approval. As I understand your remarks, the railroads are to have nothing to do with transporting merchandise, eleven pounds for twenty-five cents. That will apply only to rural routes."

In an interview in the Boston "Herald," Mr. Winters says:

"The only opposition to such a proposal as that made by Mr. Meyer will come from such houses as seek to put fraudulent goods before the public, against which we have been fighting.

"I have been visiting conventions in various parts of New England for a year past, and I am in close touch with rural sentiment. There has never yet been a parcels-post bill which the farmers have endorsed. Heretofore such bills as have been presented have benefited the catalogue houses to a discouraging degree. But a bill along the lines suggested by Mr. Meyer's address will not only meet every objection we have had to previous bills, but will, moreover, give us more than we would have dared to ask for."

**WHERE THE FARMER COMES IN**

At the time when many good citizens of New York were standing in long rows before the various trust companies—standing day and night in the driving rain, and stocks were falling like mercury in a blizzard—one Wall Street broker was heard to exclaim, "Thank God for the farmer! He is the man that has the money these days; he is the man that is going to right the ship!"

Oh, it's good for the soul to see them turn in time of need to the man who alone really produces wealth. While the methods of the high-finance gymnasts went unmolested, very little thought was given to the tiller of the soil; the crops meant nothing more definite than a string of government figures, which had been behaving favorably for a series of years. But just as soon as the festering sore was exposed and the public was shaken in faith at the spectacle, there was a mad scramble for something firm and solid to lay hold of, and the farmer, backed by his harvests and his honest toil, finds himself on the life-saving crew.

\* \* \*

After the run on the trust companies was over, and when financiers were in conference discussing ways and means of

relieving the "contraction of credit," one of their number said:

"A prompt movement of grain and cotton to the seaboard, and its early loading into bottoms—that is, on board ships—for export, means a great deal to the present situation. As soon as our cotton and grain is so loaded we can draw against it, and thus relieve the foreign exchange situation materially."

That's where the farmer came in. The Wall Street panic was used to lower the market price of farm products, and Europe, taking advantage of the situation, sent in hurry orders. The financiers wanted the farmers to accept the temporarily lower prices and rush cotton and wheat to New York, where they could be loaded on vessels for foreign shipment, thus releasing millions of European gold to replenish the banks of New York. Bank reserves being below the amount required by law, they urgently appealed to the farmers to help them out. And yet those New York bankers talked about "moving the crops," just as if they, instead of the farmers, had been responsible for producing them.

**WHEN WHEAT FAILS**

A strong, graphically written article under this head appears in the "World's Work and Play" (London) from the pen of Professor Silvanus P. Thompson.

"About the year 1910," says Professor Thompson, "the world's entire wheat-producing territory then available will be just sufficient to provide for the world's need. After that, what? Must the white races starve for want of bread, or exchange their hereditary diet for the rice of the Hindu or the mealie of the Kafir?"

"No," he replies. "Starvation may be averted through the laboratory. The wheat-producing regions of the world," he continues, "aggregate 240,000,000 acres. At the present average yield of twelve and one half bushels of wheat an acre, this would furnish an annual crop of 3,000,000,000 bushels; and as each wheat eater consumes on the average 4 1/2 bushels per annum (in which estimate .6 bushels needed for seed are included), the whole available area will suffice to furnish wheat for a total population of 666,000,000 souls. Now, at the present date of 1907, the total number of bread eaters—practically all the white races and a certain proportion of men of other races in contact with the white races—may be estimated at 585,000,000, and it rises every year in an increasing ratio. According to the computations made in 1898 by Sir William Crookes, on whose investigations the question mainly rests, the number of bread eaters rose from 371,000,000 in 1871 to 472,000,000 in 1891. In 1911 it will be 603,700,000.

"But the increase in the acreage under cultivation does not keep pace with the increase of population. Thus while the wheat-eating population increased 28.8 per cent in twenty years, the average acreage devoted to wheat growing increased by only 23.7 per cent. Unless something can be done to alter the conditions it is obvious that a shortage of wheat is actually imminent.

"As the white races are not likely to submit to a serious change of diet, or substitute lentils, rice, plantains, bananas or maize for the wheaten bread that is their staple food, the only alternative is to augment the average output an acre. In different regions, owing to difference of soil, climate and methods of cultivation, the yield of wheat an acre differs somewhat widely. In the United States the average yield is about twelve bushels an acre, and in Argentina about thirteen; each, therefore, near to the average of all lands—namely, twelve and one half, as already mentioned. In India, Russia, South Australia and Algeria the average yield is only about nine bushels an acre. In Canada the average is fifteen and one half. In Continental Europe the yield rises from sixteen in Austria and eighteen and one half in Hungary to twenty-three in Germany and twenty-five in Norway. In the fertile plains and valleys of New Zealand it rises to twenty-five and one half. In the wheat fields of

Great Britain and Ireland it reaches twenty-nine, while in the little splendidly tilled kingdom of Denmark it actually attains 41.8 bushels an acre. If English farmers can succeed in raising two and one fourth times as much, or Danish farmers more than three and one fourth times as much wheat an acre as the farmers of the United States, it might naturally be hoped and expected that by proper cultivation the average yield the world over could be raised from twelve and one half bushels an acre to at least twenty, if not twenty-five bushels an acre.

\* \* \*

"Certainly the use of appropriate fertilizers counts for a great deal. Different crops need different manurial agents; some need phosphates, some nitrogen, some potash. Wheat requires nitrogen either in the form of nitrates or nitrites, or else as ammonia. These materials exist as natural constituents of animal manures or products from them. Nitrate of potash as collected in India from manurial soils is far too scarce to furnish a hundredth part of the need. The guano beds from the islands of the South are nearly exhausted. The sulphate of ammonia made in our gas works artificially is a powerful agent; but it cannot meet one twentieth part of the demand. But the great staple fertilizer of to-day, without which even the present extension of the world's wheat fields would have been impossible, is Chilean saltpeter—the nitrate of soda. Beds of this substance, the deposit of ages, occur as a crude native product in a narrow tract between the Andes and the shore hills of Chili. Of this material, extracted from the rough earthy *caliche*, more than a million tons are exported every year all over the world. About twenty per cent of this output is used in the manufacture of nitric acid in order to afford the ingredients used in smokeless gunpowder and other explosives, celluloid, xylonite, artificial dyes and scents, and other chemical products. Another five or six per cent goes for fertilizing the beet-root crops for the sugar industry. The remainder, nearly seventy-five per cent of the whole, is devoted to manuring the wheat fields.

\* \* \*

"Sir William Crookes gives the following striking instance of the value of nitrate of soda as a manurial agent:

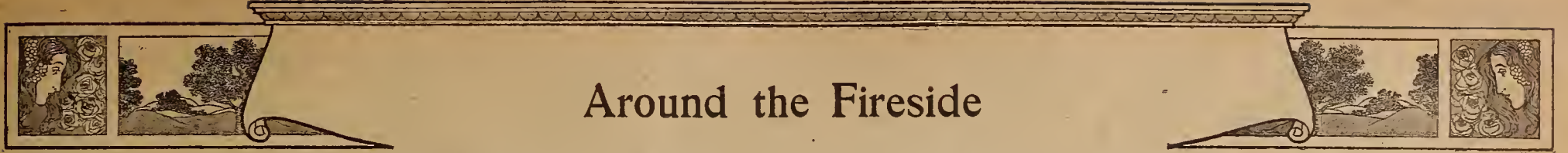
"The action of nitrate of soda in improving the yield of wheat has been studied practically by Sir John Lawes and Sir Henry Gilbert on their experimental field at Rothamstead. This field was sown with wheat for thirteen consecutive years without manure, and yielded an average of 11.9 bushels an acre. For the next thirteen years it was sown with wheat and dressed with five hundred-weight of nitrate of soda an acre, other mineral constituents also being present. The average yield for these years was 36.4 bushels an acre—an increase of 24.5 bushels. In other words, 22.86 pounds of nitrate of soda produce an increase of one bushel of wheat."

"Let us pause to consider the effect of these statistics. Assuming that the average yield all the world over could be raised from twelve and one half to twenty bushels an acre by a corresponding use of nitrates, the additional seven and one half bushels will require 166 pounds of nitrate of soda for each acre. If the present acreage be taken at 175,000,000, then, even without any increase of territory, the quantity of nitrate needed would amount up to no less a figure than 12,000,000 tons per annum!"

"Now the reserve of Chili nitrate, vast as it is, cannot possibly meet this gigantic demand. Clearly, though the wheat famine may be staved off for a time by drawing on the saltpeter beds of Chili, it is but for a time. And then the world must find some other source of nitrogen for fertilizer, or starve."

Nitrogen exists in the air in vast quantities. It is not necessary to go in detail into Doctor Thompson's proposed method of obtaining it for use in fertilizers. Sufficient it is to say that it can be obtained. The peril feared by this English scientist, therefore, may be averted.





## Around the Fireside

### Thanksgiving

BY EVELYN WHITCOMB

It's just a way "Old Time" has; and it's mighty comforting,  
When the days are getting shorter, and Autumn's on the wing,  
To think the same glad feast day, with all its fun and cheer,  
"Thanksgiving," old, but ever new, is coming—almost here.

How the "family" has strengthened since this time a year ago!  
There's Brother Jim's new bride, Aileen; and Hattie's "Baby Joe."  
Yes, and Cousin Mary's twins; she will surely bring them down.  
But oh, there's one that we shall miss! Dear, sainted Grandpa Brown.

There'll be tears and laughter mingled when we meet on that glad day,  
But the joy will drown the sadness, for 'tis ever Nature's way.  
So Thanksgiving, with your blessings, come as quickly as you can;  
We will run to meet you, greet you, day of days—American.

### When the Latch String is Out

IF THERE is one day in the year in which more than all others is manifested that loving spirit of hospitality, it is Thanksgiving Day. As is Christmas dear to all Christian nations, the Fourth of July to all American patriots, so will the festival of Thanksgiving find a place in the hearts of all subjects of Uncle Sam so long as our nation shall stand.

There is something about the good old custom inaugurated by the Pilgrim Fathers that brings out of the man and woman that spirit of thankfulness, love of home and hospitality that is too often lost sight of in the seemingly mad rush of business, and, in fact, in the every-day life. Thanksgiving patriotism, religion and the social spirit were blended in the initial celebration in the Plymouth colony in 1621, and so it is to-day throughout our broad and prosperous land. The doors of hospitality swing wide open, the children return to the old home of their parents, home ties are made stronger, old love renewed, cares and misfortune are forgotten, and God is thanked.

The Christian power of sympathy and sentiment that has for centuries invaded the New England homes has been strong enough to penetrate the hearts of every patriotic American, and no matter whether on home or foreign shore, some thought of thankfulness, some deed of kindness, will manifest itself on this day of all days.

And while the modern celebration of Thanksgiving is to more or less extent different from that which marked that of the early colonists, yet the same loving, friendly spirit is there, thanks to the same true God are offered, and the home comings are perhaps just as happy as in the old days.

Thankful for and thoughtful of our own happy condition, we should not forget those less fortunate than ourselves. Some little deed of charity, some little word of sympathy and encouragement, may perhaps make a sorrowful life bright and happy. Look about you and see if there is not some poor soul who needs, yes, yearns, for just such a helping hand.

Well has our President said in his annual proclamation that "much has been given us from on high, and much will rightly be expected of us in return. Into our care the ten talents have been entrusted; and we are to be pardoned neither if we squander and waste them, nor yet if we hide them in a napkin; for they must be fruitful in our hands. Ever throughout the ages, at all times and among all peoples, prosperity has been fraught with danger, and it behooves us to beseech the Giver of All Things that we may not fall into love of ease and of luxury; that we may not lose our sense of moral responsibility; that we may not forget our duty to God and to our neighbor."

### Hog-Killing Time

"HOG-KILLING TIME" is an event that is looked forward to with much interest by all farm folk; while it means plenty of hard work, it is a work that is mixed with pleasure.

Everything is arranged the day before, or perhaps several days ahead of time; all the neighbors are invited, as Mr. Farmer always "swaps" work with his neighbors, this custom extending to the "wimmen folks." The evening before the great event Mr. Farmer is careful to see that iron kettles, scalding barrels, etc., are in their proper places, knives sharpened and an abundance of wood piled

close to the kettles; then he gets down the old rifle, cleans and loads it, and now all is in readiness.

Long before daylight the next morning he has the fires going under the big iron kettles, and when the neighbors arrive there is no waiting. Mr. Porker is shot down without ceremony, the cruel knife is plunged deep into his throat, and he is dragged to the scalding table. There the men grab his feet and plunge him into the barrel of scalding water; he is again jerked out, and by a dexterous flip he "swaps ends" and is again plunged into the barrel and again jerked out. Now all that can get at him begin slipping off his hair, and when the "rough" is off, the knives are brought into play and he is scraped and scraped until clean. Then two pairs of brawny arms are passed under him, two pairs of strong hands are locked together under him, and he is carried beneath a heavy pole, which is fastened upon strong braces, or posts, a heavy stick sharpened at each end is fastened to each hind foot by means of slitting the flesh and putting the end of the stick between the heavy, tough tendon and the bone, and he is hung head downward, his nose almost touching the ground. Then he is split wide open, and his entrails and inner organs removed; bucketful after bucketful of water is dashed into him, and he is washed perfectly clean inside and out.

Now he must hang and cool until all the animal heat is out of him; but while some are doing this work, other porkers are being slain, and put through the same process, and as soon as the first entrails are removed into a tub they are carried to the sheds or wash house or some convenient place, where the women remove the lard from them, and clean and scrape some of them in which to stuff sausage later in the day. The hogs are

all killed and hung up by "sunup" or a little after, then the kettles are cleaned ready for rendering the lard later in the day, the hogs' heads are cut off, and many little "odd jobs" looked after before the carcasses are taken down and cut up.

The heaviest of the work is now over—that is, the part requiring heavy lifting—and the men are found playing all kinds of pranks upon each other, while they listen to the cheery voices that come from the kitchen, where the "wimmen folks" are doing their part and preparing for the noon-day meal, indulging the while in the usual neighborly chat, as only these big-hearted, free country people can do.

Next in order is cutting up the carcasses into hams, shoulder and side meat; leaf lard and tenderloin meat are trimmed out, the meat is cooled, then salted down; the children usually get to turn the sausage grinder and stuffer, and have much amusement with the "pigtailed;" the lard is rendered, and the work is now practically over, except the cleaning up.

Our illustrations show the men folks at a recent hog killing, with the hanging hogs for a background, and of course the "wimmen" had to take their turn before the camera.

GEORGE R. CAPOOT.

### Work of the Peace Congress

AFTER eighteen weeks of deliberation at The Hague the peace conference adjourned on the eighteenth of last month in a blaze of oratorical fireworks. M. Nelidoff, the president, in a lengthy speech reviewed the work accomplished. He contended that time and experience had been lacking to enable great progress to be made in devising means to avert conflicts. The proposals for obligatory arbitration and the establishment of a permanent court of arbitration, he said, had met with insurmountable difficulties.

The international prize court would stand out as the conference's monument.

The other work, however, would not be lost. Progress had been made in intimate knowledge of mutual interests and needs and in the establishment of relations leading to moral and material solidarity, which would be increasingly opposed to warlike enterprises.

The press, generally of Europe, however, regard the work of the conference as a great fiasco, and some of the more important journals affirm that the congress has done the cause of peace far more harm than good.

From the outset the conference was handicapped by the program which the Czar outlined for its discussion.

The greatest surprise and disappointment in these proposals was the omission of any illusion to disarmament, or at least a reduction in the scale of war preparations maintained by the nations of Europe. England, with Sir Henry Campbell-Bannerman, the Premier, for mouth-piece, raised a great cry for action on the armament question. The United States cordially and France earnestly supported England. Germany talked of assenting to the principle, but it was plain from the outset that neither she nor Russia intended to let anything real be done. Thus what ultimately turned out to be true was prophesied of the conference before it assembled—namely, that it would be a gathering to legislate for war rather than to promote peace. The next peace congress is scheduled for 1915.

### Promising Wealth of Panama

THERE is no doubt but that the Panama Canal is going to cause Uncle Sam to dig deep into his jeans, but when we stop to figure up the enormous profits of the Suez Canal there seems to be a mighty big business reason for the construction of the American waterway. Frank G. Carpenter figures that if Panama should pay proportionately with Suez, the United States government will realize from it something like fourteen per cent every year. The money actually invested in the canal of Suez was one hundred million dollars, and its receipts last year were over twenty-two million dollars.

After paying all its running expenses it has more than fourteen million dollars left for dividends and other purposes, and its stock is now worth more than that of the Standard Oil Company.

The obstacles encountered in digging the Panama ditch have been sufficient to discourage almost any nation, but the bulldog tenacity of the American people has been manifested in this very project, and the United States will surely build the canal, and build it with American skill and money. If the locks will have to be widened, and it now seems altogether likely, it will be done, and the necessary millions will be forthcoming for this or any other emergency that may have to be met. Congress may continue to struggle and wrangle with the perplexing problems that are bound to come up, but the American people want the canal built, and with the masses back of such a movement the outcome is never in doubt. Too, the American people have profited by the mistakes incident to the Suez project, and once the Panama waterway is a reality there will be no repetition of Egyptian blunders, but Uncle Sam will continue to boss the job and collect the tolls.

### The Brooklyn Bridge Crush

TO THE visitor to New York City the great Brooklyn bridge is one of the first objects of special interest pointed out, and to those who have seen it, mingled with its crowds or even read of the great jams that occur daily, and indeed regularly at certain hours, the recent proposition to install moving platforms across the bridge will find some interest.

The company making the proposition promises to carry 174,000 persons an hour across the bridge, each passenger to have a seat, and ensures a solution of the crush problem that has been before the New York public for years.

In the moving platform the usual order of things is reversed, and instead of the vehicle on which the passengers are moved running on wheels on a rail, the vehicle itself is the rail which moves over the wheels.

Should the system be installed, it would be not unlike a broad band on which seats are placed, looping the bridge at a rate of twelve miles an hour, without any stops to take on or leave off passengers—no waits, no dead space, just one continuous train always running.



THE MEN FOLKS AT A RECENT HOG KILLING



THE WOMEN TAKE THEIR TURN BEFORE THE CAMERA



# The Impoo Story

By Frank E Channon

## CHAPTER I.

### A RACE AND ITS RESULT

IT is the morning of the August Bank Holiday, and Stamford Bridge Athletic Grounds are brilliant with hundreds of flags. Here flies the Red Cross of England, side by side with the Stars and Stripes of America. There the French Tricolors; yonder the German Imperial Eagle. The saffron flag of Spain floats grandly in the breeze over the box of the Spanish ambassador, and by its side the Black Dragon of the Celestial Empire, while a little to the right the banner of the Czar of All the Russias mingles its folds peaceably with the emblem of the Land of the Rising Sun. All nations are represented here at this great contest of peaceful strife, and a general feeling of "may the best men win" permeates the vast concourse of spectators.

The grand stand is fairly ablaze with color, the magnificent costumes of the ladies standing out in bold relief from the darker background of their male escorts, while all around that vast arena is massed a six-fold fringe of human beings, and above them all, like some great god come to witness the efforts of his subjects, shines the sun, the glorious sun of an English June morning.

Away off to the north the tapering tops of a hundred chimneys break the sky line, but this morning they vomit no obnoxious black smoke, for the grimy sons of toil, who usually feed the fires of these belching monsters, have forsaken their posts, and are clustered around the ropes, anxious and expectant, awaiting the appearance of the contestants, for is not Blake, the champion long-distance man of the British Isles, here to defend his title today, and are there not a half dozen foreign champions present to dispute it? And what sturdy north-country man or what H-dropping cockney is there who has not bet his last shilling on the chances of his countryman? They find plenty of takers, however, for the American contingent is strong here to-day, and is equally ready to make their money talk for their man, Amos Jackson, the ex-college cross-country champion. Neither are the dapper little Frenchmen from across the Channel slow in placing their francs in defense of their mighty Charmeries, who has wrought such deeds of wonder at Berlin and Vienna, and finally carried all before him at Athens; while the "dark horse" of the race, Monk, the New-Zealander, is tipped by quite a few as the winner, and the sturdy little Hollander, Durbries, has his supporters and friends.

The preliminary heats are over. The open hundred has been captured by that prince of sprinters, Tuffy, the American. The mile has gone to George, the Britisher, and the quarter to the French crack, De-Fairies. And now comes the grand event—the five-mile cross-country championship. Already the stewards are chasing stray spectators off the track; a bell is ringing from the dressing tent. A few onlookers, who had left their seats in search of

refreshments, are climbing back again. The hush of expectancy hangs over the field.

Suddenly a terrific shout goes up. Half a dozen bands play as many national anthems simultaneously, and the champions of six nations come strolling forth to do battle. See that clean-limbed bright little fellow! He is Charmeries, the Frenchman, fresh from his victories on the Continent; and talking to him is the bull-necked, sturdy son of Holland, Durbries. The New-Zealander, Monk, the British champion, Blake, and the American representative, Jackson, are beguiling the tedium of the procession to the start with leap frog, while the massive Anglo-German, Guinersuppe, brings up the rear.

The grand stand springs to its feet "en masse" and cheers frantically, while high above the din of frenzied shouts sounds the shrill war cry of some American college, backed and flanked by deep-chested roars of British cheers.

"What's the matter with Jackson?" shouts a stentorian voice, and loud and hearty comes back the familiar answer: "HE'S—ALL—RIGHT!"

Even the dignified American minister is carried away with the mad riot around him, for he springs from his seat, and raising his hat, cheers enthusiastically for his country's representative.

A massed band of the 2d Coldstream Guards is playing "The Watch on the Rhine," and the German contingent comes in strong at the finish. H. R. H. the Prince of Wales is pointing out to his consort the British champion, and the Dutch ambassador is drumming his fingers nervously on the rail in front of his box. All is nerve-racking expectancy.

And now the six men are on the line. The starter is giving them a few parting instructions. Before them stretches the velvety, green course, clearly defined in its oval shape by the white posts, the fluttering flags and the vast throng of spectators. The Frenchman has the inside berth; next, the New-Zealander, then the stalwart German, with the lean-looking Yankee as his companion, side by side with Blake, the Englishman, and the Dutchman on the extreme outside. A hush falls over the waiting thousands.

"Ready?" comes the clear interrogation from the starter.

The onlookers draw a long breath; the runners fall into position. Was ever a wait so interminable.

"Gun!"

They're off!

The Frenchman on the inside jumps away as if it were a quarter-mile race, and is six good lengths to the fore at the first furlong post. Monk is hot on his trail, with the Britisher and his American cousin laying next; Durbries well up, and the German taking things easy in the ruck.

Something like a sigh of relief comes from the crowd. The ice is broken; the race is on.

The men round the first lap in very much the same order as the start, except that the Frenchman has steadied himself a bit, and the German has drawn up to his field. Twenty yards would cover the bunch as they dash past the stand the first time around. All have taken their jumps in good style, and they start on the second lap in fine trim. Then, all of a sudden, down goes the New-Zealander in a heap at the water jump. He struggles out again in a moment, dripping and mud soaked, and is after his field like a race horse. But fifty yards of green turf now lie between him and the leaders. On, on, they race, with the blue and white colors of the Frenchman always in the van, and the scarlet tights of the New-Zealander in the rear, while, with great, easy strides, each watching the other like hawks, side by side in the middle of the bunch, race the American and the Britisher. Past the stand for the second time and on out into the country they run, the sturdy little Hollander still hanging to the Frenchman as if he was the only man in the race. But something is happening to Charmeries. He almost stops, places his hand to his side, and then falls hopelessly away. The crowd gives a little "oh" and a murmur of sympathy, but the knowing ones only laugh, and say, "That's all right; he's cutting out the running for the German."

And so it seems, for the mighty son of the Fatherland comes away with a rush and is past the two Anglo-Saxons and

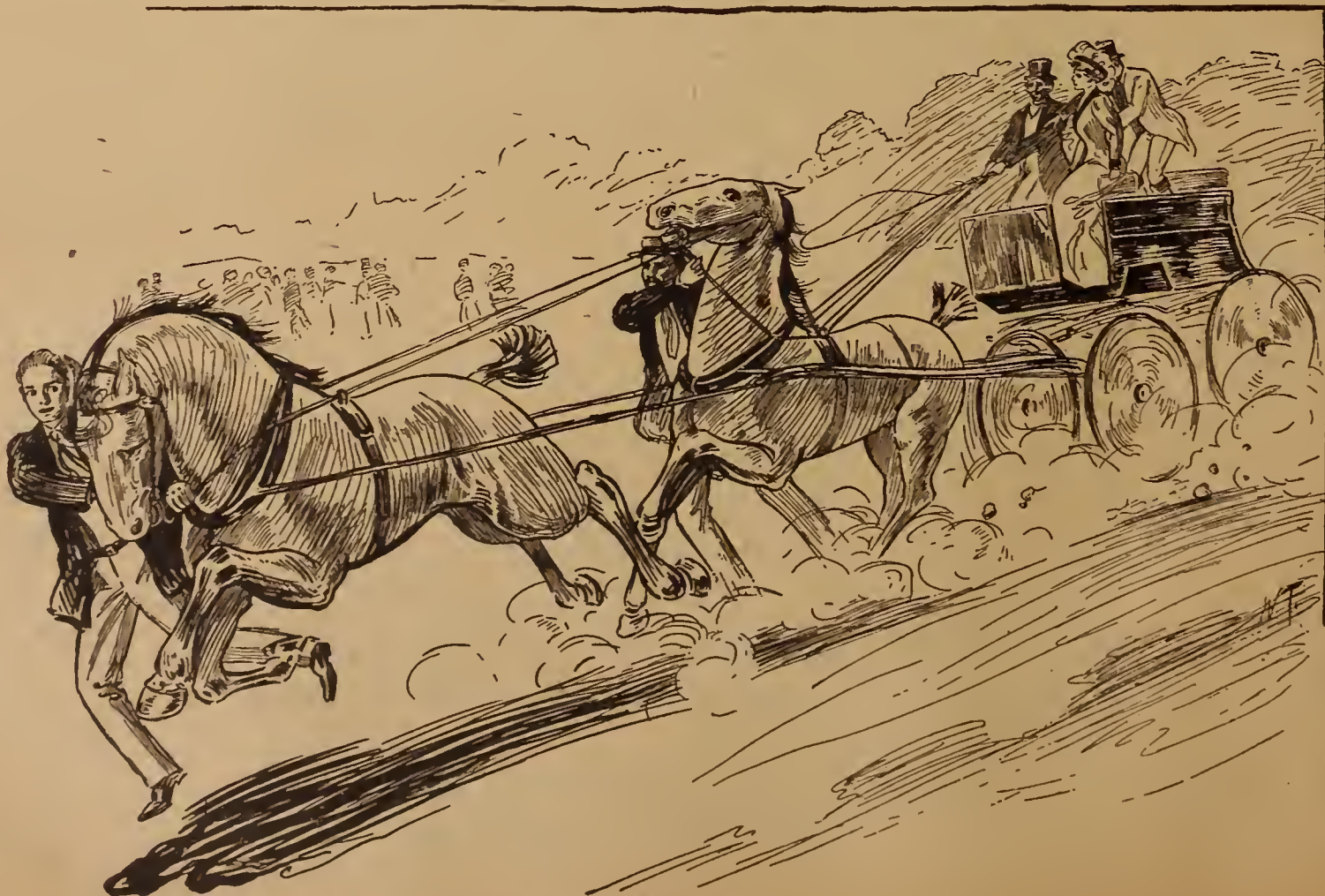
racing shoulder to shoulder with Durbries before the Hollander can scarcely realize it. He is starting early to make a runaway race of it, and is coming pretty close to doing it. With great, powerful strides he forges to the fore, and running like the wind, opens up a formidable distance between him and his pursuers. Durbries, the American and the Britisher all realize their danger, and are after him in grim earnest, while Monk, toiling away painfully in the rear, spurts gallantly, and closes up on the flying quartet, and the Frenchman retires, covered with glory for his part in the race.

Past the stand they come again, with the great German still going and leading as if all the wolves of the Black Forest were on his trail; Jackson, Blake and Durbries neck and neck twenty yards away, and Monk plugging doggedly away another twenty behind them. The German rises to his hurdles and jumps grandly; he is full of running, and the three men behind can scarce hold him; the New-Zealander is coming fast now, and gaining on the leaders.

The crowd yells and shouts in mad excitement, as the men dash past the stand for the fourth time and start on the final lap.

Now for it! Now for the great struggle! Five good men still in it, and a mile from home.

The German is slowing a bit and the mud-bespattered Monk is surely gaining. Half way around the lap the Hollander makes his effort. He spurts with all the pluck of his race, but Jackson and Blake will have none of it. Effort for effort and stride for stride they answer. Not a foot separates the three; they are running down the German, while a mighty shout from the crowd warns them that the plucky Monk is fast closing. The German is not yet through, though. With a will of iron he forces himself on; he clings to the lead, and hugs the rail like a grizzly. A quarter mile from home and in the straight now. There is a mighty roar from the Americans. Jackson is spurting! Gad! so is Blake! And the little Hollander! They have collared the German! No, he comes again! A hundred yards from the tape and four men all in line. There is a terrific shout from the stand. The people are intoxicated with excitement. Then like a flash comes the scarlet figure of the New-Zealander; he whizzes past the struggling four, and for one brief moment holds the lead. The air is rent with frenzied yells. Then the American comes away in the last fifty yards, with the Britisher and the Hollander on either flank, and neck and neck the trio make the last grand effort, with the German and New-Zealander a yard behind. Gad! was ever such a race! It will be, it will be, by the Great Lord Harry, it is—IT IS—A TRIPLE DEAD HEAT! and as the exhausted racers fling themselves on the turf, oblivious to all surroundings, the crowd breaks loose in a wild whirl, and swooping down, carries the barrier and rope



"With a well-timed spring the athlete caught the leader's reins. . . . Donnelly wrestled with the wheeler"



before them, as they seize the gallant runners, and hoisting them shoulder high, bear them triumphantly to the stand.

The great international cross-country championship of 1906 is over, and Amos Jackson, American, covered with honor and glory, has retired from active participation in field sports.

"The greatest race I ever witnessed, Your Highness," says the American ambassador, as he pays his respects to the British representative of Royalty.

"As an exhibition of pluck it was unequalled," responds the Prince.

## CHAPTER II.

### ACQUAINTANCE BY ACCIDENT

AND what a reception did Amos Jackson receive! Had he won the race by half a lap, his countrymen could not have accorded him a greater ovation. The lank son of the New World, ever modest and retiring, had to literally fight his way to his dressing room through surging lines of admiring supporters, who grasped his hands, and thumped his back, and shouted congratulations to him.

It was after five o'clock when the American finally broke away from his admirers, and in company with his old chum, Donnaly, declining the many offers of "Cab, sir?" started to walk back to town. The road was swarming with sightseers returning from the sports, but none of them recognized in the tall, fashionably dressed figure the great American runner.

It amused the two friends, as they sauntered along, to listen to the comments and talk of the race.

"The bloke's a millionaire," confided a grumpy-looking navy to his companion.

"Who, the Froggie?"

"No, the Yank."

"Wot, got a million pounds?"

"No, dollars, you fool; they don't 'ave pounds over there."

"Oh, he's a toff, eh?"

"You bet he is."

"It don't make no odds about his tin; Blake'd run him down in another five yards."

"I don't know, though; he was going awful strong at the finish; he's a lean dog, and it takes that, you know, for a long race."

"I know, but—Say, what the deuce is coming? Get out of the way. Blast me if it ain't a runaway. Look out, Tom!" and the man dragged his companion hastily to one side.

A couple of hundred yards back on the road, amid a cloud of dust, two half-maddened horses were dashing at break-neck speed toward them, careening wildly from side to side, and threatening every moment to overturn the tall dog cart which they were drawing. They were being driven in that most idiotic of all styles, tandem fashion. The leader was completely out of hand, with the wheeler following blindly. An elderly man strove impotently to check them. A groom in livery had clambered over from the back seat, and was endeavoring to assist. A girl, white and scared, clutched convulsively at her seat, as the tall, high-wheeled dog cart swayed dangerously from side to side.

The two Americans, who had been lounging leisurely along, were all action in a moment.

"Look out, Donnaly! Take the trailer, I'll glue to the leader!" shouted Jackson.

There was no time for more; the half-maddened animals were upon them. With a well-timed spring the athlete caught the leader's reins and flung his whole weight upon them. Donnaly wrestled with the wheeler. The crowd, scattered in all directions, and the old gentleman in the box hung on to the lines like grim death.

For a few moments there was a fierce battle between men and beasts. The horses reared and plunged; they struggled and fought; with mighty efforts they sought to throw off their human burden. The dog cart careened and swayed; now this side of the road, now that, and the girl hung on to her perilous seat, speechless with terror. Amos felt his arms almost wrenched from their sockets, but he hung on with that grim determination that knows no defeat, and at last, with a snort and stumble, with flaming eyes, the animals came to a halt, and the battle was won.

The groom was down from his seat in a moment, and a dozen willing hands held the panting horses, while the two Americans staggered from their posts and sat breathless on the roadside bank.

"Are you hurt, gentlemen?" shouted the driver, as he flung the reins to willing hands, and assisting his charge to dismount, made his way toward the two friends.

Jackson shook his head. It was all he could do, for his fight with the horses had tried him almost as severely as the race. It was Donnaly who first found his tongue and his breath.

"We're all right, thanks," he panted.

The girl had joined them by this time. "It was brave, it was magnificent!" she cried with just the slightest suspicion of a foreign accent. "I thank you both!" and she held out her daintily gloved hands.

Jackson just touched her finger tips. It seemed almost sacrilegious to grasp that exquisite hand. He mumbled something about it being "nothing at all," and being "delighted," and then commenced to back away. Jackson never was a ladies' man.

It was Donnaly who came to the rescue. He was always alarmingly at his ease in the presence of the fair sex. With almost Parisian politeness, he stood hat in hand, and assured her that if they had been of any service, the pleasure had been theirs; he thought the horses were just about to stop, in any case. Then steering clear of the somewhat embarrassing subject, he turned to the old gentleman and inquired of him what he thought was the cause of the horses bolting.

"I can scarcely tell," was the reply. "The leader took fright so suddenly that my attention was solely taken up with him, and I had no time to make any note of the cause of it."

"Why, uncle, it was the man with that odd Punch and Judy show. Did you not see him? He dropped the box containing all the puppets, and the clatter startled the horse."

"Was that it? Now, really, I have no recollection. I was so concerned with the horses that I noticed little else. It was indeed fortunate you gentlemen were here, or I scarcely know how it might have ended. Can I give you a lift into town?"

"Why," said Jackson, "we were intending to walk in, but this incident seems to be creating some little excitement, judging by the crowd, so if you can make room for us, perhaps—"

"I don't see how," laughed Donnaly, looking over the dog cart.

"Oh, that can be easily arranged if one of you gentlemen will not object to the back seat. The fact is, I'm a trifle shaky, and if I can induce you to handle the lines I shall esteem it a great favor. This mad run has rather upset me."

"I never handled horses fixed that way," disclaimed Donnaly, shaking his head, "but Jackson, old man, I've seen you often do it at the New York Horse Show. Suppose you try. By the way, we don't know each other, do we? This is Mr. Amos Jackson, and my name is Donnaly, both from the other side of the pond. I expect you've discovered that." The easy-mannered Donnaly was making things comfortable.

"Of course. How stupid of me. I forgot," mumbled the old gentleman. "This is her—I should say Miss Ashtonette, of Belgrade, Serbia, and I am her uncle, Colonel Dangousem; at your service, gentlemen. We are 'doing Europe,' as you Americans say, and have been attending the sports to-day."

"Why, uncle, Mr. Jackson must be the American who ran so grandly in that very long race. You are, you know you are!" she asserted, pointing an accusing finger at the embarrassed athlete.

"Oh, plead guilty, old man; you are discovered and lost," advised the irrepressible Donnaly.

"On the contrary, sir, if Mr. Jackson is discovered, I should say that he is found, not lost; but really, your English language is so utterly impossible that it is difficult to be sure," laughed the young lady.

"Let us get in the dog cart," suggested the Colonel. "Mr. Jackson, do me the favor of handling the ribbons; your friend and I will mount at the back. John, follow us on foot," this to the groom.

"Oh, that's too bad, now," remonstrated Jackson, with all an American's consideration for his fellow, be he servant or master. But the groom had tipped his hat, and was already at the horse's head.

Amos assisted Miss Ashtonette to climb up into the tall, two-stepped vehicle, then clambered up himself. The Colonel and Donnaly were already seated at the back. The groom said, "Ready, sir?" gave the leader his head, touched his hat and stepped to one side. Amos gathered the lines well in, flicked the horse over the ears, and the animal sprang forward.

Amos, reserved, as usual, attended strictly to his lines, and found little enough to say to the queenly being by his side. He had scarcely obtained a fair glimpse of her as yet, but he was aware of a finely poised head, crowned with a wealth of golden hair, and a pair of laughing, deep brown eyes. It was her voice which most charmed the American, however; he was fascinated by it. It sounded soft and low and musical, like some rippling brook.

"You drive almost as well as you run," she said in her pretty foreign accent.

"I am very fond of horses," he replied simply.

"If a man is fond of anything, he is sure to do it well; at least, so the Austrian am—I mean my uncle always says."

"Is your uncle an Austrian, then?" he inquired. "I understood him to say he was a Servian."

"No," she laughed in her pretty way, "he is not an Austrian—not by any means," and her rippling laugh rang out again. Six months later he better understood the meaning of her mirth.



Amos Jackson, the Impostor and Monarch-to-Be of the Island Kingdom of Mirtheium

"Mr. Donnaly informs me you are staying at 'The Falcon,'" the Colonel called over to Amos. "That is our hotel, so our port of calling is the same. Perhaps you gentlemen will honor us with your company this evening, if you have no other engagement. Our suite is Nos. 93-98. Drop in this evening, if possible." The Colonel was delightfully democratic in his manner.

"We shall be delighted," responded Donnaly, placing a strong Roosevelt accent on the 'de.'

"Why not?" suggested the girl, then hesitated.

"Ah, why not, most certainly, by all means," the Colonel broke in, catching onto her idea. "You must dine with us. A capital idea. Ha, ha! Will it be convenient? We dine at seven-thirty. I trust you will honor us."

"How about it, Jackson?" asked Donnaly. "I know of nothing to prevent us," replied Amos. "It is very kind of you, Colonel. We accept with pleasure."

"That will be very nice. I was wishing for a little company this evening," said Miss Ashtonette.

They were driving through the town now, and presently pulled up in front of "The Falcon." Amos flung the reins to a hostler and assisted Miss Ashtonette to alight. The Colonel and Donnaly were already down.

"To-night, then, at seven-thirty!" cried the girl as they parted in the main hall.

"At seven-thirty," echoed the Colonel.

"We shall be there," called back the two Americans.

## CHAPTER III.

### A DINNER AND ITS CONSEQUENCES

"WELL," said Jake Donnaly, as he stretched himself in the comfortable easychair of their smoking room, "well, what now? It is ten past seven. Better dress, I guess. I know you're anxious to get there, old man."

"Speak for yourself, Jake, you made the date. Still, they are rather fine people, I'll admit."

"Pshaw, she's a fortune hunter. They've caught onto the fact that you're an American millionaire. Great chance for his niece, the uncle thinks," teased Donnaly.

"Nothing of the sort," retorted Amos. "That girl's all on the square, or I'm no judge of human nature."

"Oh, that's how it blows, eh. Awfully sorry for you, old chap. Let me know when it's coming off, and meanwhile get off to your room and dress."

"Don't be a fool, Donnaly," retorted Jackson, as he arose and went out.

"Mr. Amos Jackson and Mr. James Donnaly," announced the servant, as our hero and his chum entered the reception room.

A vision of loveliness in a wonderful dress of an indescribable fashion swept forward to greet them.

"My aunt, Mrs. Dangousem. Auntie dear, this is Mr. Jackson and his friend Mr. Donnaly. They are our heroes of this afternoon's adventure."

Amos found himself bowing to an elderly lady, with a kind, motherly face, which was crowned with a wealth of beautiful white hair. The Colonel was standing back of her, nodding cheerfully to him. Donnaly was already making himself at home, and explaining to Miss Ashtonette the difference between the two 1898 issues of the United States Washington two-cent

stamp. "You see," he was saying, "the lines about the head in the first issue converge—"

And then occurred an unexpected and dramatic incident.

Mrs. Dangousem gave a little scream, flung up her arms in the air and fainted dead away.

The Colonel caught her as she fell; Amos sprang forward, and lifting her up like a child, carried her to a couch. Miss Ashtonette was by her side in an instant, and a servant was running for smelling salts. Donnaly stood stroking his chin and feeling somewhat in the way.

"She will be better in a moment," said the niece assuringly, looking up at Amos with a pretty, flushed face. "She is sometimes affected this way. It's the heat, I think."

The prophecy proved correct. The maid returned with the salts bottle, and in a few moments Mrs. Dangousem opened her eyes, and murmuring something about "How silly of me!" attempted to rise.

"Now remain still, auntie dear," remonstrated Miss Ashtonette, gently enforcing her words with a detaining hand. "You will be better in a few minutes. The gentlemen will excuse you, I am sure."

"Really I am quite recovered now," said the old lady, again endeavoring to sit up. "Very well, in a few minutes, auntie. Marie, set dinner back for fifteen minutes, please," this to the maid.

Everything was all right again in a short time, and Mrs. Dangousem took her place at the table.

"It was so absurd of me," she apologized, with a faint attempt at a smile, to Amos, "but I cannot control myself when I receive the slightest shock, and you reminded me so strongly of a dear one who has recently gone from us."

"I am sorry indeed to have been the unwitting cause of your indisposition," replied the athlete with genuine sympathy.

"The little mother is recovered now," assured the Colonel, softly patting his wife's hand.

But somehow the incident had cast a gloom over the little party, which was not to be dispelled by the excellent courses and the fine cuisine.

The Colonel seemed thoughtful, and Mrs. Dangousem nervous and ill at ease, and the reserved Jackson was not one to impart gaiety to such a gathering. Only Miss Ashtonette and Donnaly were at their ease.

The servants moved noiselessly about the room removing the courses; light conversation prevailed, and presently the ladies withdrew to the drawing room and left the three gentlemen to their cigars. The servants slipped away; the men were alone.

Somehow the conversation drifted around to politics—first American, then British, and lastly international. The Colonel referred to the unsettled condition of the Balkan States, and the possibility, aye, probability, that the slumbering embers might at any moment burst into fierce flame.

"You know, gentlemen, we are there, our home and people are there, and the matter is one of deep concern to us."

"You reside in Belgrade, I believe you said, Colonel?" queried Donnaly.

"I have lived there, but I can scarce call it my home. I am an Islander, gentlemen; a sailor, born and bred. More than a third of my life has been spent upon the sea's heaving bosom, but my home, that place which is perhaps dearer to a sailor than any other man, my home is the ever-beautiful isle of Mirtheium, whose shores are lapped by the blue waves of the Ægean Sea."

"I have to confess, Colonel, that I cannot place it," frankly acknowledged Amos.

"That is quite excusable, sir," allowed the Islander with a deprecating wave of his hand. "It is very small in area; it will seem even more so to you after your vast continent, but it may perhaps interest you to know that Mirtheium lies exactly half way between Mytilene and Skyro; it is just fifty miles from either. You have heard of those two islands, I presume?" and the Colonel lifted his eyebrows inquiringly.

"I can go you on the one, Colonel," said Amos with a laugh. "Mytilene, I think, lies close to the Turkish coast, in the Grecian Archipelago—the Ægean Sea, as you call it; the other, I am afraid, I must plead guilty to not being able to locate."

"You are right, sir, in regard to the larger isle, and Skyro lies almost opposite to it, near the Greek coast; it is much smaller than the Turkish, as you say. But—and herein lies the interesting point in regard to my home—whereas the two isles we are mentioning belong to the one to Turkey and the other to Greece, Mirtheium, my home, gentlemen, pays tribute to no nation; it is independent. In vain have the soldiers of Greece or Rome and of Turkey endeavored to wrest it from us in all ages; we have hurled them into the sea, and to-day, gentlemen, Mirtheium stands as free and independent as it did in the days of our Savior."

[CONTINUED ON PAGE 21]



## Who Is It?

Who is it, when the infants cry,  
Will quickly to the babies fly  
And instantly their needs supply?  
'Tis mother.

Who is it, when the child did fret,  
As sickness it did often get,  
Had watched the babe and little slept?  
'Tis mother.

Who is it wilt with great delight  
Direct the boys and girls aright  
And make their many hardships light?  
'Tis mother.

Who is it, when this life's most o'er,  
When they can do for you no more,  
Will point you to the heavenly shore?  
'Tis mother.

ALBERT E. VASSAR.

## The Thanksgiving Feast

BY MARY FOSTER SNIDER

THANKSGIVING dishes for Thanksgiving Day is an almost unbroken law in many households, and it is undoubtedly wisdom that the old fashions should at least once a year be thus rigidly observed. One can scarcely eat a dinner modeled after one of those old-time Thanksgivings without giving a thought to those heroic and unselfish ancestors of ours who have made our own delightful November feasts possible, and the thought must bring a comparison between their day of thanks and ours that should assuredly fill our hearts with deepest gratitude. The old-time dishes and the old-time feast, however, may be loyally observed and yet permit of some delightful little additions and innovations that twentieth-century tastes and palates delight in.

The usual bread stuffing for the turkey may be pleasingly varied year after year by the addition of oysters, mushrooms, chestnuts or celery. A well-made bread stuffing, however, can scarcely be excelled, and every housekeeper should learn to make this light, digestible and savory. An excellent recipe is the following:

Select a large loaf of bread at least two days old, and cut off all the crust. Grate the crumb fine, and mix with it one scant tablespoonful of salt, one third of a teaspoonful of white pepper, one teaspoonful of powdered thyme and two teaspoonfuls of powdered summer savory. A tablespoonful of finely minced onion that has been fried in butter for five minutes is considered a most pleasing addition by many persons. Mix one half cupful of melted butter thoroughly through the seasoned crumbs, and stuff the mixture lightly into the turkey. If oysters, chestnuts or other ingredients are to be added, use a smaller amount of crumbs, omit the poultry seasoning, and add chopped celery, mashed chestnuts or small oysters in the desired proportion.

If the turkey is not to be stuffed with the oyster mixture, oyster balls are very delicious to serve with it. Parboil one cupful of oysters, add the mashed yolks of two hard-boiled eggs, one half cupful of fine dry crumbs, salt and pepper to taste, and the yolk of one raw egg. Shape into rather thick round cakes, and fry in plenty of butter until a light brown on both sides.

An old and excellent recipe for chicken pie is as follows: Prepare two or three nice-sized chickens for boiling, and cook them in slightly salted boiling water until tender. Then take the meat from the bones and place it in a deep earthen pudding dish that has been lined with puff paste. Dust each layer of the chicken with salt, pepper, a little flour and generous bits of butter. One teacupful of butter in all should be used. Mash the livers and hearts and add them to the gravy, thicken it with flour, add seasoning to taste, and pour it over the chicken until the dish is as full as possible. Cover with a top crust of the paste, cut some neat gashes in the top, to allow the steam to escape, and bake in a good oven until done. Oysters, mushrooms and sliced hard-boiled eggs may be alternated with the layers of chicken, and make the pie even more delectable.

A most delicious cranberry sauce to serve with the turkey is made by adding one orange and one cupful of raisins to each quart of cranberries. Squeeze the juice from the orange, and boil the peel in water to cover until perfectly tender; then drain, and cut it into shreds with a pair of sharp scissors. Stone the raisins, and simmer them in a very little water until tender, add the orange juice, the orange peel, one quart of washed and picked-over cranberries, and just enough water to make one cupful of liquid in all. Boil for ten minutes, or until the cranberries begin to pop, then add two cupfuls of granulated sugar, and boil ten minutes longer, stirring frequently, to prevent scorching.

For a good old-fashioned Indian pudding take two quarts of milk, and scald three pints of it; stir ten tablespoonfuls of sifted meal in the hot milk, and beat very thoroughly, to remove all lumps. Add salt to taste, two heaping teaspoonfuls of ginger, half as much ground cinnamon, three fourths of a cupful of granulated sugar, one teacupful of New



Orleans molasses, and lastly the pint of cold milk. Add stoned raisins if desired, and bake four hours in a slow oven.

Pumpkin pies are essentially the pies for this November feast and when well made excel every other pie that has ever been or ever will be. Mix well together four cupfuls of stewed and sifted pumpkin, one cupful of cream, five cupfuls of milk, one and one half cupfuls of white sugar, one teaspoonful each of cinnamon, mace and nutmeg mixed with the sugar, and eight eggs well whipped. Pour into deep pie tins lined with good crust, and bake twenty-five minutes or until the pies are done.

Nut custard for filling for layer cakes is most delicious. Make a custard with one half cupful of milk, the beaten yolk of an egg, two tablespoonfuls of white sugar and one half teaspoonful of vanilla. Let it just come to the boiling point without actually boiling, then remove at once from the fire and let get cold. Stir in one half pound of shelled and chopped walnuts, and spread between the cakes. Cover with a plain white frosting, and ornament with halved walnut meats.

Sugared nuts are a pleasing and healthful sweet. Boil two cupfuls of granulated sugar with one half cupful of water until it hairs. Add two cupfuls of blanched and dried nuts, almonds, English walnuts or filberts, and stir until the sugar clings to the nuts. When well coated, turn them out, and separate any that have stuck together.

Peach meringues are even more delightful. Add a pinch of salt to the whites of three fresh eggs, and beat them to a very stiff snow, adding gradually, while beating, one cupful of powdered sugar. When so stiff that the mixture will not drop from an inverted dish, form the meringues into small ovals, using a tablespoon and knife dipped in cold water to shape them. The paste should be dropped on oiled white paper laid on a thick board; sprinkle the meringues with powdered sugar, and let them dry out in a very slow oven for an hour. The oven must not be hot enough to discolor them. When done, take them from the oven, and scoop out the soft part in the center. If they stick to the paper, turn it over and slightly moisten it. Mix chopped preserved peaches (from which all the sirup has been drained) with a very little dry whipped cream, and fill it into the center of the meringues just before serving.



Here is the very citadel of the farm house, the clean-swept kitchen; and here is the very heart of the farm, the great stone fireplace. Above it is the throne of the kitchen clock, with its body guard of quaint, blue-patterned china and brass candlesticks. Before it spread the broad, smooth flags, on which have burned the coals of many generations. Within and around it are all things that should be—andirons, soup and gravy kettles, skillets, roasters and sauce pans. Talk about your fancy stoves, ovens or ranges, and your cooking with coal or gas or electricity! When did any such newfangled contrivance cook a Thanksgiving dinner like the deep fireplace, with its brick oven and savory fire of crackling wood?

## The Housewife

## Stuffing the Gobbler

BY EDITH E. SHAW

WITH SWEET POTATOES: Boil, peel, and sift enough sweet potatoes to make one quart. Mix with the potato one beaten egg, one cupful of bread crumbs, one fourth of a cupful of butter, one teaspoonful of poultry seasoning, one teaspoonful of salt and one fourth of a teaspoonful of paprika. Salt and pepper the inside of the turkey before putting in the stuffing.

WITH ONIONS: Break a stale loaf of bread in pieces, and pour boiling water over. When moistened, stir into it four finely chopped onions, one half cupful of melted butter, one teaspoonful of sweet marjoram, the same of thyme, one level tablespoonful each of summer savory, sage and salt, and one third of a tablespoonful of pepper. Mix well together before using.

WITH SAUSAGE: Pare three very tart apples, and chop fine; add one half pound of sausage meat, and chop again to mix; add one tablespoonful of chopped parsley, a very little each of sage, salt and pepper, two tablespoonfuls of melted butter and one quart of moistened bread. Stir all well together before stuffing.

WITH OYSTERS: Drain the liquor from one quart of oysters, chop lightly, and mix with one quart of bread crumbs; add one third of a cupful of melted butter, salt and pepper to taste, and a little chopped celery or celery salt. Use the oyster liquor, with an equal amount of melted butter, for basting the turkey.

WITH MUSHROOMS: Cut one quart of mushrooms into small dice. Blanch, boil, and cut in halves one cupful of chestnuts. Mix, and add an equal amount of flaked bread moistened with one half cupful of melted butter. Season with salt, paprika and two tablespoonfuls of minced celery.

WITH CELERY: Pour cold water over a loaf of stale bread, drain, and crumble. Add one pint of chopped celery, one half cupful of melted butter, salt and paprika to season.

WITH LIVER AND CHESTNUTS: Boil two pounds of calf's liver in stock with a bunch of herbs and a pinch of salt. When done, let cool in the liquor. Blanch and boil one quart of chestnuts in water with a bay leaf and the juice of a lemon.

Run the liver through the meat chop-

per, and slice the chestnuts; mix, add two tablespoonfuls of lemon juice, one half cupful of melted butter, salt and paprika to season.

WITH RAISINS AND RICE: One quart of dry, well-cooked rice, one pint of raisins split and seeded, two well-beaten eggs. Season with one level teaspoonful of salt, one saltspoonful of pepper, one teaspoonful each of parsley, sage and thyme, and mix thoroughly.

## Steamed Fruit Pudding

PUT into your mixing bowl one heaping cupful of bread crumbs, two scant cupfuls of flour, one cupful of molasses, one cupful of sweet milk, and one teaspoonful each of salt, cloves and cinnamon. Stir one teaspoonful of soda in the milk. Add, the last thing, one cupful of suet, chopped fine, the same amount of raisins and currants, and rub them thoroughly with flour before adding to the mixture. Steam in a well-greased mold or pan for two hours and thirty minutes. This recipe will make quite a large pudding.

## Cranberry Pie

FOR one pint of cranberries, chopped, use one cupful of sugar and one third of a cupful of molasses. Dissolve one tablespoonful of corn starch in the same amount of cold water, and stir into it two thirds of a cupful of boiling water. When cool, mix with the cranberries and add one teaspoonful of vanilla.

## Baltimore Muffins

MIX one-fourth of a cupful of hominy and one half teaspoonful of salt, add one half cupful of boiling water, cover, and let stand until the hominy absorbs the water. Add one: cupful of scalded milk to one cupful of cornmeal, then add three tablespoonfuls of sugar and three tablespoonfuls of butter. Combine mixture, add the yolks of two eggs beaten until thick and lemon colored, and the whites of two eggs beaten until stiff. Sift over three teaspoonfuls of baking powder and beat thoroughly. Bake in hot, buttered, iron gem pans.

## A Thanksgiving Salad

FOR this recipe chop fine the white meat of a boiled fowl; there should be one cupful. Dissolve one fourth of a teaspoonful of granulated gelatin in one and one half teaspoonfuls of cold water, and stir into one fourth of a cupful of mayonnaise dressing. Then add to the chopped chicken and make into balls one and one half inches in diameter. Cook the stock in which the fowl was boiled, with one onion stuck with six cloves, two stalks of celery, a sprig of parsley, a bit of bay leaf and one teaspoonful of peppercorns until reduced to three cupfuls. Strain, season with salt and pepper, then clear, using the whites of two eggs, and season with lemon juice; then add one and one half tablespoonfuls of granulated gelatin. Put dario molds in a panful of ice water, cover the bottoms with chicken-jelly mixture, and when firm garnish with egg custard, thinly sliced and cut in fancy shapes (made from both the yolk and white of an egg), and truffles. Put in chicken balls, and fill molds with the jelly mixture, adding it by spoonfuls. Chill the salad thoroughly and remove from the molds and arrange tastefully on fresh lettuce leaves around a bowl of mayonnaise dressing.

## Celery on Toast

PEEL and wash the roots of celery, or the coarse stalks not suitable for the celery glass, cut in small pieces, and stew tender in a little salted water (if for breakfast, this much can be done the evening before), add a small lump of butter and thicken with one tablespoonful of flour mixed with a little cold milk or cream; let all cook together for a few minutes. Have rather thick slices of well-buttered toast in your mush dishes or small soup dishes, pepper the toast slightly and give it a sprinkling of celery salt, pour the cooked celery over it, and serve hot. One celery root or three stalks is sufficient for two people.

## - Baking-Powder Biscuit

MIX and sift two cupfuls of bread flour (once sifted), one half teaspoonful of salt and four and one half teaspoonfuls of baking powder. Work in one tablespoonful each of lard and butter, using the tips of the fingers; then add gradually three fourths of a cupful of milk, mixing with a case knife. Toss on a floured board, and pat and roll lightly until half an inch in thickness. Shape with a round biscuit cutter, first dipped in flour. Place close together in a buttered pan, and bake in a hot oven fifteen minutes. If baked in too slow an oven, the gas will escape before it has done its work.



**New Year's Cake**

HERE is a recipe for an excellent New Year's cake to be made as many weeks before using as possible, as it improves with age.

One cupful of butter, two cupfuls of sugar, one cupful of molasses, one cupful of sweet milk, five eggs, five cupfuls of flour, one teaspoonful each of nutmeg, cinnamon, cloves, ginger and vanilla, one scant teaspoonful of soda dissolved in hot water, two cupfuls of coconut, two cupfuls of sliced citron, one cupful of chopped dates, two cupfuls of seeded raisins, two cupfuls of currants. When properly mixed, let stand in a cold place over night, then bake slowly until done. When cold, place in a tight box until ready to use. This recipe may be doubled if desired.

PEARL CHENOWETH.

**Belt Buckles**

THE fad for hand-made buckle slides which is gaining in favor so rapidly is one which appeals with especial emphasis to those of limited means. Buckles are of all kinds and sizes, but the inexpensive ones usually break speedily, turn color, or rust from perspiration, and their shoddiness is so apparent that the girl or woman who delights in dainty accessories is sore perplexed unless her purse is heavy enough to buy those of truly sterling quality. It is just here that the home-made buckles come into place. They may be of any design and shape, and will answer all the needs of the well-dressed woman.



BUCKLE NO. 1

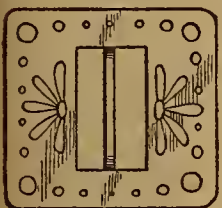
Linen and silk are the materials usually selected for these buckles, and they are made of any color desired. Since belts of the gown color are considered first choice, it is a good plan to have several slides matching the various belts and gowns. The work is of such small moment, and the outlay so trifling, that this is not a difficult feat.

A foundation of heavy cardboard is first cut. On both sides of this are laid a couple of thicknesses of buckram, and over and under all the linen or silk chosen, which has already been embroidered on the outer side in whatever design and coloring fancy dictates. The layers are then overcast or button-holed closely together around the edges and over the central bar. The belt proper is provided with hooks and eyes, so that an invisible fastening is made under the buckle.



BUCKLE NO. 2

Three designs for such slides are illustrated. Nos. 1 and 2 are deep, the former measuring three and one half inches and the latter three inches, while both are two inches wide. These shapes are better suited to some figures if made up with the slide running the short way of the buckles. No. 3 is more nearly square, and measures a trifle over two inches. Small oval ones are seen also of about the same size.



BUCKLE NO. 3

The embroidery is usually in the satin stitch or French laid work, and a bit of padding underneath brings it out to better advantage. Any simple design is good. Some have rows of French knots or little solid disks or diamonds.

The medium used for the linen buckles is usually a fine cotton, mercerized or dull finished, but silk floss is more suitable for silk foundations. All white linen belts are serviceable for tub dresses or shirt-waist wear, but colored linens and silks are used for costumes of the same. Embroidery of the same color, though in a deeper or lighter shade, is usually given preference over contrasting colors.

MAE Y. MAHAFFY.

**Thanksgiving Chicken Pie**

CUT two chickens into small pieces as for fricassée; cover the bottom of the pie dish with layers of veal and ham placed alternately; season with chopped mushrooms and parsley, pepper and salt, then add a little gravy; next place in the dish the pieces of chicken in neat order. Now fill all cavities with slices of hard-boiled eggs; repeat the seasoning and the sauce,

lay a few thin slices of dressed ham on the top, cover the top with strips of puff paste, place a roll of puff paste around the edge, egg the pie over with a paste brush, and bake it one hour and thirty minutes.

**Cider Cake**

IF YOU are fond of novelty, try this cake. Take one cupful of dark brown sugar and one cupful of butter, and mix them together; break in three eggs, and mix well; add one nutmeg, one teaspoonful of saleratus and two cupfuls of flour, pour over all one cupful of cider, and mix all together. Bake forty-five minutes.

**Pork Sausage**

TAKE thirty-two pounds of ground meat, six tablespoonfuls of salt, six tablespoonfuls of sage, twelve tablespoonfuls of pepper and eight tablespoonfuls of ground allspice. Mix thoroughly.

S. E. B.

**Pointers Worth While**

THE best way to clean white paint is to dip a piece of soft flannel cloth in warm water, wring it out, then dip it in a saucer of clean bran, using this to rub the paint. The friction of the bran will remove the stain without injuring the paint.

If one's dresses are well aired they will never seem stuffy. Clothes should never be hung up in a wardrobe immediately after they have been worn. Allow the bodice of a dress to hang over the back of a chair for at least half an hour before putting it away. If treated in this way, the oldest clothes can be kept fresh.

Children should be taught to hang stockings and all linen apparel over the back of a chair on going to bed at night, so that there may be a free circulation of fresh air through them. The neat little packs of clothes, piled one on top of another, which used to be the rule, are not at all hygienic.

Grease can often be removed by repeated applications of blotting paper and French chalk to the wrong side of woolen goods. Grease upon carpeting can often be removed by washing the spot carefully in hot soapsuds.

Lukewarm water and fine soap will remove fats from fast-colored woollens, while tar and wagon grease will yield to lard rubbed on, then soaped and allowed to lie for an hour. Afterward wash alternately in water and spirits of turpentine.

Silk goods, in the main, can receive the same cautious treatment that is given to woollens. Fats may be treated with benzine, ether and soap in a very weak solution. Turpentine should not be used upon silk, unless it be black silk. A current of water falling from a height upon the reverse side of the spot will help erase it. Whatever applications are made, care must be exercised in regard to leaving an outline of the stain, which must be rubbed with a soft cloth while drying.

Right here it may be said that kerosene oil will erase fresh wagon grease, and that machine oil yields to cold soapsuds. One rule must be remembered: Alkalies are removed by diluted acids, like citric acid, while acids require ammonia.

The best duster for polished wood is a good chamois skin, not too big. Dip it in clear water, wring it very dry—so that it feels merely damp—and go over dusty surfaces until the chamois looks dirty. Wash it clean, and wring hard before going on. A little ammonia in the water helps to remove finger marks. Change the water as it becomes dirty, and be sure the chamois is clean and well wrung out.

**Chocolate Creams**

FIRST make a fondant in this manner: Boil together, without stirring, two cupfuls of granulated sugar, one of boiling water and one fourth of a teaspoonful of cream of tartar until a small quantity dropped in cold water can be rolled into a creamy ball. If, when tested, it is too hard (like taffy), add a little more water, bring to the boil again, and test a second time. When done, set aside until lukewarm, and then stir rapidly with a wooden paddle until it forms a white cream too thick to stir. Turn out on the molding board and knead until soft and creamy. Make into balls and dip in melted chocolate, using a hat pin or toothpick. I use unsweetened chocolate for coating the creams, as it melts much better than the other kind. Shave or grate it into a bowl, and put enough paraffin in to make it nice and thin. Set over a tea kettle to melt without stirring. When it is all melted, stir it well, dip the creams, and place on a slightly greased platter.



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# A Missionary Hero in Far Formosa

## The Thrilling Adventures of Dr. George Leslie Mackay Among Formosan Savages

By Delavan L. Pierson

TOWARD the close of the sixteenth century, when a party of adventurous Portuguese sailing not far from the eastern coast of China, chanced upon an island of green-clad mountains, palm-covered plains and silvery streams, they with one accord shouted, "Ihla formosa" (beautiful isle). The name was singularly appropriate for the sunny Paradise which they had discovered, for it had been endowed by the Creator with all the beauties of volcanic grandeur and tropical verdure, but could never, by any stretch of the imagination, have included the dirty Chinese and naked brown savages who lived there.

Hither, three hundred years later, came George Leslie Mackay, armed with dentist's forceps and preacher's Bible, with the hope of transforming the wild islanders into beings more in harmony with their beautiful home. He was a man of force and courage, with a martial spirit inherited from his Scotch grandfather, who had fought and bled at Waterloo. It was with clear vision and steadfast purpose that he volunteered to leave his Canadian home to fight on the firing line of the Christian army in the Far East. For thirty years he bore the brunt of battle, returning only once to his native land, with his Chinese wife and three children, to tell the thrilling story of his missionary adventures.

When Mackay first landed at Tamsui, in north Formosa, he found himself in the midst of a variegated assortment of humanity—Mongolian, Malay, half-breed and nondescript—speaking an incomprehensible jargon

conclusively that the foreign teacher and his pupil were not popular. Later, as they were passing along a narrow winding path, bordered on both sides by tall reeds and grass, suddenly at a turn in the road they were confronted by a band of robber cutthroats. What could the defenseless travelers do. There was no way of escape. The long spears of the brigands were poised threateningly in the air, while the leader demanded cash. "Silver and gold have I none," replied Mackay. "I am the foreign teacher." The chief peered at them in the dark, then slowly repeating the word "teacher," he gave a command to his band and they disappeared.

He stepped forward and said, "I am a Christian, and worship the true God. I cannot longer worship idols that rats can destroy. I am not afraid." The crowd were stunned at his boldness, and permitted the travelers to pass on their way unmolested.

At another village, Go-ko-kha, Mackay gave the mandarin a large placard, on which were printed the "Ten Commandments" in Formosan. The man accepted it and fastened it on the wall of his Yamen. Mackay rented an empty rice granary as a parsonage and cathedral, where for several months he conducted services. Some converts were gathered, a plot of ground was procured, and they began to build the first Christian chapel. When the walls had reached the height of three feet, a company of soldiers came from the prefect of Bangkah with orders that the work must cease. They were armed with guns, spears and ugly-looking knives, a mob of hoodlums were yelling and uttering threats on all sides. The case was taken to the mandarin and his Ten Commandments. He was a great six-footer, and inclined to be independent. Permission had been given to build, and the threats of the soldiers failed to induce him to revoke it. He drew himself up, pointed to the Ten Commandments and swore he was going to hold to them. The soldiers next tried to intimidate the converts, but failed. Finally they returned to Bangkah and reported, "The foreign devil has bewitched the town by magic." A few weeks later, when the chapel was opened for worship, this view was apparently justified, for lo



DR. GEORGE LESLIE MACKAY, HIS DEVOTED WIFE, SON GEORGE, AND DAUGHTERS BELLA AND MARY



EATING THEIR USUAL EVENING MEAL OF RICE ON THE WILD MOUNTAIN TOP 2,500 FEET HIGH

composed of numerous dialects, in none of which could he even ask for a piece of bread. The natives did not look on the missionary as the Americans hailed Columbus—a god from the spirit world—but greeted him as a barbarian from beyond the sea, a "black-bearded devil" who could not grow a queue, and who neither worshiped his ancestors nor paid homage to Chinese gods.

For a house the stranger was obliged to content himself with a dirty Chinese stable, painted with white-wash, decorated with newspapers and furnished with planks and packing boxes. A Chinese cook whom he hired undertook to teach him a few Formosa words. These he used with good effect on a crowd of naked urchins, whom he found herding water buffaloes. "Why, the devil speaks our language," they cried, as they gathered around him, and soon became absorbed in the examination of his wonderful watch, his black feet, white hand and numerous buttons. From that time they became his friends and tutors in things Formosan.

One of Mackay's first adventures was on a tour to Kelung, a town on the eastern coast. He took with him A Hoa, a bright young Confucian scholar who had just become a Christian. As they passed through the streets of Bangkah, one of the most fanatical heathen towns, great crowds of angry-looking Chinese and half-breeds followed at their heels. A murmur of animosity, broken now and then with a torrent of vile abuse, and emphasized by a shower of mud and stones, proved

The next day Mackay and A Hoa entered Kelung. No white man had ever before visited the town, but they had heard of the barbarian and his strange teachings, and were prepared to welcome him—with bricks. Crowds followed before and aft, jeering at him as though he were a baboon in barbarian garb, or a veritable devil with horns, tail and cloven hoofs. He was pelted with mud, decayed fruit and rotten eggs, but he had determined to preach there, and was not to be deterred by hostile signs. He and A Hoa passed through the streets until they came to a heathen temple. Mounting the steps, Mackay proceeded to sing a "barbarian" hymn. The crowds increased, and be-



CHAPEL IN WHICH MACKAY AND HIS FOLLOWERS WORSHIPED AND PREACHED THE GOSPEL



THE MISSIONARY AND HIS FIRST CONVERT, A HOA, ENGAGED IN EXTRACTING TEETH FROM NATIVES

came a howling mob of angry idolaters. Their disapproval of the foreigner was as nothing compared with their contempt for the renegade heretic A Hoa, the fellow who had deserted the gods of his ancestors for the worship of the "foreign devils."

Mackay stood up to speak, and curiosity led the crowd to listen. After a brief message, he turned to A Hoa and asked him to say a word. It was a trying moment. There before him were old friends who had become foes. At slight provocation they were ready to drink his life's blood. But A Hoa did not flinch.

and behold! over one hundred and fifty families declared their rejection of the ancestors' gods, and bringing their idols together, burned them in the open square.

### THE SIEGE OF BANGKAH

Mackay next determined to lay siege to Bangkah, the very fortress of Satan. The people were devotees of money making, feasting and demon worship. At one time, when Mackay was visiting the village, he witnessed the remarkable "Seventh Moon Feast," held in honor of the ghosts of departed ancestors. It was a unique but withal a disgusting sight, which has since been prohibited by the government. On the occasions referred to, fifty immense pyramids of food were piled up in the public square in preparation for the gormandizing feast. These pyramids were from fifty to sixty feet in height and from five to ten feet in diameter. They were made up of ducks and fowls—dead and alive—pork, fish, all kinds of cakes, pineapples, bananas and fire crackers. Toward evening the priests of the neighboring temple summoned the departed spirits to the feast by means of immense gongs. This part of the repast being wholly spiritual did not diminish the pile in the least. Then again the gongs were sounded, and there gathered from all quarters a most unspiritual-looking aggregation of humanity—beggars, tramps, desperadoes, from far and near, mingled with the men, women and children of the city. Candles were lighted, and the fire crackers set off. This was the signal for the general mêlée. In a twinkling nothing



THE MISSIONARY BAND TRAVELING. SOME BAREFOOTED, OTHERS WITH SANDALS OF GRASS OR STRAW



THE OPEN BOAT IN WHICH MACKAY AND HIS STUDENTS WENT DOWN THE EAST COAST OF FORMOSA



A SMALL BAND OF SAVAGES. AT WHOSE HANDS THE DARING MISSIONARY NARROWLY ESCAPED DEATH



could be distinguished but a struggling mass of heads, arms and legs, the owners of which were intent only on obtaining a share of the booty. It was Bedlam let loose. All were screaming and howling like demons, belching forth a volume of vilification and vituperation. It seemed like the Stock Exchange of hades in a panic. The pyramids of food were pushed over, crushing some of the crowd in their fall, while others were trampled or smothered in the mad rush. But no one cared. It was each one for himself in this scramble, and the groans of the weak were drowned in the screams of the mighty. Now and then some would emerge from the demoniac whirlpool, carrying all they could hold, and would make a dash for their huts. So gradually the crowd dispersed leaving only the dead and wounded on the field.

As might be expected the rulers and people of the city were bitterly anti-foreign, and tenfold anti-Christian. Mackay himself wrote in his diary that "for hatred to foreigners, for pride, swaggering ignorance, and conceit, for superstition, sensuality and haughty double-faced wickedness, Bangkok takes the palm."

In this city Mackay determined to establish a church, and went there with that purpose. The head men issued a proclamation, warning all citizens, on pain of death, not to rent or sell any property to the "black-bearded barbarian." For days the missionary walked the highways and byways, seeking for some hut in which to make a beginning. Everywhere the doors were slammed in his face. At last he managed to secure a low hovel in the slums, only to be cast out the next day by the military authorities, who claimed ownership of the property. Followed by a howling mob, Mackay left the city, and went to one of his chapels three miles away to hold a prayer meeting with some of the students. Then he returned to the siege.

It was dark when he entered the city with two of the Christian students. Not knowing where to go, they asked an old man, whom they chanced to meet, if he knew where they might rent a house. He immediately offered them his own, and at midnight the papers had been signed and they were in possession. Next morning the passing crowds were astonished, enraged and horrified to see over the doorway, in huge Chinese characters, the sign "JESUS' HOLY TEMPLE." The news spread, and in less than half an hour a threatening mob filled the street in front of the house. Hour by hour it grew, until the whole city was in an uproar. Inside the simple structure sat Mackay and his students, the former at least apparently calm and unmoved by fear. He even went out into the crowd armed only with his forceps and Bible, prepared to extract aching molars or to preach a gospel sermon, as opportunity might offer. The crowd were astounded by his fearlessness, and having failed to evict the Christians by law or frighten them away by threats, they hired lepers and lewd ruffians to go into the house and make it uninhabitable. These loathsome creatures pressed around the little band, rubbed up against them and uttered threats of violence. "He is not big; one blow would finish him," said one. But the blow was not struck, and Mackay refused to be ousted.

At about five o'clock in the afternoon the excitement reached white heat. The men in the mob tied their cues around their necks and girded up their loins ready for the fray. One stooped down, picked up a stone, and hurled it at the door. That was the signal for the attack. Five hundred followed suit. Their screams were deafening. The furies were let loose and pandemonium reigned. On they came, battering down doors, smashing windows, mounting the roof and tearing up the tiles. They beset the house inside and out like a legion of demons, literally tearing the building to pieces, and carrying it away with their hands, even to the foundation stones. Not a vestige of it remained.

Meanwhile Mackay and his students had escaped as if by a miracle to a native inn on the other side of the street. The very excess of excitement was their salvation. When this was discovered, the mob turned and besieged the inn, calling on the keeper to deliver his captives. The man was more friendly, and hesitated, but besought his guests to leave him before he and his house were destroyed. Even as he spoke, the rioters began to scale the wall and tear up the tiles of the roof to force an entrance. Only those who have heard the fiendish yells of a Chinese mob, crying out for blood, can imagine the scene. Death seemed imminent, with no way of escape. Suddenly there was a lull in the storm. A thundering rap on the door and a stentorian voice announced the arrival of the Chinese mandarin with his soldiers. Almost at the same critical moment the British consul from Tamsui hove in sight. The mandarin turned to him, and said, "Order this fellow out of the city."

"No," replied the fearless Englishman. "I have no such authority. He is a British subject, and unless he is a lawbreaker, you must protect him."

The mandarin then turned to the missionary and besought him to leave; but holding out his Bible and his forceps, Mackay responded: "My marching orders come from a higher sovereign than the kings of earth. I will not desert my post, but with these two weapons will capture this city for Christ."

A few days later, in the face of much opposition, a small building was erected on the site of the one demolished. The former owner was obliged to flee for his life, and every one who attended the services was boycotted.

After a year or two of kindly preaching and practising on the part of Mackay and his students, the Bible and the forceps won the battle. Friends increased; a larger plot of ground was purchased, and a substantial chapel erected, replaced later by a stone church with a spire seventy feet high. This alone would indicate the tremendous transformation that had taken place. It was a fixed belief with the people before Mackay's arrival that anything which pierced the sky would disturb the dwelling place of the spirits and bring down their wrath on the offenders. The reputation of the missionary as a dentist spread far and near, and on one day, during an idolatrous festival, he extracted five hundred and thirteen teeth from the Chinese and Formosan worshippers. When he left the city to make his home in another town, the head men of the city came and asked as a favor that he would allow himself to be carried through the streets in a silk-lined sedan chair. The highest honors were accorded him. He was preceded by eight bands of music, cymbals, drums, gongs, fifes, guitars, mandolins, tambourines and clarionets; alongside the chair were carried three large red "umbrellas of honor" presented by the people, and following came twenty-six other sedan chairs, containing head men and officials, six horsemen, three hundred footmen, flags and fireworks. Thus was Bangkok captured by one man, who knew not how to beat a retreat.

Much of Mackay's life in Formosa was spent in exploring among the mountains and touring among the savage tribes. Most of the journeys were made on foot with a few students from one of the colleges which he founded. These journeys were wearisome and fraught with danger. He passed over rough paths, across hot plains, through jungles infested with snakes and wild beasts, forded rushing torrents and scaled precipitous mountains.

ADVENTURES AMONG THE SAVAGES

One day he set out with a few students to visit the haunts of the Pe-ho-hoan savages. They were famous for their degradation and cruelty, and would make an enemy or prisoner eat portions of his

own body. While passing the mouth of a gorge in this savage country, four of Mackay's companions were caught and beheaded, the others escaping only by throwing themselves into the sea. Later sixteen of these Pe-ho-hoan villages became Christian, burned their idols and erected churches.

Other journeys were made down the coast in an open boat, braving the terrible typhoon, which sometimes cleared the sea and shores of everything, living and dead. At one time Mackay and his companions tried to land at a point where a crowd of naked savages had gathered. There was no thought of danger in his mind, but the wildness of the waves kept them from the shore. That surf saved their lives, for they afterward learned that the wild men were but waiting their opportunity for a feast—a fate which had befallen more than one hapless crew wrecked on that coast.

AMONG THE UNTAMED ABORIGINES

One of Mackay's most exciting adventures was during a visit to the untamed aborigines of the mountains. They were a wild-looking, ferocious tribe of head hunters, elaborately tattooed, but as innocent of clothes as they were of New York etiquette. After a long journey of many days and a difficult and dangerous ascent of the mountains, cutting their way through the jungle, the travelers came face to face with a band of armed savages. Both parties were surprised, but both stood their ground. Signs were exchanged, followed by a brief parley, when one of the naked chiefs ran up to Mackay and threw his arm around him, exclaiming, "See, he has no queue like our enemies, the Chinese. He is our kinsman." The two parties made a camp and passed the night together, the students being somewhat uneasy lest this apparent friendliness should prove a plot on the part of the chief to allay their suspicion. In the morning they asked the savages to take them to their village. After much hesitation the wild men led the way through the jungles, until they came to a clearing, in which there were a few huts. The chief pointed to them, saying that those were Chinese enemies, and if the black-bearded foreign brother and his friends would go up and engage their attention in front, he and his braves would attack them from the rear. A few heads with queues attached would be the trophies. The old rascal was given to understand that the travelers were not head hunting, but visiting, and would not be his catspaw. At this the chief waxed wroth, and anger gleamed in the eyes of his followers. After some further parley, however, they were mollified and agreed to conduct the party to their village. There Mackay remained for several days. He found them a fierce and extremely superstitious tribe of Nature and demon worshippers. One day, wishing to make a sketch of their huts, he took out note book and pencil

and began to draw. The savages looked on for a while, but when they saw what was being done, the men's eyes flashed anger, and they darted into their huts. In a second they were back, armed with spears and bolo knives. They were wild with rage that their guests should so abuse their hospitality as to extract the essence of their homes by transferring them to paper. Mackay took in the situation at a glance and put up his note book. Otherwise he would never have returned to tell the tale.

A few days later, returning from a walk, Mackay found the savages dancing and yelling like demons. They were rejoicing over a Chinese head which had been brought in fresh from the borderland. The strangers were invited to join in the orgie, and were offered some of the dead man's brains. One ugly old chief, wild with excitement, threw his arms around the missionary's neck, and pressed him to seal eternal kinship by drinking liquor from his bamboo, mouth to mouth. At the risk of eternal enmity, Mackay stepped back, looked the man in the eye, and refused in no mild terms. Even the wild man saw his error and apologized. When the travelers took their departure a few days later, their hosts were urgent in their invitations to their "black-bearded kinsman" to return.

Thus for thirty years Doctor Mackay traveled up and down the Formosan coast, extracting teeth, healing the sick, preaching the gospel, building chapels, establishing schools and founding native churches. More than once he was in the power of his enemies, and once they even went so far as to make his grave and inscribe the epitaph, "Mackay, the black-bearded devil, lies here. His work is ended." But when he died not long since, hundreds of villages had been transformed and thousands of Chinese and savage aborigines had discarded their idols, and learned to worship God. Mackay's body lies in a Formosan grave, but his work is not ended.

The Pueblos' Thanksgiving

INDIAN women in the quaint little village of Orabai, among the Pueblos, have a curious religious celebration during the season of the year corresponding to our Thanksgiving.

This celebration, or ceremony, continues through nine days and is participated in by members of the Oagöl Society, which is the largest as well as the latest of the women's fraternities.

A chief priest and chief priestess are chosen to officiate during the ceremony, though the former plays an unimportant rôle in the spectacle. It is the priestess who is really the head of the order.

After the opening exercises of the Oagöl and during the pauses between rites the Indian women of the village busy themselves with weaving beautiful baskets to be used in the dance on the final day of the fête and to be given away as prizes.

Races, religious observances and minor dances mark the first eight days of this curious thanksgiving ceremony, but on the ninth a picturesque dance, in which the entire village gives vent to its religious fervor and enthusiasm brings the Oagöl to a fitting close.

For this dance two maidens are chosen to act as leaders. They are arrayed in fine costumes with costly turquoises, abalones, embroidered moccasins and fanciful head dresses. Their blankets, or ceremonial robes, are handsomely embroidered and fasten around the shoulders by cords attached to the corners.

Their faces are thickly covered with the yellow powder from sunflower petals. Each maiden carries a buzzard's feather, a bone whistle and a netted gourd, while the young women of the village, also arrayed in their handsomest blankets and ornaments, carry basket trays. All form in single file and march out of the riva, or underground chamber, to the plaza, where an altar has been erected on the first day of the fête.

Here the women form in a circle around bundles of trays which are to be given out as prizes at the conclusion of the dance. As soon as the chant is heard the circle of female forms begins to sway toward the center of the plaza, and then each one begins that curious, rhythmic motion which is the Indian conception of dancing. They bend the body slightly forward, still carrying the trays in a concave position, and with the figure moving from right to left.

When the dancing has fairly started the two handsomely adorned maidens appear on the scene, rolling wheels along the ground and shooting arrows at them as they make their way to the plaza, circle around the dancers and then enter the ring.

After a wild jumping, dancing and singing have been indulged in, at a signal from the priestess the circle is charged fiercely by the male spectators, who attempt to secure the prize baskets. When all have been seized the dancing ends and the quaint Indian religious ceremony of thanksgiving is over for that year.

THE PUZZLER

Thanksgiving Rebus. Descriptive of the Great Characters That First Made the Festival Famous in the Early New England Days



Answers to Puzzles in the November 10th Issue: Hidden Words—1, Athens; 2, Pekin; 3, Canton; 4, Lyons; 5, Cairo; 6, Berne; 7, York; 8, Perth. Charade No. 1—Rambled—ram-bled. Charade No. 2—Dram—Dr.—a.m.



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By Grace Margaret Gould

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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.

Any of the patterns on this page will be sent promptly upon receipt of ten cents each.



No. 578—Convalescent Gown

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, sixteen yards of twenty-two-inch material, or fourteen yards of thirty-inch material

No. 1025—Evening Waist Trimmed to Simulate Large Armhole

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-two-inch material, or two and three fourths yards of thirty-six-inch material, with three fourths of a yard of all-over lace for trimming. If yoke is used an additional one half yard of lace will be required

No. 1026—Five-Gored Gathered Skirt With Flounce

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 43 inches in front. 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

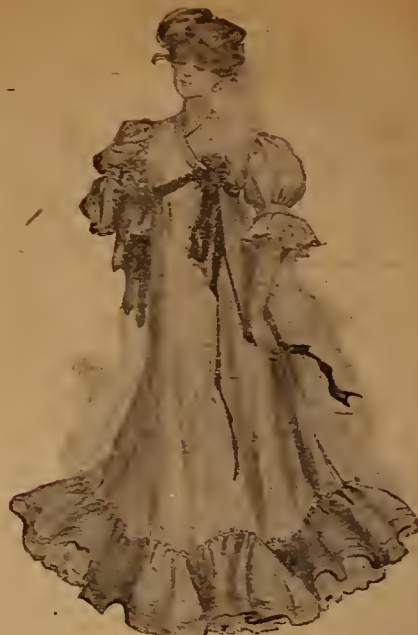


No. 625—Plain Shirt Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-inch material

No. 626—Gathered Gored Skirt

Pattern cut for 22, 24, 26 and 28 inch waist measures. Quantity of material required for medium size, or 26 inch waist, eight yards of twenty-two-inch material, or seven yards of thirty-inch material



No. 674—Empire House Gown

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, sixteen yards of twenty-two-inch material, or ten yards of thirty-six-inch material, with two yards of lace for sleeve ruffles and one half yard of all-over lace for chemisette

No. 1028—Plaited Surplice Evening Waist

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-two-inch material, or three yards of thirty-six-inch material, with ten yards of lace for frills. Three fourths of a yard of all-over lace will be required for chemisette

No. 1029—Plaited Skirt With Deep Tucks

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 42 inches in front. Quantity of material required for medium size, or 26 inch waist, fifteen yards of twenty-two-inch material, or twelve yards of thirty-six-inch material, and twenty-two yards of lace for frills

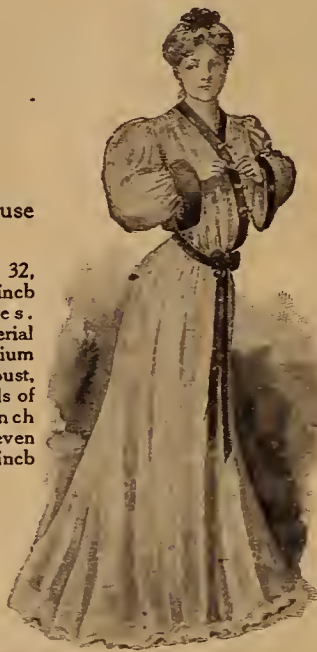
No. 583—Room Gown

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, twelve and one half yards of twenty-two-inch material, or ten and one half yards of thirty-inch material, and two yards of twenty-two-inch material for trimming bands



No. 552—House Gown

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, thirteen yards of twenty-two-inch material, or eleven yards of thirty-inch material



No. 804—Plain Wrapper With Fitted Back

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, eight and one half yards of thirty-six-inch material, or seven and one half yards of forty-four-inch material, with three eighths of a yard of all-over lace



No. 884—Empire Gown With Panel Front

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, ten yards of thirty-six-inch material, or eight yards of forty-four-inch material, with one and three fourths yards of all-over lace for panel



No. 627—Plain Princess Wrapper

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, ten yards of twenty-seven-inch material, or nine yards of thirty-six-inch material



No. 1025—Evening Waist Trimmed to Simulate Large Armhole

No. 1026—Five-Gored Gathered Skirt With Flounce

No. 1027—Princess With Plaited Panels

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, seventeen yards of twenty-two-inch material, or twelve yards of thirty-six-inch material, with three fourths of a yard of lace for the chemisette

No. 1028—Plaited Surplice Evening Waist

No. 1029—Plaited Skirt With Deep Tucks

No. 1028  
No. 1029



No. 1025  
No. 1026





# The Impostor

By Frank E. Channon

[CONTINUED FROM PAGE 15]

The old sailor was waxing eloquent as he warmed to his subject. His English failed him now and again, and he lapsed into French. As he finished speaking, he rose from his seat, and raising his glass, exclaimed:

"Gentlemen, I ask that you replenish your glasses and drink to the future prosperity of the free and independent Kingdom of Mirtheium, for I can assure you there was never a time in its history when it more urgently needed the good wishes and offices of its friends, and I trust that it can number you among them."

With one accord the two Americans rose and refilled their glasses; then, clinking them with the Colonel's, they drank to the future of the island kingdom.

"I hope, Colonel, that I shall not seem inquisitive if I inquire why you bear a military title, when your remarks would lead us to suppose that your fame had been achieved on the sea, rather than the land," inquired the observing Donnaly.

"Ah, thereby hangs a story, and one which I trust I may have the pleasure of telling you this very evening," replied the sea Colonel, with a twinkle of his eyes. "In fact, gentlemen, to cut a long story short, to use what you Americans call 'shirt sleeve diplomacy,' I will inform you that I have invited you to dine with me this evening in order that I may place before you a proposition, which I trust you may see your way clear to accept."

Both the Americans looked hard at their host, and began to wonder if the wine was getting into his head a little; but a glance reassured them—the Islander was perfectly cool and collected, although enthusiastic.

"By all means, Colonel, let us hear this proposition. No harm can be done in the event of our declining, I hope," said Amos.

"I am going to be perfectly frank with you," resumed the Islander. "A sailor is never a diplomat, you know, but if what I am about to propose to you should prove impossible, I ask you to pledge me your word that you will not divulge what I am about to tell you. Will you promise, gentlemen?"

There was silence for a few moments. Both Americans looked hard at their host. Then Amos spoke, in his slow, measured tones:

"Colonel, if what you are about to propose to us is fair and honorable, and is of such a nature that a gentleman can keep it secret and still retain his honor, I see no reason why we should not hear it. I take it that this statement is of such a nature."

"Of that you may rest assured, sir." "Then pray proceed."

The Colonel rose and walked over to the hall door. He opened it and peered out, then closing it again, locked it. The same process was repeated with the aperture which led to the adjoining room. Evidently all was clear, for he resumed his seat, and after offering the cigar box to his guests, said deliberately:

"Gentlemen, my name is not Dangious-em, neither am I a colonel. The young lady whom you have met as Miss Ash-tonette does not bear that name."

He stopped and looked closely at the two Americans, to note the effect of his words.

There was none. The two chums smoked in silence, and waited for him to proceed.

"I can assure you," he resumed, "that we have an entirely justifiable and honorable reason for using this—what do you call it?—alias. Listen my friends!" The erstwhile Colonel leaned over the table, and placing a hand on the shoulder of each, said, "Love of country is inborn in all true men. It is the noblest and truest passion that can emanate from the human heart. Bear that in mind in passing judgment upon my actions. Now for my story!"

"Two years ago the old king, Leopold IX., of Mirtheium died. He left an only son, the Crown Prince, who became Leopold X., and assumed the reins of government. The young king married the Princess Edna, of Gultimer, and all promised well for the island kingdom of Mirtheium, for the alliance united two contending factions, which had long brooded trouble for the country. I may state in passing that the marriage was not love, but a state, affair, the two young people very sensibly agreeing to sink their personal feelings to the greater exigencies

of the country, for in their union lay its salvation from the horrors of civil war. The new king reigned sixteen months, when it was decided by his ministers of state that it would be advisable for him and his consort to make an extended tour of Europe. His views needed broadening and his judgments made sounder. There is nothing like travel for such ills, so the king and his bride started upon their journey. They were accompanied only by an aunt and uncle of the bride and three servants. They traveled incog. Through Greece and Turkey, Bulgaria and Serbia, they passed, on into Russia, Austria and Germany, and from thence to these shores. It was their intention to visit the great Western republic, but while in the north of England, only two short months ago, a terrible thing occurred. His Majesty the King died. Died, gentlemen, after only a three days' illness of pneumonia, contracted while trout fishing in the streams of Northumberland. The bride was a widow; the Queen was a queen dowager, and the Kingdom of Mirtheium was without a monarch. You can imagine, gentlemen, in what a predicament the traveling party found themselves. There had been no issue of the marriage, neither was there prospect of any. To return kingless to the isle would be to throw it into the throes of civil war; yet return they must.

"While confronted by this complicated problem, they were, by the merest chance, brought face to face with a man who so exactly resembled the late king, both in appearance and manner, that they were dumfounded. They first saw him in the pavilion of an athletic meeting, and the shock so unnerved the uncle of the queen that he lost control of his horses on the drive home, and their mad rush was, by the most singular decree of fate, stopped by the very man who had been the cause of it. They—"

"Enough, sir!" cried Amos, as he leaned forward and brought his great fist down with a bang on the table. "Your parable is, of course, easily read. If there is more to add, please call a spade a spade; it will simplify matters."

The old gentleman slowly raised his right hand, and deliberately pointing his forefinger at Amos, dramatically exclaimed:

"THOU ART THE MAN!"

"Of course," replied the American coolly; "that was palpable some time ago."

"Colonel," said Donnaly, "you promised some time ago that you would use only 'shirt sleeve diplomacy.' Keep your word now. Tell us why you relate all this to us."

"Because," replied the old gentleman, speaking very slowly and deliberately, "because I want your friend, Amos Jackson, to become King of Mirtheium!"

#### CHAPTER IV.

##### A CONFERENCE AND A DECISION

THERE was a long silence. Then presently Amos spoke, in his slow, measured tones;

"You must admit, sir, that your wish is, to say the least of it, very extraordinary."

"I am aware of it," replied the old man. "Nevertheless, sir, you will concede that I am neither drunk nor insane, I think. I am perfectly serious and speak with all earnestness when I say that it is my wish and hope that you will become king of my island home. The idea is not nearly so impossible as it may appear to you at first blush."

"I gather, sir," said Donnaly, picking up the loose ends in his concise, legal way, "that the matter stands thus: The young king of this island is dead; his widow is then a queen dowager only. There is no issue, and you fear that on your return civil strife will break out between two contending parties, both of whom will wish to place upon the vacant throne their own particular favorite. You propose to prevent this discord by returning with a bogus king, who is to be my friend here, and palming him off as the real article. For the success of this fraud you rely upon what you term 'the extraordinary likeness' between the departed king and Mr. Jackson. Have I understood you correctly, sir?"

"That is my plan exactly, sir," replied the plotter, taking his medicine of straight words without a wince.

"THE IMPOSTOR" will be continued in the DECEMBER 10th ISSUE, and we desire to urge upon our readers the importance of having their subscriptions paid in advance, so that they will not miss an issue containing THIS GREAT STORY.

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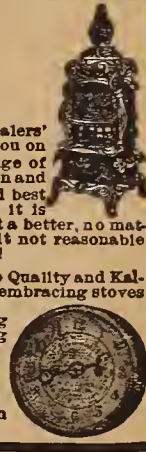
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## A PAGE FOR LITTLE FOLKS



## Sir Teddy

BY EVA BULLEN

THE sitting room was very quiet. Mama Pratt sat sewing by the sunny window, Baby Doris was sweetly sleeping in her little crib, Rover lay dreaming on the hearth rug, and Tabby dozed on the window sill. Tick-tock! Tick-tock! Tick-tock! sang the clock on the mantel, very loudly and slowly. Mama hummed softly. Baby Doris gave a soft little sigh and smiled a wee little smile, as if the angels were whispering sweet secrets to her. Rover snored and thumped the rug softly with his tail. Tabby opened one eye half way, then closed it and dozed again. How quiet and peaceful it all was!

Suddenly the door burst open and Teddy rushed in from kindergarten.

"Oh, mama—" But a soft finger was laid on his lips and a gentle hand removed the cap which he had quite forgotten in his excitement.

"Oh, mama!" softly this time. "Oh, mama! I'm going to be a knight, yes, a really truly knight. You know, mama, a knight's a brave soldier that isn't afraid of anything and does awful hard things, and always takes care of mamas and sisters. Miss Dean showed us the picture of one; his name was Sir Galahad. Oh, he was just fine, mama; and I'll be Sir Teddy. Will you call me that when I do something hard and brave? I s'pose Sir Theodore would sound better, but then Doris wouldn't know you meant me, and I want her to know her brother is a really truly knight."

"At first I was 'fraid I couldn't be a knight, 'cause Sir Galahad had a beautiful horse, and I haven't any—'cept my hobby horse, and course that wouldn't do. But Miss Dean said that didn't matter a bit; knights don't have to have horses, they only have to be good and brave, that's all. And I'm going to be brave, mama, and do awful hard things. I'll take care of you when papa is away; and when Doris is bigger I'll take her out, and if Brown's bulldog gets loose and comes after us, I'll chase him off with a stick. And—" But mama's fingers were again on the rosy lips, for the wee little voice with which Teddy had begun had grown bigger and bigger, and I'm afraid Baby Doris would have been wakened very soon; Rover and Tabby were wide awake already.

Mama stroked the tousled hair and kissed the flushed face. "I'm very glad my little boy is going to be a knight," said she, "and I'll be sure to call him Sir Teddy as soon as he has done something 'hard and brave.' And now, did my little knight remember to give Miss Dean a note?"

"Why—why— Oh, mama, I forgot again!" and Teddy pulled the note out of his pocket.

"Oh, Teddy, this is the second time you've carried that note to kindergarten and forgotten to give it to Miss Dean. I'm so sorry I can't trust you."

"I truly meant to remember; I thought of it a long time—most all the way—but I guess I must have forgotten it when Jamie showed me his new watch. But if you try me just once more, I'm sure I'll remember. Will you, mama?" The lips were trembling and the eyes were full of tears.

"Yes, I'll trust you once more. You may take the note again to-morrow. If you forget then, I'll have to go to Miss Dean myself. Now run and wash your hands and face for lunch, dear."

Teddy gave mama a tight hug. "I'm sure I'll remember next time," said he.

At lunch he was very quiet, and seemed to be thinking; indeed, he was thoughtful all the afternoon, and when papa came home Teddy said nothing about being a knight.

Next morning mama put the note into his pocket again. "I hope you won't forget this time," said she, as she kissed him good-by.

"No, I truly won't," Teddy replied. "Where's my sailor hat, mama? I guess I'll wear that to-day."

"Down in the hall," answered mama, somewhat surprised, for Teddy did not like his sailor hat; he said the ribbons made it look like a girl's hat.

Teddy ran downstairs, and mama looked out of the window to see him start.

"Bless the child!" she exclaimed, as she saw him run out of the gate. "He's so anxious about that note that he doesn't know what he's doing; he's put his hat on backwards, and doesn't even see the ribbons hanging down before his face." And mama laughed heartily, for he looked so funny.

The morning passed and noon time came. Again an excited little boy opened the door of the sitting room, where mama sat sewing. But this time he remembered to take off his hat (it was on right now) and to speak softly.

"Oh, mama, I remembered—and my hat helped me—and it was awful hard—and they all laughed—and—" but Teddy was forced to stop for breath.

"Not so fast! Not so fast!" cried mama. "One thing at a time. How did your hat help?"

"Well, you see, I knew that if my hat was on wrong, everybody would see it and keep laughing at it; then I'd remember the note. So I put it on backwards, with those horrid ribbons right down in front. And how the children did laugh! Oh, it was awful hard to be laughed at. And George Gray (he's one of the big boys, you know) he said:

"Oh, Teddy, Teddy, Teddy Pratt, Is that the way you wear your hat?"

"I just wanted to fight him, even if he is bigger'n me; but I knew you wouldn't want me to, so I kept my hands in my pockets so's I couldn't hit him."

"But the worst of all was when I went into the kindergarten, 'cause I knew Miss Dean would think I was dreadful imp'ite to keep my hat on. I guess she was pretty s'prised; she laughed real hard, and said, 'Why, Teddy, you look so funny; that's a new way to wear your hat.'"

"But when I told her why I wore it that way, she stopped laughing right off.

Then I gave her the note, and here's the answer. Aren't you glad I remembered, mama?"

"Yes indeed I am, Sir Teddy. You're a real little knight, for you surely did a 'hard, brave thing.'"

"Why, I didn't know that was being a knight, 'cause that was just a little thing. I thought you had to do something big—like killing a lion or driving a bulldog away from your little sister, you know."

Mama smiled. "It is often much harder to do the little things than to do the big ones," said she.

## Book Charades

BY RUTH V. CLARK

GIFTS out of the ordinary that are easy to make and of which the cost is small are not nearly so common as one with a lean pocketbook could wish. But a collection of book charades comes under these heads in every particular. Almost any blank book may be used, but the one-card post-card albums seem especially suited to this purpose.

The idea is to represent the title of a book on each page by means of pictures, and the fun comes in passing the book and finding how many of your friends are good at guessing. To illustrate: In one book that I saw the picture of a window surrounded by cotton threads raveled from cloth represented "A Window in Thrums." A man taking a dead deer from a boat was "The Deer Slayer." A picture of Queen Alexandra, "A Lady of Quality."

The pictures were all cut from the advertising pages of the magazines, and the lady whose books I saw assured me that she found the titles without looking especially for them. In different books she often represented the same title differently. It is an idea capable of variations and most interesting work. If one was making the book as a gift, each charade should be numbered and a "key" sent with it.

## How Roland Helped His Friend

BY VERA TURNER

ROLAND was helping his father with the nightly chores. He had brought the cows up from the back pasture and was now carefully counting out ten large golden ears of corn for Old Nell, when a hand was lightly laid on his shoulder, and his father laughingly remarked:

"You must be partial to Old Nell this evening, Roland. Didn't I see you feed her just before you went after the cows?"

"Why, to be sure I did!" exclaimed the little boy, as he threw the corn back into the granary. "I was not thinking what I was doing."

"What seems to be the trouble, Rollo?" questioned his father. "I have not heard you whistle or sing once since you came home. You have not been naughty in school or had to remain in on account of bad lessons, have you?"

"Oh, no, father, there is nothing the matter with me," he said laughingly; then his eyes grew serious again as he continued, "I have been thinking what a hard time Harry Phillips has. Since his father has been sick he has gotten so far behind in his studies. He says he doesn't have much time to prepare his lessons. And Mr. Martin told him to-day that he would have to keep him in after school, and if that would not make him get his lessons he would have to whip him."

"But didn't Harry tell him how it was at home?"

"Yes, sir," Roland replied, "but the teacher said he could not help that, the lessons had to be gotten. Harry said, as he came home from school this evening, that he supposed he would have to stop, as he could not keep up with his class and do the chores at home, too. I wish that I could do something to help him."

"I am truly sorry for Harry, and it may be a month yet before Mr. Phillips will be able to get about," his father replied. "But there is a way in which you can help your little friend, Rollo."

"Oh, what, father? I'll do anything you say," he promised.

"You might go over to Harry's home every morning and evening and help him with the chores. That would give him more time for study," his father replied.

"Oh, just the thing!" Roland exclaimed eagerly. "May I go right now, papa, and can you do the work here without me?"

"Yes, to both of your questions."

"And, papa, one more question," the little boy said, looking eagerly up at his father. "May I ask Harry to come over and study with me at nights, and will you help him over the hard places, as you do me, until he catches up with his class again?"

"Why, certainly, I'll be only too glad to do my share of the helping," replied his father heartily.

"Papa," said Roland one morning at the breakfast table three weeks later, "you should have been at school yesterday and seen Harry turn the other boys down. He has gotten two head marks within the past week, and was the only one who had a good arithmetic lesson yesterday. His father is so much better that he will be able to be up next week, and Harry says that he means to keep on studying hard and remain at the head of the class. It just does me good to see him so happy."

## Debby's Dilemma

"Autumn" was the awful word that Debby couldn't spell:

With other words it seemed to her she got along quite well.

The teacher kept her in one day until she could remember

The spelling of "the season which ends with bleak November."

For one half hour poor Debby sat, but memory failed to aid her  
Or bring before her saddened eye the word which had delayed her.

At last, when deep dejection seemed to shut out every hope,  
A happy thought broke through the gloom,  
and Debby ceased to mope.

"How stupid of me, silly—why, it isn't hard at all!

Few people call it 'Autumn,' and I surely can spell 'Fall.'"

—Capt. Harold Hammond in St. Nicholas.



Original by Arthur Wardle

GOT HIM!!!

From "The Graphic"



**Might be Worse**

They sing of melancholy days, the saddest of the year,  
And tell us in pathetic verse the aforesaid days are here;  
To requiems to the dying flowers they mournfully give birth,  
And say we've nothing left at all to beautify the earth.  
Can they not see the ornaments old Nature deigns to send,  
The treasures which to autumn days such floral beauty lend?  
For have we not, when other flowers meander up the flume,  
Chrysanthemums and football hair in simultaneous bloom?  
—Denver Post.

**Diplomatic Tommy**

MOTHER—"Tommy, you've been fighting again."  
TOMMY—"Yes'm."  
MOTHER—"Haven't I warned you against fighting?"  
TOMMY—"Yes'm."  
MOTHER—"Why did you do it, then?"  
TOMMY—"Well, you see, a kid said dad was an old skinflint and you were an old cat, and I kinder thought it was up to me."—Pacific Monthly.



CITY SPORTSMAN—"Huh! That farmer told me this woods was full of squirrels, but blamed if I see 'em."

"Maggie, our gas bill has gone up outrageously this month; you must be dreadfully extravagant."

MAGGIE—"Sure, an' I'm thot careful an' economical, mum, thot I never turns off thim burners all the way, for the sake of savin' the matches."

HE—"So they got married and went off in their new motor car."

SHE—"And where did they spend their honeymoon?"

HE—"In the hospital."—London Tit-Bits.

**A Worse Fate**

It is related that a man in a hurry for a train rushed for lunch into the first handy restaurant. It was not a fashionable restaurant. It was not even a good restaurant. To his surprise and horror he recognized in the waiter an old school and college friend.

"Good heavens, my dear fellow!" he cried, "how did you come to this?"

"Oh it's not so bad as you think," said his friend. "I only wait. I don't dine here."—Punch.

"What are you cryin' for?"

"I've been fishin'."

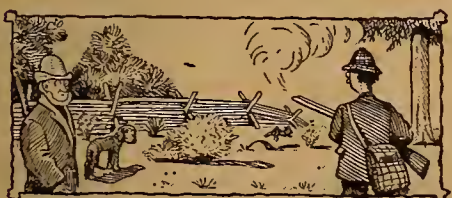
"An' you're cryin' because you didn't catch nothin'?"

"No, I'm cryin' 'cause I'm goin' ter catch somethin'!"

**A Few Posers**

Why is a thief called a jail bird? Because he's been a robin.

How do you know the King approves



CITY JAY—"Did I hit anything, farmer?"  
FARMER—"No, you fired too quick. If you'd only waited two seconds the dog would have been right in range."

of postage stamps? He gives his countenance to them.

When are we all artists? When we draw a long face.

When is a lawyer like a donkey? When he is drawing a conveyance.

What is the most dangerous time of the year? When the buds are shooting.

Why is whist more wicked than chess? Because you play whist with four knaves and chess with two bishops.

What is the difference between a sailor at the masthead and his ship? The ship sails over the seas; the sailor sees over the sails.

When do skates resemble the forbidden fruit? When they bring about the fall of man.

Why is an umbrella like a hot cross bun? Because it is never seen after lent.

Why are teeth like verbs? Because they are regular, irregular and defective.

When is an artist a dangerous person? When his designs are bad.



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# SPECIAL CHRISTMAS GIFT To Our Pony Contestants

## SOMETHING EXTRA

This is a great Christmas Gift Offer that you should read clear through. It is made to Farm and Fireside pony contestants only, and if you are not already a pony contestant you ought to become one right away. It may mean hundreds of dollars in your pocket.

This great gift offer is entirely separate from the regular Pony Contest. It is entirely additional to all the ponies, all the pianos and all the other handsome prizes offered in the Pony Contest. It is something extra, and the only persons who can get this special Christmas Gift are regular pony contestants. It does not interfere in any way with the Pony contest, but instead will help you greatly to win one of the ponies.

## OUR GUARANTEE

Again both Farm and Fireside and the Pony Man want to guarantee to the friends of Farm and Fireside that our great Pony Contest is exactly as pictured, described and represented; that ten beautiful ponies, five handsome pianos, and thousands of other prizes will be given away to our boys and girls and other helpers in this contest absolutely without cost; that every prize will be a valuable one, and that absolutely every contestant enrolled will get a prize. We guarantee that this is by far the most liberal contest Farm and Fireside ever conducted, and that absolutely every person who enters it will be rewarded for his work and treated fairly and squarely in every way.

### Description of the Piano

The piano to be given away Christmas to the pony contestant who has sent FARM AND FIRESIDE the most "points" up to that time is exactly like the one pictured on this page. It is a \$750 Harrington Upright Grand, and will be sent absolutely without cost right to the door of the winner, from the Fifth Avenue office of the Harrington Company. This piano is four feet ten inches high, five feet three inches wide and twenty-nine inches deep. It will be sent in either a fine mahogany, walnut or quartered-oak case, whichever the winner prefers. In workmanship and material, in tone-quality and lasting qualities, in beauty and finish, the Harrington piano is unexcelled. This piano will be an ornament to your home that you will be proud of as long as you live.



### The Farm and Fireside Pony Man

has entire charge of this Pony Contest and of giving away this Special Christmas Gift. He is one of the chief members of the FARM AND FIRESIDE organization, and whatever he does is all right. FARM AND FIRESIDE backs up every promise he has made and every guarantee he has offered. You can rely upon what the Pony Man says, for he has behind him the thirty years of business integrity of FARM AND FIRESIDE and its million dollars capital. The Pony Man is a good friend of all our readers, and he will help you win in every way possible. Write him or send the coupon below to-day. You will hear from him by return mail.

## OUR LATEST OFFER

To the pony contestant who has sent to the Pony Man the most "points" by Christmas Day, December 25th, we will give *absolutely without cost* and entirely *in addition* to any other prizes he or she may be entitled to, the handsome \$750 Harrington piano pictured above. This piano is exactly similar to the five Harringtons we offer as alternative first five prizes in the regular Pony Contest, and it will be sent in either a mahogany, walnut or quartered-oak case. There are absolutely no conditions or rules to be complied with. One person has just as good a chance as another. This magnificent piano will go *absolutely without cost right to the door* of the contestant who has sent the Pony Man the most "points" by Christmas Day. Remember that this Christmas Gift Piano has nothing to do with the ten ponies or any of the multitudes of other handsome prizes. It is entirely separate from them and is to be given as *something extra*, absolutely without cost, as an additional reward for energetic hustling, and to work for it will help you a whole lot to win a pony, too—we can promise you that. Remember, this great offer is

### LIMITED TO 30 DAYS

Orders bearing the December 25th post mark will count toward this great Christmas Gift Offer, but none later. If you are already a pony contestant, hustle hard from now to Christmas and do not lose a minute. Lots of people will take FARM AND FIRESIDE and send it to their friends as a Christmas Gift.

## If You Are Not a Contestant—Do This

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Please send me by return mail all the pictures of the ponies, pianos and other things you mention, and tell me just how I can get a pony or a piano. Please save a place for me in the contest. I will send my twelve subscriptions as soon as possible.

CUT THIS OUT AND SEND TO-DAY!

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Rural Route or St.....  
Town.....  
Date..... State.....

The Pony Man

FARM AND FIRESIDE

DEPARTMENT 4  
SPRINGFIELD, OHIO



# The Grange

BY MRS. MARY E. LEE

## TAXES LOWERED BY A FLEXIBLE RATE

CALL attention to the figures cited by State Master Derthick on the effect of a flexible rate in Baltimore. The flexible rate has been in existence since 1896, producing an increase of revenue and thereby lowering the rate, and relieving to that extent visible property. Under the uniform rate, tried for more than half a century in many of our states, the exact reverse has occurred. Intangible property escaped, and every dollar thus escaping laid an extra burden on the property in sight. The grand total had to be made up, and it came from the property in sight. Maryland is to be congratulated that she has found a system that actually brings intangibles on the tax duplicate.

I have frequently pointed out the injustice of taxing property having a fixed value at the same rate as that whose listed value is the result of guesswork. The utter futility has been proven by bitter experience. While there are some—a very small per cent, I confidently believe—who will deliberately lie to escape taxes that are just, there are many who will do so to escape an unjust tax. Few are free from the taint. The man who seeks a low valuation on his property, in a state where the constitution explicitly declares that all property shall be taxed at "its True Value in money," is a perjurer just as much as the man who has property easy to conceal. It's a question of degree only. Both conceal true values. The one whose property can be concealed enjoys an advantage over the one whose property cannot be concealed, but the spirit animating each is the same. Let's cast the beam out of our own eyes, and therefore be able to see more clearly to cast out the mote from our brother's eye.

Most farmers own both tangible and intangible property, therefore can gain little by the present uniform rate, unless the bulk of their holdings is intangible, and to get a gain in this way there must be perjury. They are therefore interested in a system that is just. They do not believe it just to tax their notes, mortgages, money and other forms of credits at one hundred per cent, their true value, at the same rate that their property is taxed that is put on at less than true value.

The question of taxation has been one of the hardest to solve in the centuries past. Then, various systems have been tried and found wanting. The universal discontent with the present system indicates its injustice. It is pitiful that a question that is purely economic should be subjected to the vicissitudes of envy, jealousy, spite, and that the passions and prejudices of mankind should be stirred, where only reason and a profound desire for absolute justice should dominate. Because of this has the struggle of life been made harder. No one whose judgment can be trusted is ready to say he has a system perfect in all its details, but he is ready to co-operate with any agency seeking justice and to trust the profound question to a commission, representing the four great industries and a political economist, which shall make such recommendations to the legislatures of each state as experience, conditions and necessities warrant.

## HOW FARMERS' CLUBS OPERATE IN THE PROVINCE OF QUEBEC

G. A. Gigault elicited unusual applause when he read his report of farmers' club and institute work before the American Association of Institute Workers at Washington, D. C. A farmers' club may be established, under a law, in every parish and municipality in the Province of Quebec. The chief purpose for which the clubs are formed is to disseminate knowledge by means of lectures and agricultural journals. Each club meets at least once a year to hear lectures, and many of them meet very frequently.

To create and maintain an interest, the law providing for the clubs contains provisions for the purchase of pure-bred live stock, and competitions for the best-managed farms, standing crops, milch cows, etc. Were it not for these provisions, Professor Gigault thinks few clubs would be organized. The club has its economic value, in enabling farmers to purchase pure-bred stock, as well as its educational value, in the discussions that are brought out at the meetings.

The law went into effect in 1893, and there are now 591 clubs. Among the members are those most interested in agricultural development and most of the improvements of a community are due to the initiative of these men. In every

new locality where farmers' clubs have been organized, a butter or cheese factory has been erected and other improvements added.

Whenever the Experiment Station Directors or Lecturers organize meetings in the interest of the farming community they are most effectively aided by the clubs. The Provincial Department of Agriculture employs many lecturers, who visit them. The Federal Department organizes many agricultural conventions each year.

The members of these clubs must pay one dollar a year; the government grant is fifty cents a member, the minimum being twenty-five dollars, and the maximum fifty dollars, for each club. During 1906 the receipts were as follows: Subscriptions of members, \$60,766.23. Government grant, \$25,260. The membership was 55,141. Nearly every club owns pure-bred live stock. These associations, Professor Gigault says, are more useful to the farming community than most of the county agricultural societies.

Professor Gigault has struck the keynote of success in organization of clubs. It is futile to attempt to do any great service to a community through spending time and effort on the unproductive class. It is worse than useless to attempt to get people without natural initiative to lead in a new movement in a community. Select the people who will do things to carry on the work. The less progressive will finally learn to follow.

When organizers and developers of plans for betterment will have thoroughly learned the lesson that Nature's laws must be recognized, and will extend aid to those who will help themselves, then will they reach a vastly greater number than in the vain attempt to help the least progressive. Professor Gigault has gone into a community and selected as aids those who have energy and ability and who will ably second his efforts. His report of the work done is sufficient indication of his foresight and organizing ability.

## JOINING ORGANIZATIONS INDISCRIMINATELY

Once I was sent to visit a grange that was continuously listed among those on the verge of dormancy. My instructions were to seek the cause and apply a remedy, if one could be devised. In a pleasant conversation the Lecturer of the Grange vouchsafed this significant bit of information, "I cannot do all I should like to do in the Grange, for," she added by way of explanation, "I am Secretary of the Relief Corp, Record Keeper in the Maccabee Hive, President of our Ladies' Aid Society, Chairman of the Program Committee of one of the two Farmers' Clubs to which my husband and I belong, and Secretary of the Gleaners, besides being Lecturer of this Grange."

"Ah, I have it now," I mentally ejaculated, and forthwith desisted from further search for "causes for dormancy." The walls of the hall in which we sat were arrayed with charters, banners, emblems and portraits of officers in order after order. These organizations, both "ancient" and "modern" in name, had for objects the betterment in one way and another of their members; but every society represented was dependent for its maintenance upon the residents of the little village of eight hundred inhabitants and the adjacent farming community. This, too, was in addition to the claims of the churches and schools, which we naturally catalog as first. Thus the conviction was forced upon me that others, than the Lecturer, of the handful of Grange adherents, were "cumbered with much serving" through their fraternal obligations.

Again I went upon a similar errand to another Grange that a few years before had been organized with a large and enthusiastic charter list. It, like the first, was located in the heart of a rich farming county, and the membership was called from highly intelligent, progressive people. But here, too, only a corporal's guard of members came out to the specially appointed meeting. I made a second appointment for a week later, but the latter meeting was scarcely better attended. The apparent lethargy of the absent members was explained by those present, on the grounds that "there was a ——— excursion the day before, this was ——— Order's regular date, and to-morrow was to be ——— initiation; and the people were simply driven with work anyway."

I rode out among these people, making personal calls from house to house. Everywhere I met expressions of the utmost good will for the Grange and by the acknowledgment that "it is the

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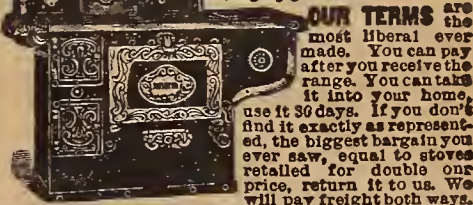
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strongest, best organization for the farmer in existence, but—" and then followed the familiar recital of entangling engagements in one organization and another. All this without these people seeming to realize the paradox of the situation.

Every visiting deputy can duplicate these instances without number. It would seem as if the pendulum of Organization, having once been set in motion, has swung too far. In eagerness to escape from solitude and social isolation, even the country people, acting with too little discretion, have surfeited themselves.

Not that probably every one of these dozen or fifteen societies, often represented in a small village, is not laudable in its aims. That is not the point. The danger lies in "belonging" to too many. The art of discrimination is not practised. Our friends fail to ask the question, "What is most worth while to me?" They refuse to stanchly stand for the little they can do by attaching themselves to every worthy project that appeals to them, irrespective of specific needs.

A common frailty comes to light in this defect—the undertaking of more than we know we can do. We suffer for it in organized work of all kinds—religious, educational, fraternal and purely social. People put their names on the books, hoping to be able to do what common sense says is physically impossible. No single member counts at his fullest possible power. As a result organized effort in scores of localities is flabby and weak kneed along a dozen tangents where it should deal muscular, sledge-hammer blows on a few obtrusive issues.

The cause suffers, also, no less than the individual members for this lack in otherwise bright, capable men and women of the ability to say "No," when tempted to scatter their forces in action.

JENNIE, BUELL.

Whenever you need a new buggy, farm wagon, plow, fanning mill, shovel or anything else, look over the advertisements in FARM AND FIRESIDE before you buy. We use the utmost care in seeing that only advertisements that can be trusted are put in FARM AND FIRESIDE. We guarantee every one of them.



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It is because of the President's great friendship for the farmers that we have gotten up at great expense this handsome calendar for 1908, portraying the President surrounded

by his whole family. We know our readers will like the Roosevelt Family Calendar because every one wants a beautiful picture of the President's family in their home—especially when a president has done so much for farmers as President Roosevelt has.

In order that these beautiful calendars may be obtained by our readers without extra expense, we shall send one of these luxurious Roosevelt Family Calendars absolutely without cost to every new subscriber or to every person who renews his subscription promptly. If you accept one of the offers below, you will get this handsome calendar by return mail securely packed and prepaid without a cent of cost to you.



This is the picture of President Roosevelt and his family, that appears on the front page of the Roosevelt Family Calendar. It was taken last August at Oyster Bay, N. Y., the President's country home, by the President's own family photographer. It is the latest and best picture of President Roosevelt and his family, and was taken with his special permission and by his authority. We have reproduced it in the Roosevelt Family Calendar at great cost, because we want our big family to have only the newest and best.

This beautiful calendar is different from any other calendar you can possibly get. It is made on beautiful coated super-calendered stock, and printed in sepia so as to get the full artistic effect. In every way it is a work of art, carefully gotten up, beautifully made, and new and up to date in every respect. You cannot get this calendar in any other way. We have had it made solely for the readers of FARM AND FIRESIDE and we shall send it prepaid and carefully packed to every one who accepts one of the offers below before January 15th—unless our supply is exhausted before that time. Do not delay!

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### FROM AN OLD MAN'S POINT OF VIEW

"November will soon be gone," said an old man who is some distance past his threescore and ten milestone, as he patted his pet cow on the back. "It seems remarkable how fast the seasons come and go. Here's winter close at hand, with another spring and planting time only a few months away. It does not seem possible that I have seen seventy-six autumns and springs. They always seem new. Planting time is full of plans and problems, and we put forth our best efforts to obtain a full harvest; we watch the result of those efforts, doing what we can to make them successful, and are delighted or disappointed with the outcome, and always resolve to do better next time.

"Not only is the farmer's vocation full of problems and possibilities, but also are other vocations. Bright minds are at work on them all the time, and one problem after another is being solved, and the world is making remarkable progress along all lines. I was talking to a nephew through the telephone last night. He lives twenty miles away, yet I knew his voice the moment he spoke. Who would have thought such a thing possible only a few years ago. The telephone and the phonograph are two things I never cease to wonder at. A person can sit in his own house and converse with people miles away, even when the day or night is so stormy or cold one would not dare to venture out. Then he can turn to his phonograph and listen to a sweet song by some one who, possibly, has gone to his long rest, or to a band that never was within a thousand miles of him. Then note how messages can be sent to friends hundreds of miles at sea by wireless telegraphy.

"While these things are being invented by busy, tireless workers shall I sit down and do nothing because I am old? Bless you, the world is full of work to be done, and while I can lift a hand I prefer to be found with the bees, rather than with the stones. While strong, young minds solve the great problems, I will work to produce something for people to live on. I only wish I could live fifty years more, to see the great progress the world will make in that time."

This man farmed when great strength and endurance was about the best asset the farmer possessed. As he grew older he farmed with labor-saving tools, and then noted that farming was being revolutionized, and the farmer emancipated from the spirit-breaking toil which had been his lot from time immemorial. No wonder the man who tilled the soil was a serf, a peasant, a clodhopper. His work was so hard and continuous that he could be little else than "a son of toil," a horny-handed farmer. As the old man says: He is now among the thinkers, and is making his vocation a science, in fact has already done so.

It is inspiring to note how rapidly better methods on the farm are being adopted, especially by the younger element. Mistakes are still made, and in places the soil is being robbed of its fertility by short-sighted methods, but on the whole much progress toward better practises is being made. F. G.

### THE VALUE OF CLOVER

Clover is very valuable as a fertilizer. If it brought the farmer no returns save the enrichment of the soil, it would pay him to sow it. In the marketing of the crops in the fall and winter months farmers who have been clovering their land will realize the worth of it as a fertilizer. A man who bought a poor piece of land in a Western state recently marketed his crop of wheat raised on clovered land. The wheat averaged forty bushels to the acre and brought eighty cents a bushel. A neighbor, who owned a farm of similar soil and had sneered at the idea of sowing clover to build up land, marketed his crop at the same time, which averaged only ten bushels an acre.

But clover often yields large returns to the farmer as a seed and hay producer. A farmer had twenty-eight acres in clover. He got eighty-four bushels of seed from the second cutting, which sold for six hundred and thirty dollars. His first cutting yielded three tons of hay to the acre and sold for nine dollars a ton, bringing him five hundred and forty dollars. The total value of the two cuttings was \$1,170 or something over forty dollars an acre without counting the benefit to the soil.

As a feed for milk cows, young calves, colts and sheep clover is splendid. Of course it is impossible to estimate its value in dollars and cents, but all who have used it as a feed for stock can testify to its worth. Both as a fertilizer and as a crop clover is as valuable as any of the grasses, unless it be alfalfa, and in many of the Western states some farmers declare that it is even of more value. No farmer can afford to ignore the value of clover in building up a run-down farm or in providing grass for his flock. W. D. NEALE.



**AGRICULTURAL NEWS-NOTES**

Santa Anna, Orange County, California is to have a beet-sugar factory.

Upward of one half the world's supply of sugar is now derived from the sugar beet.

The leading alfalfa-growing counties in Ohio are Champaign, Hamilton, Stark and Logan.

The Illinois Weather Bureau reports that the past summer has been one of the shortest since that of 1866.

The dairy farmers of Denmark last year used four hundred and forty-two thousand tons of cotton-seed cake as feed for stock.

The value of the rice annually imported into Brazil, which comes mainly from India, exceeds two and one half million dollars.

Japan has a department of agriculture and commerce and has sent an expert to this country to investigate the sugar trade.

It is now claimed for durum wheat that it has a higher sugar and fat content than other varieties of spring wheat.

Dr. Charles McCutchen, of Tacoma, Washington, is now making a second importation from England of skylarks. They are also to be set free at several points along Puget Sound.

The experience of other countries has fully demonstrated the merits of the parcels post. It affords all the people equal advantages and obviates the payment of excessive express charges.

Where apple orchards of three or four leading varieties are well cared for during a series of years they will return a net profit of twelve to twenty per cent on the capital invested in land and labor.

The Pacific Coast fruit boxes which have come into general use in the place of barrels contain nearly or quite fifty pounds. The length of the box is twenty-two inches and the ends are ten by twelve inches.

Re-inforced cement tanks are now extensively used in southern France and the Mediterranean countries for holding wine. Such tanks would serve in this country for holding cider for vinegar-making purposes.

Grape growing is on the increase in California, where there are eleven experimental vineyards. One of these of twelve acres is located at Chico and is under the supervision of G. C. Hussman of the United States Department of Agriculture.

The October crop report of the United States Department of Agriculture shows that the grain crops will be lighter and that there will be a heavier yield of hay, rice and tobacco. Take it all in all, better prices are likely to prevail for all kinds of grain.

During the past year two hundred and fifty-two Granges have been organized. New York leads with forty-eight; Pennsylvania, 31, and Michigan, 18. The total number reorganized in fourteen states was forty. In reorganizing, West Virginia, Kansas and Pennsylvania lead.

Investigations made in England go to show that trees were struck by lightning in the following ratio: Oaks fifty-four times, poplars twenty-four, elms fourteen, evergreens ten, and willows and beeches six. The birch tree seems to have escaped the lightning stroke.

It is right that Congress, which has heretofore lent its aid so liberally to harbor and river improvements, should now extend a helping hand to the various irrigation projects that are being carried forward in the dry regions of the West. For the best results government aid is essential.

Farmers' boys and girls in Colorado who are anxious to ascertain for what occupation they are best fitted and which would be most congenial for them would do well to attend the short course of instruction at the Colorado A. and M. College. The five months' course begins November 5, 1907.

The success which is attending the canneries in Texas, where fruit and vegetable production is taking the place, in part, of cotton growing, has made it possible to use profitably the tomato and other crops and to utilize large quantities of perishable fruits that would otherwise have gone to waste.

The order of six thousand refrigerator cars for the Southern Pacific Railroad is being filled at the rate of twenty-five cars a day. In the new cars just put on the Harriman road such perfect refrigeration is produced that the temperature does not vary more than two degrees in ten days. All fruits and vegetables are to be cooled before they are placed in the cars.

# The Value of a Telephone

An unconnected telephone instrument has only a limited dollars-and-cents value; a telephone connected with your neighbors, your doctor, your markets, has a value unlimited—for it may be the means of saving your property from destruction by fire, your family from serious illness, your products from a drop in prices. But a telephone upon which you cannot depend in emergencies is worse than valueless. Buy and use only

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Fun and Amusement for All—How You Can Always Have an Entertainer at Your Command.

The Editor has told the readers of this paper month after month how necessary it is to have rest and recreation—that in order to break the monotony and drive away dull care and get the most out of life we must relax from work and forget business.

How do you enjoy yourself after the day's work is finished, the chores and odd jobs taken care of? Then you are ready for something to amuse, please and instruct as well. The old and young alike must have rest and recreation for we all know that "all work and no play makes Jack a dull boy."

### Music for Your Home!

Can you imagine anything from which you could derive more pleasure, more fun and actual rest and recreation than from a Genuine Edison Phonograph? I do not mean the old, raspy, choky, scratchy kind of talking machine so commonly heard, but a Genuine Edison—the very latest improved Outfit No. 5 that reproduces to perfect exactness the finest music in the world.

Just think of having in your own home such a marvelous instrument—an entertainer always at your command, one that needs no coaxing, never tires and never disappoints. At any time during the day or the long evenings you can sit on your own porch or in your own parlor and listen to the sweet voice of some world-famed singer—a song sung by a voice so beautiful and brilliant that thousands have sat in rapt wonderment drinking in the very sweetness of the song.

You, too, can hear the very song that thousands have paid \$5.00 to \$10.00 a seat to hear, and when the song is finished all you need to do is to move the reproducer to the beginning and you will hear the song again in all its sweetness.

### Minstrel Shows and Opera!

And that is not all; the greatest hands and orchestras of the world will play for you—waltzes, marches, two-steps, overtures, concert pieces, all the old master classics as well as the latest minstrel shows and comic opera music. The very same minstrels that amuse packed houses in the large cities night after night will make you laugh at their comic songs and funny jokes.



### A Concert At Any Time.

You and your family, your friends and neighbors can have a concert, musicale, dance or song as often and as much as you like. You can sit in your own parlor or on your own porch and listen to a program like this:

- 8532—"Feast of Lanterns Overture".....Orchestra
- 9143—"Courtship of Barney and Eileen".....Recitation
- 8899—"Wilhelmina Waltzes".....Orchestra
- 8972—"Mississippi Minstrels".....Minstrel Show
- 7590—"Holy City".....Violin Solo
- 9148—"Everybody Works But Father".....Band
- 8992—"Virginia Reel".....Band
- 9098—"Chimes From Normandy".....Band
- 8854—"Ring the Bells of Heaven".....Church Chimes
- 8128—"Wedding of the Winds".....Waltz
- 9139—"Have You Seen My Henry Brown".....Coon Song
- 1019—"Abide With Me".....Baritone Solo
- 8304—"Thoroughbred" (Two-Step).....Band
- 7432—"Man Behind The Gun" (Souza).....Band

You have hundreds of other pieces to choose from and can make up a program to suit your own taste. The great value of the Edison concerts is that there is no end to what you can hear and enjoy. Your own boys and girls and the boys and girls of the neighborhood would rather listen to the Edison Phonograph than seek pleasure elsewhere—pleasures that may not be as enjoyable or as elevating as this.

This wonderful instrument can now be had on free trial. Sign the coupon and get an Edison catalog free.



**LOOK** at this happy home scene—all enjoying the Edison phonograph. The Edison has indeed been rightly called the king of entertainers for the home. If you have heard only the old style machines or the rasping, scratching imitation machines heard at county fairs and the like, you cannot imagine what a treasure of good cheer, what endless entertainment the new improved genuine Edison phonograph can give to all your family.



# MR. EDISON

## Says: "I Want to See a Phonograph in Every American Home."

The phonograph, as the reader may know, is the wizard's hobby. *Thomas A. Edison*  
**A New Style Edison Phonograph The Parlor Grand Outfit No. 5!** The latest perfected product of Mr. Edison's factory. The new outfit No. 5! Latest improvements—new features—exclusive points of superiority.

**See It—Hear It!** Get this remarkable instrument in your own home—then you will see how far superior this is to any ordinary talking machine—far superior even to the finest Edison Machines you have heard heretofore.

## FREE TRIAL

While this offer lasts every responsible person can get on absolutely free trial of this wonderful Parlor Grand Outfit No. 5. This outfit will be sent direct to your own home without paying us a single cent in advance—you make no deposit—pay us no C. O. D.—no guarantee. The New Outfit No. 5 is sent you on absolute free trial in your own home. We allow from forty-eight hours to a week's trial in your own home; then if you do not wish to keep the instrument—if you do not think it is the clearest and most beautiful phonograph you ever heard, return it to us at our expense and we will not charge you one cent for the trial.

Try the instrument in your own home, play the stirring waltzes, the two-steps, marches, concert pieces, both grand and comic opera—hear the greatest hands and orchestras in the world, listen to the songs of the world-famed singers, laugh at the funny minstrel sketches, coon songs and comic recitations. Play all these and the many other wonderful pieces you can hear through the Edison Phonograph—the New Outfit No. 5. The trial is FREE, and you may return the instrument at our expense if you don't wish to keep it. If you decide to keep this Parlor Grand Outfit No. 5 you may send cash in full or pay on easiest terms, just as you prefer.

**\$2.00 a Month** now buys a genuine new style Edison outfit including one dozen highly finished genuine Edison records. The finest improved model Edison outfit only \$3.50 a month. And at **ROCK-BOTTOM PRICE**, no matter whether you send cash in full or pay on our easiest terms. Surprising rock-bottom prices on the finest improved Edison outfits. One-third and one-half the price of inferior imitations.

For Cash in Full we cannot allow any discount. The price we ask is the very lowest possible and is exactly the same whether you pay cash in full or in small installments. Get the outfit on free trial anyway—then you can decide.

### The New Parlor Grand Outfit

**No. 5** is so far superior to the ordinary talking machines that there is absolutely no comparison.

Even the old Edison Outfit No. 5, the peer of all outfits, is now eclipsed. This new No. 5 is equipped with the brand new style Floral Horn, a type of horn that is now being produced for the first time. It is a much larger horn than that used on the old outfit No. 5; it is the most handsome horn ever put out, being hand decorated with beautiful flowers in many tasty colors. But the real reason we chose this extra large Floral horn is because of its acoustic properties; the reproduction of sound from this horn is simply perfect, giving the largest possible volume the finest tonal shading, every instrument of a brass band, every whisper of a recitation being given full value in the most natural manner conceivable.

Among other exclusive features, this New Style Outfit No. 5 is equipped with: (1) A connecto. (2) An automatic stop. (3) An automatic brush. (4) A tone modifier. (5) Various equipments and extras not given heretofore with any phonograph outfit, all extras the value and importance of which you will quickly appreciate when you get the Parlor Grand outfit on free trial. The modifier, with which you can in an instant increase or decrease the volume of sound, itself makes this machine worth much more than any other outfit. All the superior points of this new Parlor Grand No. 5 outfit are explained in the Edison books which are sent you free on request.

**Sign the Coupon or write a postal and get the Edison Books FREE, Prepaid.**



## EDISON CATALOGS FREE

Sign this coupon and get the great Edison catalogs, the catalog of phonographs showing every style of Edison machines and the catalog of 15,000 Edison records; also the magnificent circular of our new Edison Parlor Grand outfit No. 5. You will be surprised at the rock-bottom prices on the finest kind of talking machines. Get all these catalogs free, prepaid, and select the machine you want to try on free trial offer. Every responsible reader of this paper should sign this coupon. You need not bother with a letter, just write your name and address plainly on the coupon and mail in an envelope. Sign Coupon NOW, or send postal or letter.

**FREDERICK BABSON**  
Vice-President  
**EDISON PHONOGRAPH DISTRIBUTORS**  
Edison Building, Suite 3538  
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ADDRESS.....

Just Sign and Mail Coupon

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# FARM AND FIRESIDE



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## Breeding Beef Cattle for the Market\*

By Herbert W. Mumford

PROFESSOR OF ANIMAL HUSBANDRY, UNIVERSITY OF ILLINOIS

### PART II.

**T**HERE are details in the care and management which are matters of local interest, and these cannot well be considered in this discussion. Such general questions as the best season to have calves dropped, the age at which to breed heifers, and the best age to dispose of females, are points worthy of careful consideration.

#### WHEN TO HAVE THE CALVES DROPPED

The consensus of opinion is that, everything considered, it is best to breed the cows so they will calve during the spring season. The arguments in favor of this system are that the cows may be wintered cheaper when not in milk, with calves at foot. They require less room for shelter, less careful attention from the attendant, and less protection from the cold. If the calves are dropped in the fall it is hardly possible to finish them without carrying through two winters, whereas if dropped in the spring they need to be wintered but once, being finished at the age of eighteen to twenty months. If, too, the cattle are marketed at the ages noted, they will have the benefit of two summers of grass, whereas when dropped during the fall season, in order to get the benefit of two seasons' grass they must be carried until they are from twenty-four to twenty-six months of age.

On the contrary, it is argued by some who favor the fall calf that a better animal can be produced and developed by this system, because the cow in the fall is in better physical condition to deliver her calf after a period of summering on pasture; that the cow's flow of milk, which has freshened in the fall, will be getting limited by the time she goes to grass, and the grass will have a tendency to produce a more abundant supply for the calf; that the calf at that age and time is better able to handle pasture grasses to an advantage than when younger, and to more easily endure heat and the fly season.

There is undoubtedly force in some of these arguments, but the writer believes the advantages of the spring calf outweigh those of the fall calf with reference to the growing of cattle for beef in the corn belt.

#### BREED CALVES UNIFORM IN AGE

Care should be taken to breed the cows in such a way that the calves will be as nearly uniform in age as possible. This will necessitate the weeding out of the herd cows which persist in coming in season only after long periods have elapsed after calving. Such cows are not necessarily shy breeders, but for the reason stated should be discarded. The margin of profit is so slight that the producer can't long afford to board the shy breeder.

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The herd should be frequently and carefully culled. The basis of selection or standard of excellence after the individuals have been tested should not be alone their conformity to score-card standards of form and condition, but primarily their records as breeders. It sometimes hap-

pened that it ought not to be necessary, however, to keep a heifer until she is two years of age or upward before breeding. Undoubtedly many of the most satisfactory breeding cows will be found among those that have reached six to nine years, and in general it is bad practise to discard an especially

Male calves should be castrated before the calf has reached an age of three months, and this may be done when the calf is less than one week old.

The feeding of a herd of cattle maintained for the purpose of breeding calves intended for developing into beef may best be considered under the general divisions of (a) winter and (b) summer feeding.

#### SUMMER FEEDING

If pasture is of good quality and abundant, the cows and calves will require but very little attention during the pasturing season. The calves should be weaned at from six to eight months of age. If only spring calves are produced, and the cows are provided with an abundance of pasture, there will be no need of supplementing the pasture with concentrated feeds, so far as the cow is concerned. If, however, pastures are sufficiently short to materially affect the milk flow of the cow, the pasture should be supplemented with silage, clover or alfalfa hay, green forage or concentrated feeds. The calves should be taught to eat grain before being weaned, to prevent shrinkage at weaning time. Cows and calves on pasture should have access at all times to fresh, pure water, shade and salt.

#### WINTER FEEDING

The kinds and amounts of feeds used in the winter feeding of beef-breeding cows should be governed to a large extent by the condition of the cows when they go into winter quarters. The character of the shelter best adapted for cows will be determined by the condition of the cows and the feed which they receive.

With the factors mentioned, more or less dependent upon each other, it is necessary, in order to discuss this subject intelligently, to assume certain conditions. These assumed conditions will in most instances be those which are most commonly met with or those which the writer believes to be most characteristic.

It is assumed that the climate and other conditions necessitate dry-lot feeding and some provision for shelter for five or six months. The end sought in the feeding and management of a herd of beef-breeding cows is of course to maintain them in such thrift and flesh as will render them best able to give birth to and suckle well their offspring, with as small an expenditure for expensive feeds as possible. That is to say, the cattle raiser, on the one hand, cannot

afford to maintain such a herd largely on concentrated feeds having relatively high market value to ensure desirable condition, nor on the other hand, can he afford to so stint the amount or quality of feeds that they are so emaciated

[CONCLUDED ON PAGE 9]



POLLED DURHAM HEIFER—A GOOD TYPE FROM WHICH TO RAISE BEEF CALVES

pens that some of the plainest-looking cows are the best producers. These should be reserved for future use.

#### AGE TO BREED HEIFERS

The question is often asked, "At what age should heifers be bred?" Assuming

good breeder at such an age simply because she will deteriorate in value if kept longer. On the other hand, the necessity of watching every corner, to avoid unnecessary losses, leads to the conclusion that females should be replaced with younger stock before they have deteriorated ma-



SOME GOOD ONES BRED IN MISSOURI FROM SHORTHORN DAMS AND HEREFORD SIRE

terially in value. This usually means that cows should be sold when in good condition at eight years of age or even younger, but should by no means be applied to those which have proved regular and potent producers of satisfactory calves.

It is Worth Your While to Read Our Liberal Offers on Pages 23 and 24



### FACTS ABOUT CLAY SOILS

IN THE best agricultural districts of our country it is quite rare that soil exists without having clay as one of its components. This is particularly true of the soil in the states now occupying the region over-ridden by the enormous masses of ice during the glacial epoch. In these glaciated sections clay soil abounds quite generally, on account of the transportation of granite and feldspathic rocks and their remnants from the northern igneous or bed rock regions.

Through the glacial action of grinding, rasping and scraping these hard, unstratified rocks were gradually converted into a fine, powdery condition, which, mingling with the water from the melting ice, formed what the geologist calls boulder milk, so called because of the white appearance of the water flowing from the ice tunnels at the terminal of every glacier.

This boulder flour or ground granite rock formed an emulsion with the water, and while the stream bearing it was in rapid movement there was no possible chance of its deposition. But when the flow of water had slackened sufficiently the rocky particles held in suspension by the water were deposited. This sedimentation is an important step in the natural process of soil formation, particularly in cases where clay plays a prominent part.

When the deposit of these boulder particles has been completed, a layer of clay results. This is composed of the finest insoluble materials of the disintegrated and ground feldspathic rocks, and is known chemically as the silicate of aluminum in the hydrated form. Nearly all the soluble compounds found in the feldspar or granite rocks have been removed by the continued washing received from the moment of disintegration until the time of deposition. These compounds are generally the oxides or carbonates of sodium, potassium or calcium. Pure clay or kaolin is usually quite free from these compounds. Ordinary clay, though having a small per cent of these substances, generally contains considerable iron in the form of ferric oxide of hydrate. The presence of the latter imparts the yellow or red coloration to clays and clay soils.

After a time these clay deposits were acted upon by running water. By this disturbance and subsequent deposition of sand and gravel a mixture with the latter-named materials was brought about, which we know as loam. When clay predominates in the mixture we call it clay loam, and when there is an excess of sand we name it sand loam. It is the loam that contributes most to the success in agriculture, so far as the soil is concerned. So much for the formation of clay.

Now as to its importance as an ingredient of the soil. Clay is the substance that really does more than any other mechanical soil component in the way of producing good crop returns. On account of the fineness of its particles, clay is easily compacted, and is slow to take on moisture and reluctant to surrender it when once taken on. Thus when clay is mixed with sand, gravel, or in rare cases with muck, it serves as a moisture retainer, thereby ensuring a more regular supply of water than would be found in porous sand soil. In sandy soils the water from rainfall soon disappears, not only leaving the ground dry, but also, through leaching, deprives it of all the soluble compounds making for its fertility. The presence of clay obviates all this and tends to conserve the proper amount of moisture and prevent the disappearance of the land's fertility, by percolation of rain water, through the porous sand layer.

Clay in right quantities acts as a binder for the soil particles and gives the necessary firmness to the soil areas. It thereby makes retention of the humus and mineral substances for plant food possible and certain, a feature of no small consequence in successful crop yields. The best soils of the Mississippi River basin are all noted for their proper clay content, and it is well known that this section contains the best farm lands in the United States.

Of course, where clay is in considerable excess above sand and other common materials, the soil is unfit for practical agriculture. The compacted soil will either be too plastic from oversupply of moisture or too dry and hard from lack of moisture to nurture plant growth. Either of these conditions preclude successful farming, but when clay appears in the soil along with sand in a well-balanced proportion the ideal land for bountiful crops is found.

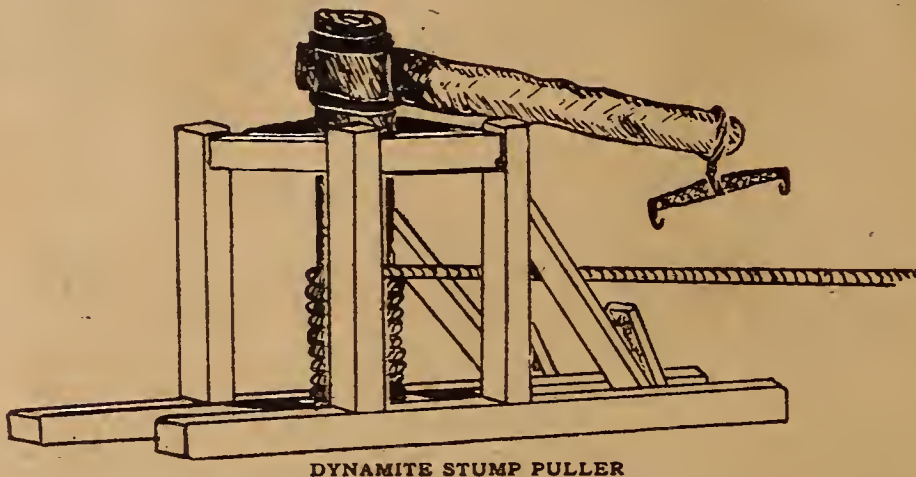
H. S. CHAMBERLAIN.

### THE "DYNAMITE" STUMP PULLER

I call the stump puller outlined in the accompanying cut the "Dynamite," because it has been the means of saving so much in the cost of dynamite that we would otherwise have had to use without it.

When well made of good heavy timbers it will take out any pullable stump. Ordinary old stumps that are at all loose may be taken out with one horse by this puller. Where a double block and tackle are used on the stump end of the cable one horse will take out almost anything that can be lifted.

The ground, or bed, pieces are made of sound timbers six by eight inches by ten feet, into which are mortised the uprights of six-by-six-inch stuff. Four-by-four-inch crosspieces are mortised into the uprights at the top. Six-by-six-inch connecting crosspieces are mortised into the bed timbers. A piece four by eight is bolted the length way on these, into which is placed the three-inch iron bar pin, set at least two feet into the "drum" timber. At the top the drum rests in a



DYNAMITE STUMP PULLER

heavy iron collar, with iron arms and braces reaching out to each of the corner uprights. The sweep arm is inserted into the drum timber, after which the latter is securely banded, to prevent splitting. This is portable, and may be readily drawn from place to place and easily set in position. Two-by-four blocks are bolted to the top of the uprights on the pulling side, against which the braces are placed. If the pull is to be a heavy one, heavy stakes are driven at the end of the bed pieces as well as at the foot of the braces, and also at the far end alongside the runners, to prevent skewing. A small wire cable will be more satisfactory than a large rope, and will give less trouble on the drum. Fasten the large hook on the end of the cable to attach to the chain on the stump. Where the stump is set with heavy side roots it may be necessary to cut them away on the far side. R. M. WINANS.

### RURAL TELEPHONE LINES

After using the long distance telephone a few times I have become thoroughly convinced that the telephone is the greatest invention of the age, and just what every farmer and everybody else should have in his house. I talked about it a good deal, trying to interest others in the matter, and soon came to be considered a sort of "telephone crank."

People smiled at the idea of using telephones about like they would at putting

poles that the income of probably the entire year was taken up in repairs. Then two severe electrical storms during the summer split several poles, melted wires and damaged many phones. One savage stroke of lightning on the line about a quarter of a mile from our house melted our ground wire.

In the one matter of arranging for help in thrashing and other work the phone is well worth its annual rental. For instance: A farmer arranges for help the next day, when the machine is expected to be there. The machine breaks down and is delayed a half or a whole day. The thrasher promptly notifies the farmer by phone, and he, in turn, notifies the neighbors who are to help him in the same manner, and instead of having to ride about the neighborhood several hours, he goes on with his work, while his wife ceases preparations for feeding a small army of men until further notice.

In case a member of the family is severely injured or taken suddenly ill, a physician is called, the case explained, and he tells what treatment to give until he gets there, and much suffering, and possibly the life, of a loved one is saved. We once needed a doctor late in the night, and needed him badly. "Central" called his office, and was informed by the office boy that he was at a certain home several miles in the country. There was no phone in the house where he was, but a neighbor near by had one. "Central" called the neighbor, and asked him if he

around, and they captured the thieves with about seventy dollars' worth of fowls in their wagons. The thieves were soundly trounced, their guns taken from them, and they were informed that if ever they were caught in that locality again they would ornament a tree. The fowls were housed, and in the morning returned to their owners.

About eleven o'clock a farmer happened to awake, and looking out of the window he saw quite a blaze in the yard of a neighbor who lived about half a mile distant. He called him up and told him about it. The man rushed out and found a small shed very near his big barn in flames, and the side of the barn just catching. In a few moments more it would have been a goner. With a little vigorous work he saved the barn, worth eighteen hundred dollars, with horses, machinery, grain, hay, etc., worth two thousand more.

The "isolation" of farm life is entirely eliminated by the phone. It makes us "next neighbor" to people we do not actually see oftener than once or twice a year. We are kept in close touch with relatives, friends and old neighbors living ten to twenty and even more miles away. We know how they are faring almost as well as if living close by them. Visits, dinner parties, meetings at picnics and other places are arranged, and the pleasures of life along this line are quadrupled, and mistakes and disappointments made almost impossible.

In a business way the phone saves the busy farmer its cost many times over every year. If he is in need of another horse, cow, a few pigs, some corn or hay he calls up one or more people likely to have them or to know where they can be obtained, and learns just where to go. He calls up the elevator, the stock dealer, the poultry and egg buyer, and without stepping outside of his house learns the latest prices, and can take advantage of any rise in the market. A neighbor of mine was called by a man nearly three hundred miles distant who had been informed that he had a team of extra large mules, just what he was needing. Within five minutes the trade was made, the mules bringing the owner eighty dollars more than he was offered by a dealer, to whom he was about to sell them.

Another neighbor had ten tons of extra good clover-mixed hay, for which he was offered nine dollars a ton, baled. It occurred to him to call up a feeder in an adjoining county and ask him if he was in need of hay. The feeder said he was, and would gladly give fifteen dollars a ton for all the good clover-mixed hay he had. I could fill columns with accounts of money made and saved, and mistakes corrected by this, one of the greatest inventions of any age.

A man was starting home with his wife and two small children in a carriage. One of the children dropped its hat. The man jumped out to pick it up, and the team went off like a shot. Something over a mile ahead was a sharp turn in the road, where the carriage was sure to be overturned. The man darted into a house close by where there was a phone, and called up a family living near the turn mentioned, and told them to head off the team. The man and his boys quickly swung a clothes line full of clothes, just washed, across the road, forming a formidable-appearing barricade, and though the team was running wildly, it checked up when it saw that, and they caught it, saving the woman and children from almost certain death.

Truly the telephone is great!  
FRED GRUNDY.

### NEW SAWS AND FRESH FILINGS FOR THE FARMER

R. F. D.—ready for doing.

You can't keep good seed down.

Faint cropper ne'er won fair prize.

True country life is stranger than a home in the city.

When the seed is willing, but the soil is weak, use manure.

Strain to advance your yearly output beyond what it is now.

Study the soil, then the seed, next the cropping—and lastly the market.

A farm is not complete without a garden spot—or a guarded hen spot.

It is the duty of farmers to raise good crops—which is a very pleasant duty to perform.

Begin at once to make a beauty spot out of that part of the place which has been an eyesore.

There is a thrill about the great business of farming that another business scarcely gives one.

Just between you and me and the gate post—a few dollars spent on an artistic post will add hundreds of dollars to the appearance of what is behind the gate post.  
W. J. BURTSCHER.



This pole, located at a cross roads, carries nineteen telephone wires, each wire being connected with nine to fifteen farm homes. Five years ago there was not a telephone in this locality, except the Long Distance in town. This shows how farmers appreciate a really good thing. Free rural delivery of mail and the telephone have brought the country into town—in close touch with all the world.

pianos in their barns. I finally quit trying to "promote" the matter, and was just about to accept a rather expensive offer made me by the Long Distance Telephone Company, when along came a man seeking subscribers to a local line he proposed to build, and connect with the Long Distance. Somebody jokingly referred him to me, and I subscribed so quickly that he was astonished. He worked hard to obtain twenty-five subscribers in town and within a radius of three miles,

would step over and tell the doctor. He did so, and the doctor returned with him, and by his phone told us what should be done, and about how soon he would arrive. Enough unnecessary suffering was saved in that one instance to pay for the phone ten years.

One night poultry thieves raided the hen roosts of a neighborhood. A farmer heard them in his poultry house, and with his gun frightened them away. Then he had "Central" call up the neighbors all



## DEATH THE PENALTY

THE laws of Nature are inexorable, and for many of the slightest violations on the part of man the penalty is sickness, suffering, death.

In most farm houses a general house-cleaning in spring and another in fall is the regular practise, and certainly a good one. Cleanliness is next to godliness. But too many rural people, while properly attending to the inside of the house, neglect to make a thorough job of cleaning underneath and around the house. The trouble is in the disposal of the waste, and there is where the danger lies.

Country people may have the better chances of breathing pure air, both day and night, and of having abundant exercise in open air, and all that, but the city waterworks and the city sewerage system solve just those problems for the city people without any or much effort on their part, which are so serious and troublesome for us people living on farms, away from the reach of waterworks and perfect sewers. Danger lurks in filthy sewers and kitchen drains, in cesspools, closet pits, etc.

Where sufficient water can be had for flushing the sewers, etc., the solution of the problem is simple. Most of the liquid wastes of the household may then be washed away, and the sewer system kept clean and sweet. For years we have abstained from emptying liquids containing a proportion of grease, such as dish water, suds from the weekly washing, etc., into the kitchen sink, for fear of creating a nuisance or of clogging the drains. Even then we have trouble occasionally, either from the bad smell emanating from the sink pipe or from clogging.

Many farm families have no way of disposing of kitchen and laundry wastes except carrying them out and throwing them on the ground not far from the house. This is a bad practise—in fact, very bad. We have never had any hired help—man, boy or girl—but that had the almost irrepressible habit and inclination to empty such liquids on the lowest spot as near as possible to the kitchen door. In such a case it will not be long before you have a cesspool right close to your door. Or if it is far enough away so that it will not annoy the people in the house, perhaps the fowls, out on free range, will drink out of these holes filled with disease-breeding liquid, and get sick and die. I have seen whole flocks die from just that cause, especially where ducks were kept at large with other fowls.

The aggregate amount of fertilizing matter (plant foods) contained in the laundry wastes of the farm home during the year is not inconsiderable. During the summer these liquids distributed over a lawn or other grassy spots around the house will soon soak away and produce a thrifty growth of grass. There can be no objection to a liberal use of these wastes in this manner, even in near proximity to the house, so long as we abstain from emptying them in quantity in low places. The roots of grasses and shrubs or trees will make use of the plant foods in them, and air and sun and earth will render them innocuous. If well distributed in moderate amounts they will do no harm. Beware of accumulations, however.

During the winter, when the men folks on the farm are not crowded with work, it will pay them to cart the stuff right out into the orchard. Have a barrel or two on a mud boat. On wash days take this to the kitchen door and have the suds emptied into the barrel or barrels. Haul the filled barrels to the orchard and throw the suds by the bucketful, the hotter the better, against the bodies of the trees, clear up into the crotch of the main limbs, and let the liquid run down to the ground. I once had a number of young Wagener apple trees that were weakened by borers and heavy bearing and in danger of giving out entirely. The free use of hot washing suds in this manner soon revived them, so that the next summer they made a healthy, thrifty growth and produced good fruit. This is better than emptying these wastes on the ground near the house, making the premises filthy and dangerous to you and your family's health and comfort, and perhaps killing your fowls.

The closet is another source of danger, and often of much discomfort. We hardly ever pay half so much attention to it as we should. With proper treatment there will be no trouble. But we want no pit to gather up and accumulate the filth and create a bad odor. A tight box on runners set under the seats in a near corner of the wood shed, closed in by a swing door on the outside, and the free use of dry earth or dry coal ashes, will set things to rights. The box on runners should be arranged in such a way that a horse can be hitched to it, so that it can be easily pulled out of its place and hauled to the fields to be emptied and returned. This, if done once a month or oftener, will not cause any inconvenience or involve

any disagreeable task, and keep the place sweet and far from being a nuisance, as it frequently is made by inattention or delay.

Usually the well is not far away. The liquids soaking out of a closet pit or over running the box on runners, if left with out emptying for a long period, are liable to make the surrounding premises dangerously filthy, or even to gradually percolate through loose soil or fissures in the rock, into the well, and possibly create or spread dangerous diseases, such as typhoid fever, diphtheria, etc. It happens only too often that suffering, disease and death are the penalty of inattention to filthy surroundings, overfilled closet pits or faulty cellar drainage and cellar sewers. I am afraid of these things.

T. GREINER.

## BEFORE AND AFTER

Sixteen years ago we built our little home, not where we wanted it, but where we had to, out in the open field on the bench of a hillside. Our house looked just like a big box set down in the field, and was just about as cheerless. We



BEFORE

had no fence around the house, and the horses when they got lonesome would come and rub their noses on the window panes.

We hadn't time for much improvement in those days, for it was during the financial crash, and we had about all we could do to keep our heads above water, and avoid going in debt; besides, we had to earn two dollars to get one, as we worked on "shares." But we concluded that, though we were not satisfied with the location, we would make the best of it and do the best we could to make things more



AFTER

to our liking; so we set out the steep hillside with prune trees, and some three hundred German and a few other varieties are now at a bearing age.

We finally got a fence around the house, and some trees, shrubs and roses in the dooryard, but I still was not satisfied with our surroundings, and am not yet, and just as fast as we are able we are planning for improvements. You are all familiar with the patent-medicine advertisement, the "before" and "after" results. The photos give the before and after result as plain as anything that has ever been on the market, and you don't run any risk in trying it. I wish I could go back to the first year with my picture,

but this shows only what four years have done. The pictures are not taken from the same position, but the trees and vines have grown up so high that the last could not be taken from the same as the first, but is from directly the opposite side.

The vine on the house is a Niagara grape vine, and it certainly did its duty as a fruit as well as an adornment. The vine on the outbuilding is the wild woodbine, or five-finger. Some people start from it in alarm, and exclaim, "What in the world do you have that poison vine in your dooryard for!" It is surprising how few country people know it from the three-finger, or poison ivy. The woodbine needs no support after it once gets started, as its little clinging feet will find a foothold most anywhere. Some people have the idea that vines are injurious to buildings; we find them a protection, and would not take fifty dollars for the vine on the house, as it is always full of such nice grapes.

Our trees will soon be large enough to support a hammock, and we will soon have a shady place for a lawn swing. There are so many ways of making the farm

total area of the kingdom of Saxony amounts to 5,789 English square miles, of which almost one half is covered with private and governmental forests. The state treasury places the latter as its highest revenue producer after the state railway, and exceeding the income from all other sources, taxation included. The total quantity of timber cut during the year is estimated at 1,231,472 solid cubic yards, 210,947 cubic yards representing wood used for fuel only, and 1,020,525 sold for all other purposes. To this must be added a yield in brushwood, cut and sold for fuel use principally, of 190,415 cubic yards, raising the total quantity of timber and brushwood cut and sold in 1906 to 1,421,887 cubic yards, for which the sum of \$3,374,385 was obtained, which amount was still increased by additional revenue from the leasing of meadows, hunting privileges and other rights to the total of \$3,483,616.

Deducting from this total figure the cost of forest cultivation (with salaries and wages of the entire service included), amounting to \$1,357,580, the net profit of \$2,126,037 was added to the state treasury in 1906. There is nothing unusual in this result, as the ten preceding years show equally high figures, a few slightly exceeding the revenue of 1906, others being lower in a very small degree. The same comparison applies to the area cultivated and timber obtained in ten years.

Similar results have been achieved in other German states by systematic forest cultivation. Nearly fifty thousand square miles of German soil, representing about one fourth of Germany, have been adapted to foresting, the value of the wood gained therefrom being estimated at sixty million dollars a year.

## AGRICULTURAL NEWS-NOTES

The growers of durum wheat in the great Northwest are now assured that the export demand for this variety has become well established.

The experience of other countries continues to afford the most convincing proof of the inestimable value and general utility of the parcels-post system.

The newly elected state dairy commissioner of Kansas is Prof. J. C. Kendall, of Manhattan. He is connected with the agricultural college at that place.

The first thrashings of durum wheat in North Dakota are said to indicate that both the yield an acre and the size of the kernels is decreasing. Is this a fact?

The greatest meat-eating countries are Australia, New Zealand and the United States. Those which eat the least are Italy, Sweden, Denmark, Belgium and France.

In England the proposition is being advanced that "controllers" be placed on each automobile, to prevent any machine from exceeding a reasonable degree of speed on the public roads.

Resolutions will not determine the price of cotton or any other commodity. The price the world over will be fixed by the number of bales, bushels or pounds offered for sale and the market demand.

The largest sauerkraut factory in this country is located at Franksville, Wisconsin. About one hundred men are employed. New oak barrels are used, which are paraffined inside and varnished before being filled.

Two hundred and fifty dollars is the world's record price for a single ear of corn. This was paid by a Hoosier farmer at the Chicago National Corn Exposition in October. The variety was the "Boone County White."

The dairy and food commissioner of Wisconsin reports that there are about two thousand creameries, skimming stations and cheese factories in that state. The value of the buildings and machinery is about five million dollars.

In the densely settled sections of Europe, where the express companies are not allowed to dictate as to weights and rates, the parcels-post system carries packages ranging from thirty-five to one hundred and thirty-two pounds at such low rates that the system is now universally approved.

In order to encourage the culture of peanuts in Texas the commissioner of agriculture has republished many of the practical suggestions to be found in Farmer's Bulletin No. 25 of the United States Department of Agriculture. Copies of this bulletin can be had by applying to congressmen or senators.

The rapid advance that is being made by the Southern states in the development of their wonderful resources leads the director of the United States census to predict that each succeeding census will show a relatively greater advance both in agriculture and manufactures in the South than in any other section of the country.

geas and many other beautiful things that you may enjoy you will think that life is a little more worth the living. Try it and see how you enjoy them.

MRS. S. W. BURLINGAME.

## WEALTH FROM GERMAN FORESTS

According to the American consular officer at Dresden, official figures recently compiled by the Saxon government for the year 1906 demonstrate a net revenue of \$2,126,037 obtained from the cultivation of 443,105 acres of government forest land, an area of which 424,246 acres represent land covered with trees or soil designated for rotational foresting. The



## QUALITY ACCOUNT OF THE DAIRY

A FULL-FED cow produces in a year one hundred and seven pounds of nitrogen and eighty-seven pounds of phosphoric acid and about eighty-seven pounds of potash. I am satisfied that most farmers are now able to get as much out of that one hundred and seven pounds of nitrogen as from that they purchase. It is worth as much to them, and it should and does contribute to the production of raw material. If it does not do so it is because it is not handled properly or it is not used properly.

We have made some experiments on this line. We allowed the manure to leach out in the winter, and out of one hundred and seven pounds found we had in three months lost forty-four pounds in the process of leaching, and the best portion of nitrogen also went out in the leaching process. In order to show the relative increase in the crop which we might expect by applying the waste product in its original state, as compared with its leached state, we applied both to corn and oats. Upon corn the fresh manure increased the yield 59.4, twenty tons an acre; upon corn the leached manure increased the yield thirty-six per cent. On oats the increase was twenty-nine per cent from the use of the fresh manure; the leached manure, 9.2 per cent. We lost the nitrogen itself in the leaching process.

The matter is an important one to consider. We should apply the manure fresh and as fast as it is made, as the preferable way. This matter of leaching is not so bad where the temperature is not high enough to cause fermentation, but it all has a bearing upon the cost of producing the milk.—Prof. E. B. Voorhees in Hoard's Dairyman.

## THE LIGHTNING CONDUCTOR

The amount of money to be expended in extending rods over buildings is analogous to the question of insurance, and is to be answered by the value of the property to be protected. The nearest to perfect immunity can be obtained by enclosing the building in metal well provided with points. This is of course impossible, and the best thing to be done on the farm is to run the rod up one corner of the barn, then along the ridge pole, connecting it with all bodies of metal in the building and running the rod down the corner diagonally opposite to the one upon which it ascended.

For the rods on the barn at the Michigan Agricultural College, a half-

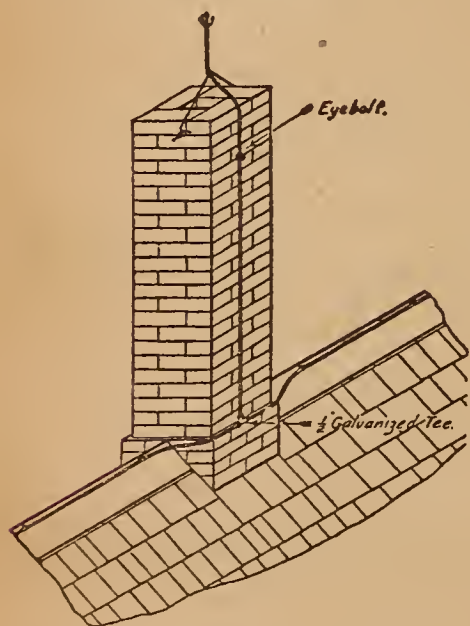


FIG. 1

inch, seven-strand, double-galvanized cable was used, costing about three cents a linear foot. For smaller buildings, such as the usual farmhouse, a three-eighths-inch cable would be large enough and would be much easier to handle. The cable was fastened to the barn by three-inch staples, twenty-four to thirty inches apart, and without glass or other insulation.

The points were made of half-inch round iron rods. They are thirty-six inches long when not on cupolas. When on cupolas the rods extend thirty inches above the tops of these cupolas. The upper ends of the points are sharpened, the taper being about three inches, and the point finished with a coarse file. Threads were cut at the lower ends of the thirty-six inch points.

Fig. 1 shows the method of attaching to a chimney, the main rod passing along the ridge, going around the chimney at one side and offering a point of attachment of the upright through a half-inch galvanized-iron tee on the horizontal cable. This tee was tapped in two of the ends at right angles with each other for three-eighths-inch set screws. A three-eighths-inch eye bolt, made from a common bolt by cutting off the head

and turning an eye on the end, was put through the side of the chimney, four rows of bricks from the top, and fastened on the inside with a nut and washer. A piece of the regular cable was used for the point, the upper end having four of the strands spread out and the remaining three being twisted together and standing vertically in the center of the four. After bending as shown in the cut, the lower end was passed downward through the eye bolt and into the tee, where it was securely fastened by the set screw,

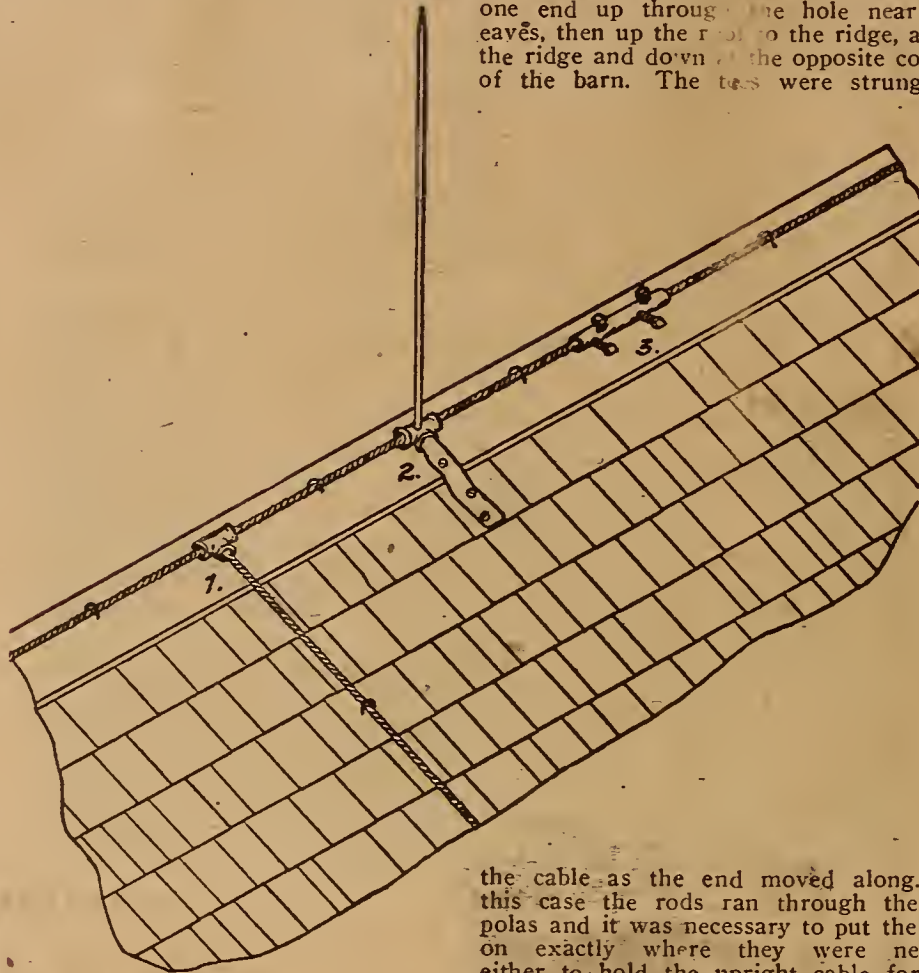


FIG. 2

the remaining set screw fastening the tee to the horizontal cable. A short piece of heavy galvanized wire steadies the upper end of the point.

Fig. 2 illustrates the method of making a splice, using a piece of gas pipe and four set screws as shown in the cut. The point is kept upright by screwing it into a tee, tapped at the proper angle, then flattening a piece of gas pipe to screw to the roof as shown, drilling it for the screws and threading it to go into the tee. A forge is necessary to do this work, but it can be done at any blacksmith shop if the farm has no forge. Of course if the point does not stand exactly upright, it may be bent by pulling the top in the direction it ought to go and at the same time striking near the tee. All the parts of the system of rods were painted with aluminum paint where not galvanized.

It is of the utmost importance that the rods be well grounded, that they go down where the earth is permanently moist. Great pains were therefore taken to extend the cable down to the permanent water table. To do this a crowbar was used to start the holes, which were deepened by an auger two inches in diameter, welded on the end of a half-inch square iron rod, up and down which the handle slipped, held in place by a thumb

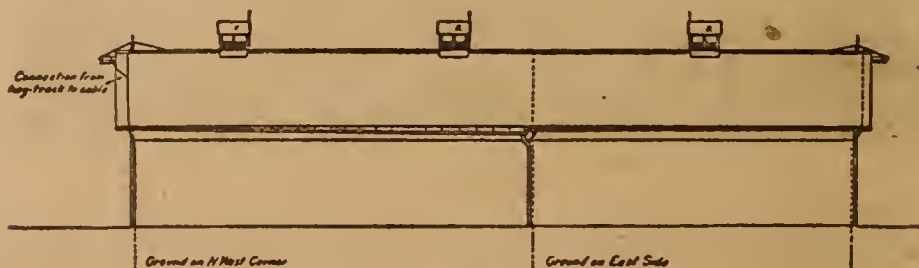


FIG. 3

screw at the right height for boring. The hole was filled about the cable with fine sand, a pail of water causing it to pack.

These grounds were made at diagonally opposite corners and also in the centers of long barns. Fig. 2 also shows how this upright grounding cable was fastened to the horizontal cable extending along the ridge pole. Here again tees were used, properly drilled and tapped for the needed set screws to hold the upright tight and to form the electric connection.

## Review of the Farm Press

These upright cables were made to go as nearly vertical as possible by boring a suitable hole through the roof and not carrying them out over the eaves.

Fig. 3 shows the siding of a barn one hundred and twenty-two feet long. Note the location of the points and of the grounds. Counting in the center ground, the total length of cable used was three hundred and thirty-eight feet. The points, owing to the cupolas, are eight and one half feet long, the two nearest the ends, four feet. In putting up the cable, the work began by carrying one end up through the hole near the eaves, then up the ridge, along the ridge and down to the opposite corner of the barn. The tees were strung on

the cable as the end moved along. In this case the rods ran through the cupolas and it was necessary to put the tees on exactly where they were needed either to hold the upright cable for the center ground or for the upright points. The cost of material for rodding this large barn was as follows:

338 feet of 1/2-inch cable at 3 cents.....	\$10.14
5 lb. 3-inch staples at 7 cents.....	.35
3 twelve-foot lengths 1/2-inch round iron..	.72
6 1/2-inch galvanized iron tees at 5 1/2 cents..	.33
12 3/4 by 3/4 set screws.....	.12
1 half pint aluminum paint.....	.35
Total.....	\$12.01

—C. D. Smith, Director Michigan Agricultural College, in the Country Gentleman.

## HOW TO CARE FOR THE HARNESS

One of the places in farm management where there is frequently a leak is in the lack of care the harness receives.

At the present high prices of leather it is impossible to get a good harness without considerable outlay, and not one farmer in a hundred stops to think just how much money he has invested in the harness required for one or two teams, a single work horse, and perhaps a driving horse or two.

Harness, as a rule, lasts too few years for the average farmer, a fact that is due almost entirely to lack of care. Snow, water, ice and frozen mud have a very injurious effect on harness, and, in a lesser degree, so does dust. Before saying anything about cleaning harness it

it will last much longer if, after being removed from the horse, the dust and dirt are removed with a good stiff brush. If it has become muddy or badly soiled with sweat it should first be brushed and then sponged off until the surface is free from dirt, after which it may be rubbed with a cloth which has been moistened by a little neat's-foot oil.

For the good of the harness it should have a general cleaning and oiling about once in three months. To do this all the straps should be unbuckled and laid out straight in a wide board or table. All the parts should be well brushed, to remove all the dirt that will come off without washing, and care should be taken to see that no dust is left around the stitching.

If the stitching is broken or any repairs are found to be necessary, they should be attended to before going further in the work of cleaning. When the harness has been thoroughly cleaned with the brush, wash all the plain leather straps in tepid water well charged with some good harness soap; then rinse in cold water, wipe off with chamois, and hang all the parts up separately to surface dry. In washing do not allow the straps to remain in water longer than is absolutely necessary, as it will injure the stitching and will open the edges when the leather has been doubled. It will not be necessary to put all the leather in the water at once; wash one piece and dry it as directed, and then take another. Patent and enameled leather should not be put into the water, but should be simply rubbed well with a cloth moistened in tepid water.

If one wishes to do a particularly good job of oiling, one that will last for three months under the most trying conditions, lay out each strap on a board as soon as the surface has become dry, and apply a liberal coating of neat's-foot oil; then apply a coat of beef tallow warmed enough to go on with a soft brush; then lay all the straps out on a board, and allow them to dry thoroughly—twenty-four hours is none too long. If there are any red spots visible, or if it is desired to black the harness, now is the time to do it. For red spots touch with some vinegar black. To black it throughout use any standard make of harness black.

When thoroughly dry remove with a rag whatever surface grease may be apparent, and if a nice polish is desired, rub well with an old piece of silk, such as most households can furnish. Before buckling the straps apply with a spring-bottom oil can a little castor oil around the buckles, rings, etc., and on the bolts and base of mountings. A very little oil applied at these points will prevent rust and keep the leather from becoming hard.

The patent and enameled parts on the driving harness should never be greased with anything but linseed oil, and no more of that than can be applied on a slightly greased cloth. If the polish on these parts has become dim, it may be brightened by rubbing with beeswax and then with a piece of old silk.

One good cleaning and oiling as here suggested is of more value as a harness preservative than a half dozen of the jobs which so often pass as "cleaning and oiling," and if made the general practice, one in every three months will stop one of the most common leaks in the farmer's pocketbook.—The American Cultivator.

## THE ACRE VALUE OF CROPS

After all, the acre value of crops is a very important factor in profit of farming. It has always been an essential thing to obtain as large a yield as possible, and it does not require a very old man to remember when it was a popular belief that low prices were a result of large yields; and acting on this belief, many farmers as if they desired and expected only half crops. This class was convinced that overproduction was one of the evils of that day, and this belief was not without its converts. We have known certain crops to be so cheap in price that the farmer would refuse to put out that particular crop the next year. It has not been many years since potato growers in some localities could not get an offer on their product. Those who failed to plant cheap seed then failed to harvest a high-priced crop.

For a number of years we have been enjoying reasonable returns in yield and very satisfactory prices, something that rarely goes together. These conditions are usually inimical to each other. We are now enjoying prosperity, and the supply does not seem to operate in such a way as to lower prices. Even with a short crop of oats of an inferior quality the income an acre is very satisfactory.

Because good prices prevail to help bring up the acre value is no good reason why farmers should relax their efforts in producing good yields. Every man should use every effort to produce the highest yields.—Iowa State Register and Farmer.







## Gardening

BY T. GREINER

### LIME FOR MANGELS

SEVERAL agricultural papers publish a picture from the Rhode Island Experiment Station, showing two heaps of mangel wurzels—a large one, representing the crop from limed soil, and a comparatively small one, representing that from unlimed soil. The legend underneath the picture reads: "No common farm crop responds more generously than beets when lime is needed and applied."

That lime has often a very marked effect on crops both of garden and field, cannot well be denied. We have crops that will do very well on soils that show a little acid reaction, as proven by the litmus-paper test. We may use such soils for potatoes, and feel reasonably certain that the crop will be clean and free from scab. But the great majority of farm and garden crops will not do their best when planted on soils that will change the color of blue litmus paper to pinkish. The application of lime in powder form, say a ton to the acre, will correct the acidity, and in that case largely increase the yield. However, I have often applied lime without seeing any noticeable effect. At various times I have also applied nitrate of soda and seen the most striking results, especially on beets, spinach, etc., while at other times the effect was hardly noticeable. It depends very much on the condition of that particular soil.

Usually we apply our manures or fertilizers to our gardens, and plant the seed without much ado. I have never yet failed to raise a big crop of beets, lime or no lime. Rich land and good cultivation do it. But test your land for acidity. If litmus paper turns pink, apply lime. If lime shows good results on a part of the field, apply it anyway and all over.

### FEEDING AND OVERFEEDING

During the summer we live largely on vegetables and fruits in endless variety. The "butcher" asks big prices for meats. We solve the problem how to make both ends meet by buying very little of the butcher's products. The poultry yard furnishes eggs in abundance, and occasionally a chicken. Usually we have some salted fat pork in the barrel. A slice of it fried goes well with our green peas, the latter, of course, furnishing the bulk of the meal. And where you have those big, sweet varieties—the Telephone, Laxton, Stratagem and others—you have a dish fit for a king. Or you may have a little piece of boiled pork from your own home supply with your cabbage, kohlrabi, kale or other vegetables. In fact, we find a great variety of things that furnish us good meals without having to go to the butcher shop, and of which we can eat heartily without fear of clogging stomach or bowels.

If we eat of these things until our natural appetite is fully satisfied, but abstain from habitually filling up until we cannot hold any more, we have no occasion to use pills, salts, Sedlitz powders, castor oil and other purgatives. We have no headaches or other aches and pains. The normal stomach is a sturdy organ and can easily take care of fairly good loads of these wholesome summer foods, especially for a person having plenty of outdoor exercise and living mostly in fresh air.

Then comes the winter. We kill hogs. We have meat in superabundance. Cold air sharpens our appetite. We have a lot of fresh meat, and some of it may be in danger of spoiling before we can eat it. The women folks wish to save it. They serve meat to the family three times a day—more than can be eaten. Every one in the family has his or her fill. As sturdy an organ as the stomach may be, it is unable to carry the loads often put upon or into it for weeks and months. It balks. The food in it putrefies. The bowels also fail to perform their functions. The whole system becomes clogged and filled with poisons. Perhaps we resort to the use of pills or other cathartics to empty the bowels. This removes some of the poisonous matter. But it does not reach the stomach, and this receives more food and passes more poisons on to the bowels. Thus we systematically poison ourselves, and then wonder why we are sick and our children are sick, and perhaps die. To me it is a wonder that the human organism is able to endure so much abuse of this kind.

I have a horse that is always hungry. He clears out the manger, no matter how full of hay it is stuffed. He stuffs himself and asks for more. When we give him his proper allowance of hay and grain, and no more, he feels well, gets sleek and plump, and remains in good health. When we give him all the hay

he wants to eat, he begins to cough, as if afflicted with heaves, and to have other ailments, and soon begins to get poor. He cannot digest all the stuff he puts in his stomach, and has to suffer for his greed, just as we do when we habitually overeat, especially after hog-killing time. This time is near at hand.

As a burnt child dreads the fire, so I fear the meat plethora before us. And so I shall not keep the amount of pork for family use that I did formerly. I will keep no more than we can easily take care of. Better let the meat spoil, or give it away, than save it by ruining your health, or possibly killing yourself. We will not "live on pork" this winter. A little well-grown young pork is good and palatable and wholesome. Much of it is evil. An excess of it is poison. We must learn to feed ourselves as we feed our stock, and all will be well.

### THE ENGLISH SPARROW

Under the caption of "Bird Friends" in the September 10th issue is a statement that I have grave doubts about—namely, "I have often seen yellowbirds and English sparrows gathering cabbage worms."

It occurs to me that not naming the "yellowbirds" indicates that the writer is not well up in bird nomenclature and that he has mistaken the hedge sparrow for the English sparrow. Some of our nine kinds of sparrows might easily be taken for one another even by people who are well read upon other kinds of birds. The house sparrow is fond of cabbage worms, and the little chipper sparrow takes its fledglings into the patch and it is a common thing to see the parent birds feeding a birdling sitting on a head of cabbage, but never have I seen an English sparrow either eat or carry off one of these pests.

I live only a short distance from the city of Washington, and when wheat and oats began to ripen, hundreds of English sparrows flew out to eat the grain when it was in the milk state. I once had an acre of it so thrashed out that I did not cut it. They also gathered what was left after raking. After all of it was picked up, and these city sparrows must have been hard up for food, I still found the cabbage worms so thick that ashes and salt had to be applied twice a week.

Several years ago I had a cabbage patch near a place much infested by hedge and song sparrows, and no harm was done by cabbage worms. Another patch paralleled an old fence covered by honeysuckle, where there were scores of English sparrows. Here the worms riddled the cabbage, making the leaves look like strings. They not only did not eat the green worms, but kept the birds away that would have eaten them. If every young English sparrow hatched in that hedge had eaten one worm I reckon no damage would have been done. Although working near and among my cabbage and quick to observe such things, I never saw one with a worm.

Perhaps the writer is a friend of the English sparrows. I should like to think his account true and that this noisy, bad-tempered bird had some redeeming trait. Among its many sins is the war it made upon the swallow family, those scavengers of the air, that were wont to free the air of flies, gnats, mosquitoes, etc. When I was a boy every farm yard had its martin box. Now you might travel miles without seeing one. When the martin (purple swallow) returned from the South in the spring it found its house or mating places occupied by these vermin-infested birds. It was noticed that although a few martins were able to build in the same box or house inhabited by the sparrows, no brood was ever reared. The solution of this was that the young of the martin were destroyed by parasites from the sparrows.

These martins might be brought back if people put up boxes and kept the holes closed until the martins returned. Eight years ago I heard a pair trying to find a nesting place under the roof of the Hall of History. Hastily rigging up a box, I got them to nest there. They have increased, and the last house box I built has thirty-six compartments.

Now, my friend who says he has seen an English sparrow doing a friendly act should be certain before he puts a weapon in the hands of such as these women with morbid sensibilities who in Boston would not allow the city fathers to destroy the sparrows. These people take no note of the thousands of young wrens, bluebirds and swallows that these sparrows yearly turn out of their nests, as I have often seen them do. They are quick to defend these brutes, and also quick to resent the high prices of vege-

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tables and farm products. Their pets come high. According to English statistics, the English sparrow puts a tax of one dollar and a half on every arable acre of land in the British kingdom. At this rate the sparrow costs us more than our army or navy. The states would not act and we have passed a national Pure Food Bill. Now let us have a national Bird Law.

ARTHUR T. GOLDSBOROUGH.

### PRODUCTION OF SEEDLESS TOMATOES

The production of any vegetable novelty always arouses interest among seed growers and gardeners. More or less of this work has been done by the experiment stations. For a number of years breeding experiments with vegetables have been carried on by Professor Halsted and his associates at the New Jersey stations. Among the distinct and valuable productions secured in this work is a nearly seedless tomato. As is well known, each fruit of the ordinary tomato contains hundreds of seeds, while the form which Professor Halsted has developed seldom contains more than fifty seeds, and frequently there are not more than five or six, and often none.

This variety has become pretty well established now, and has been called the Giant because of the very large size that the plant attains. It originated five or six years ago as a result of a cross of Golden Sunrise upon Dwarf Champion.

The type appears to be well fixed. Attempts to cross other sorts upon it have uniformly failed.

Seedless fruits have also been produced by Professor Halsted on several varieties and crosses of tomatoes, due probably primarily to nonpollination, with other conditions favorable to the stimulation of fruit production. These crosses were quite uniformly dwarfed in size, many in a cluster being not larger than peas, but solid fleshed and often of good quality. In one instance the fruit had the flavor of the strawberry. Currant crossed upon Stone produced such fruit, likewise Crimson Cushion upon Sumatra. When Crimson Cushion was crossed upon Giant and Magnus many seedless fruits were produced, some of which were large enough for table use. Cuttings taken from plants which produced numerous seedless fruits of this sort when planted out in the garden gave only normal fruits.

E. P. Sandsten, working at the Wisconsin station, produced seedless tomatoes by an entirely different method—that is, the use of excessive amounts of fertilizers. He worked in the greenhouse with a good potting soil, using commercial fertilizers at the rate of eight hundred pounds of nitrate of soda, six hundred pounds of sulphate of potash, and one thousand pounds of desiccated bone an acre. Many abnormalities in the growth of the plants and fruit were observed. "In almost all cases there was a tendency of the plants to produce fruits containing a much smaller number of seeds than are generally found in the ordinary fruit." In one instance the plant was dwarfed and the fruit not larger than a walnut, but firm fleshed and entirely seedless. Another plant produced a large, solid fruit that was seedless. Cuttings taken from these plants and set outdoors remained true to type, but produced more and larger fruit than in the greenhouse. We thus have at least two ways of securing seedlessness in tomatoes—by crossing and selection, and by high feeding with fertilizers. The work with seedless tomatoes at both these stations is being continued and promises to result in the establishment of varieties with far less seeds than the sorts commonly grown. It brings out strikingly the variations that may occur in plants as a result of crossing and high feeding with fertilizers.—Farmers' Bulletin No. 296.

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# Horticulture in Ohio

By W. R. Lazenby

PROFESSOR OF HORTICULTURE, OHIO STATE UNIVERSITY

**F**ORTUNATE in geographical position, blessed with a naturally fertile soil and a good topography, with a varied and productive climate, it is not surprising that Ohio ranks high in natural resources and in the diversity and extent of her industries.

In the semblance of a square, about two hundred miles on a side, between parallels thirty-eight degrees and forty-two degrees north latitude, having the Great Lakes on the north and the Ohio River on the south, the highway of nearly all the great railroad systems in the country, her facilities for transportation are excellent and the great commercial centers and markets of the nation are near at hand.

Judged by her mineral and timber resources, Ohio ranks among the richest of the Union, and her manufactures and commerce are varied and extensive. Yet the foundation of Ohio's prosperity are her agriculture and horticulture.

Other industries are useful and necessary, and many pursue them with advantage to themselves and others. But many of those industries are less permanent in character, and some of them may yet be entirely dispensed with, while agriculture and horticulture never can be. They are the first and most essential of human pursuits, and it is to every one's interest that they should be honored and prosperous. Happy is that state or community where they are pursued with satisfaction and profit.

Ohio is noted for her diversified rather than specialized horticultural industries. Some states raise more apples and pears, others more peaches and plums, and still others more market-garden vegetables, but few states rank higher in the production of all the standard horticultural crops grown in the north temperate zone. One striking feature of the horticulture of certain states, notably California, is its segregation or specialization. This, together with the fact that the horticultural interests of these states are not overshadowed by the agricultural, makes them characteristically horticultural states. For fruit production alone California now holds an undisputed claim to first rank, but when we include all the divisions of horticulture, certain states of the East and great Middle West outdistance California. In small-fruit culture, market gardening or trucking, vegetable growing under glass, floriculture, the nursery business and seed growing Ohio takes a high rank. While there are few single areas of great extent devoted to any one of these lines of horticulture, the aggregate of small holdings and the total yield therefrom make an excellent showing.

Magnitude has for many a peculiar fascination. The owner of five acres of orchard often has ravishing dreams of the joy and satisfaction inherent in a great Western fruit farm, with its hundreds of acres of fruit trees. As the young captain who can scarcely manage his company in battle would like to command a great army, so many a man with little or no experience in horticulture thinks he can manage a great orchard. I would not, if I could, disparage a great enterprise. There is such a thing as raising fruit on a large scale, and it is good business for those who are qualified for it and have all the means it requires. It is attractive and inspiring to see horticulture successfully practised on a large area. Of this the horticulture of Ohio is a good illustration, and it is not likely that large horticultural operations, whether by individuals or corporations, will ever absorb or enable us to dispense with the smaller ones.

Ohio ranks well to the front as an apple-producing state. The United States census of 1890 gave her first place, with a crop of over 13,750,000 bushels for the year 1889, and the census of 1900 gave her third place, with a crop of over 20,500,000 bushels for 1899. From the data at my command a conservative estimate of the apple production of Ohio for the ten years from 1895 to 1905 is one hundred and twenty million bushels, or an average of twelve million bushels a year. Only once during this decade (1899) did the yield fall below five million bushels, while for three times (1895, 1896, 1899) it reached the high mark of over twenty million bushels.

In spite of the large annual average production there are comparatively few large or well-known apple orchards in Ohio. The following table will give a fairly comprehensive idea of their number and size:

COMMERCIAL APPLE ORCHARDS IN OHIO	
Area	No.
10 acres	50
10 to 20 acres	34
20 to 40 acres	25
40 to 50 acres	17
50 to 75 acres	9
75 to 100 acres	4
100 to 150 acres	2
Over 150 acres	1

This shows that there are about one

hundred and forty-two apple orchards in Ohio of from about ten to one hundred and fifty acres, and that the average size is not far from thirty acres. A conservative estimate of the number of apple orchards containing five acres or upward is two hundred and twenty-five. These two hundred and twenty-five orchards will probably average twenty acres each, and this gives us only five thousand five hundred acres of apples.

As a maximum yield is at least twenty million bushels, it shows at a glance that much of this great aggregate comes from the still smaller plantings of the farmer, gardener and suburbanite.

One of the most characteristic single features of the rural life of Ohio—and the same is true of many other states of the East and Central West—is the fruit trees which so generally diversify every small as well as larger farm throughout the state, and are also met with on the town lots of the mechanics and workmen in every village and in the suburbs and outskirts of every city. The average Ohio homestead, with its apple orchard and its clusters of pear, cherry and plum trees, not to mention its grape vines, surrounding the house and dotting or belting the garden, gives an air of comfort and hospitality rarely seen elsewhere, and nowhere else seen fairly equaled. I believe that our country north of the Potomac and Ohio rivers is better supplied with wholesome, palatable tree fruits than any

There are few large orchards of pear, plum or cherry in Ohio, although now and then one of commercial importance is met with. One cherry orchard of seventy-five acres and others of less size have been planted in Sandusky County, and this is perhaps the most important cherry area in the state. The marked increase in the pear culture during the past fifteen years by the general introduction of the Keiffer is mainly in the southern counties, although a few of the northern counties have increased their area to a marked degree. The grape occupies a large place in Buckeye pomology. In the production of native grapes Ohio ranks next to New York; the industry, however, is mainly confined to the grape belt of the southern shore of Lake Erie.

The five counties of Cuyahoga, Erie, Lake, Ottawa and Lorain produce four fifths of all the grapes grown in the state, and this is due to the amelioration of the local climate by Lake Erie. The greater portion of the grapes grown are made into wine, which sometimes amounts to two million gallons a year. Sixty million pounds of grapes represent a full crop, while the maximum yield has been eighty million pounds.

The small-fruit interests of Ohio are large, but there are few reliable statistics. Strawberries undoubtedly lead both in area and yield, and then follows blackberries, black raspberries, red raspberries, currants and gooseberries in the order

coming a general practise in nearly all the cities of the state and has assumed unusual proportions near Cleveland, Toledo and Ashtabula, where single growers have from five to ten or more acres under glass. Lettuce is the leading greenhouse crop, but radishes, tomatoes, cucumbers, mushrooms and a few other crops are often grown.

Floriculture is practised in all parts of the state, and many large establishments for the growth of cut flowers and others for bedding plants and ornamental varieties generally are found. Some of the best-known centers of floriculture are Cleveland, Springfield, Dayton, Columbus and Painesville.

In this epitome of the fruit interest of Ohio I shall not fail to mention the varieties most largely planted for market. From the best data at hand I may say that the following varieties of apples take the lead by number of trees planted: Rome Beauty, Ben Davis, Baldwin and Grimes' Golden. Other varieties very generally planted, contributing a large part to the more recently planted commercial orchards, are the Smith Cider, Yellow Transparent, York Imperial, Hubbardston, Red Astrachan and Mauve. Many other varieties are being planted in special localities and for special purposes, like home use, but these seem to have the call for the whole state for commercial planting at this time. For fillers or for coming into early bearing the Wealthy, Duchess, Jonathan, Strawberry and Maiden's Blush are among those very generally used.

Of the other more important fruits the following are among the most largely planted varieties of each for commercial purposes:

- Pears—Keiffer, Bartlett and Duchess.
- Plums—Red June, Burbank and Abundance.
- Plums (European)—Lombard, Damsion and German Prune.
- Peaches—Elberta and Mount Rose.
- Grapes—Concord, Worden, Catawba, Delaware and Niagara.

In Ohio as well as elsewhere, whenever you urge the superior advantages of fruit as a vocation, you are met by the objection that fruit culture doesn't pay. If this is true it is a serious and valid objection. But is it true?

I think we will all admit that poor crops, whether from field or orchard, don't pay; that shiftless, indifferent work in horticulture doesn't pay; that it is sometimes slow work to make a decided headway in the face of blights and insects, frosts and droughts, though one has done his best to achieve, and really deserves, success. Yet I insist, as a general proposition, speaking for Ohio at least, that good fruit culture does pay; that few other vocations afford as good a prospect for as full an assurance of reward for intelligent, painstaking, persistent labor.

The general fundamental facts or principles on which I base this assertion are these:

It is rarely impracticable to grow good crops of fruit if you have made a wise selection of varieties and are willing to work for them. The time and means squandered in trying to raise fruit where only half crops or quarter crops or no crops can be made is the heaviest item on the wrong side of a fruit grower's balance sheet.

The second truth is this: Good fruit crops, good in quality as well as in quantity, rarely fail to yield a profit to the grower. There are exceptions, but they have been few in the past and will be more infrequent in the future. The growing demands for good fruit and our rapidly improving transportation facilities make this certain.

Third, the fairest single test of good fruit culture is a steadily increasing yield. This increase may not be uniform from year to year, for there are risks in fruit culture as well as in other pursuits, yet there is no other judgment of fruit culture so unerring as the general increase or decrease of its aggregate product for a short cycle of years.

I should not fail to mention various organizations that have been signally useful in promoting the horticultural interest of Ohio. The State University, the State Experiment Station, the State Board of Agriculture, the state and numerous local horticultural societies have all contributed in various ways to the advancement of the art and science of horticulture. The local horticultural societies, with their frequent meetings, have accomplished much in developing the faculty of observation and comparison and in cultivating the social amenities of rural life. One of these local societies was organized over sixty-two years ago, and while it may have lost something of the elasticity and enthusiasm of youth, it is still healthy and vigorous. Another, forty years of age, can justly boast of having never missed a monthly meeting during its existence. Such records are stimulating and inspiring, and the locality that is making them can scarcely fail to have a wide-awake and progressive horticulture.



A GRAND OLD ORCHARD OF FIFTY-YEAR-OLD BALDWIN'S. STILL THRIFTY AND PROFITABLE

other portion of the earth's surface of equal or nearly equal area. In value of orchard products Ohio, according to the United States census, held third rank in 1850, second in 1860, second in 1870, third in 1880 and fourth in 1900. Eighteen hundred and ninety is omitted, for the value of orchard products is not given in the census report of that year. New York held first rank in 1850, 1860, 1870 and 1880, and second rank in 1900. Pennsylvania, second rank in 1850, third rank in 1860, second in 1880, third in 1870 and third in 1900. Michigan, sixth rank in 1850 and 1860, fifth in 1870 and 1880 and sixth in 1900. California, twenty-seventh rank in 1850, tenth in 1860, eighth in 1870, seventh in 1880 and first in 1900—a position that California is likely to keep for several years, but which I look to see superseded by some of the great apple-producing states of the Middle West in the not distant future. The aggregate fruit crop of the five states, California, New York, Pennsylvania, Ohio and Michigan, was 52.3 per cent of the total fruit crop of the country for 1899.

Next to the apple the peach is the most valuable orchard fruit in Ohio, but the conditions of successful peach culture are not wholly favorable except along the shore of Lake Erie and the adjacent islands. In some of the southern and southeastern counties of the state large areas of peaches have been planted, but the crop is precarious and many growers are discouraged. Some years the crop aggregates about three million bushels, but it usually falls short of this. It can be laid down as a general proposition that the finer peaches, plums, cherries and grapes are grown with difficulty north of the fortieth degree of latitude, except in a few specially favored localities, whereof the southern shore of Lake Erie is the most noted, though the west coast of Lake Michigan and a part of the southern shore of Lake Ontario are likewise famous. It is possible to grow peaches, plums and cherries, not to mention grapes, outside of the climate most congenial to them, but it is a work wherein one is likely to pay dearly for his success, and often to have his hopes utterly disappointed.

Some years ago strawberry culture attained a large acreage in Belmont County in the eastern part of the state, and the berries were largely shipped to Pittsburg and Chicago. The black raspberries were also grown largely in various sections of the Miami Valley, but these areas have declined and the shipping trade in the small fruit has fallen off. The total acreage of small plantations for home market has increased and the aggregate production in the state is larger than ever before.

Following the subject of the fruits proper it will not be out of place to briefly mention the nursery interests of Ohio. The State Nursery and Orchards Inspector reported for the year 1905 a total of four hundred and eighty-one nurseries. In keeping with the general character of the horticulture of the state, this business is done by a large number of men working on small areas. For example, counting not all the land owned or rented by nurserymen, but the area of actual stock, it is found that of nurseries:

From 5 acres to 10 acres	there are	186
" 10 " " 15 "	" "	87
" 15 " " 25 "	" "	52
" 25 " " 50 "	" "	15
" 50 " " 75 "	" "	10
" 75 " " 100 "	" "	8
" 100 " " 200 "	" "	3
" 200 " " 500 "	" "	2
Over 500 "	" "	is 1

Market gardening and truck farming are largely practised to meet local demands, and certain special garden crops are more or less centralized and grown for export. Radishes, early tomatoes, and cucumbers are grown in the southern counties of the state for northern markets, and large plantations of celery and onions are grown in some of the north central counties. Numerous muck swamps and the beds of former shallow lakes have been reclaimed and adapted to these and a few other crops. In one county (Ross), where soil and climate seem favorable, the growing of onion sets has become a well-specialized industry.

The winter forcing of vegetables is be-



Live Stock and Dairy

SAVE THE FALL PIGS

A SUBSCRIBER living in Ohio writes: "I have two nice litters of pigs just farrowed, and I would like to make good pigs of them. Some farmers tell me that late fall pigs do little or no good, and it would be money in my pocket to get rid of them at once, even if I have to destroy them. I have some skim milk now, and will have more about the time to wean the pigs. I am going to try to raise them, any way, and I think it can be done."

The man is right. It can be done. And if he will give them a little extra care he can make nice hogs of them. I would feed the sows well, giving them all the skim milk I had, mixed with equal parts of cornmeal, wheat bran and middlings, making a thin slop. I would mix it fresh at feeding time, and when the weather is cold I would heat the milk sufficiently to make the slop nicely warm. There is no necessity for cooking the food. By feeding the sows well the pigs can be kept with them until they are a good size. Then if they are given plenty of the same kind of food that is fed to the sows they will keep right on growing.

They must be provided with a warm shed or pen, well bedded, and be allowed to run out all they wish for exercise. The bedding should be changed about once a week, or it will get very dusty. If one has anything in the vegetable line, as cabbages, small potatoes, beets, or anything of that sort, they will relish them. It will be a good idea to examine them occasionally for lice. Above all things, do not allow them to become infested with lice. In addition to the slop, they should have all the dry corn they will eat, and all the water they desire. I have seen many small lots, ten to twenty, of fall pigs, kept as outlined above, make very fine hogs for the summer markets, and bring a profit. FRED GRUNDY.

RYE AS FEED AND NURSE CROP

It has been a matter of wonder to me that I never have seen in any of the farm papers anything on the question of feeding ground rye to young pigs. In our locality it is used to a great extent, and it is generally figured as about the cheapest feed for a slop, as well as the best that can be had. It makes a rich slop and comes more nearly to milk than anything I know of. When considered under present prices—and rye is high now, worth about seventy cents in the home market—it figures at about one dollar and twenty-five cents a hundred; adding the cost of grinding, twelve and one half cents a hundred, makes the cost about one dollar and thirty-eight cents, as compared with one dollar and thirty-five cents for mill feed, or so-called middlings, of which a part has been taken out.

I think if more farmers would try this they will find that a little patch of rye each year will pay them well. It will make their corn go farther, and besides, rye is one of the best nurse crops for timothy seeded in the fall, or clover sowed late in the winter before the frost goes out. W. B. ELLSWORTH.

GROWING AND FATTENING SWINE

One of the most valuable side lines for the dairy farmer to follow is that of producing fancy pig pork. It affords the most money in a short time, considering the amount of extra capital invested of any branch of stock feeding where the by-products from the dairy may all be utilized.

Under the old-fashioned system of keeping the pigs in a small, filthy pen, and feeding them on skim milk or whey alone, it is not a very profitable business to follow; but when we plan to keep up a good growth during the summer on clover pasture, supplemented with the skim milk and wheat middlings, and finish in the fall with a month or six weeks feeding of cornmeal, and skim milk, and market the pigs at five or six months of age, it is a very profitable and desirable appendage to our dairy.

Pork production, like any other pursuit, is attended with its difficulties, and its results are in accordance with the labor and means expended upon it. With proper management it can be made more economical to produce a pound of pork than a pound of any other kind of meat, with the possible exception of mutton. That is, a given amount of grain feed supplemented with the by-products of the dairy will produce more pounds of pork than of any other kind of meat, because the pig will eat more, digest more and assimilate more food over and above the amount required for maintenance than any other kind of domestic animal.

The amount of food required to sustain life is considerable, but the additional amount required to produce a pound of pork is comparatively small, and consequently in this extra feed is the place where we must look for our profits. When we consider that two thirds of all the food consumed by the pig is used merely for support, without adding anything to the weight of the pig, we can see that it is worse than folly to keep our pigs without constant and rapid growth from the time they are dropped until ready for market.

Every week that a pig is not gaining the feed is worse than wasted, because it takes time to overcome the unthrifty habit, and all food is lost until growth resumes again.

It is thus evident that if we produce this pig pork at a profit we must feed for unremitting growth from birth to the time they are ready for market.

The secret of success in growing the early maturing kind of swine depends not so much upon the breed, although the breed has a good deal to do with it, as upon liberal feeding and good care. While I do not favor any particular breed, yet I like a cross between one of our large breeds and one of the small breeds, like the Essex, for feeding for pig pork adapted to our best Eastern markets. I would not be in favor of using pigs that came from these cross-bred animals, but would want them from the first cross of pure-bred sires and dams.

By the first cross I believe that we get more vigor and quicker growth than with the pure breeds or grades, for we get the great digestive powers of the large breed in the body of the small, refined, quick-fattening hog. Increase the amount of food and lessen the demand upon it to sustain life, and the greater and more rapid will be the formation of flesh and fat.

Some farmers still cling to the old idea that it is best to winter a shoat, then feed it until the next winter, and feed it until it weighs four or five hundred pounds. With us this has proven a mistaken idea, and we find that it does not pay to winter many fall pigs except those that it is desired to keep for brood sows for breeding the next year.

By having a very warm house and feeding warm water and food during the cold winter weather in some cases it may be best to keep over a few fall shoats and finish for the summer markets. Under the old system of wintering fall pigs a well-bred spring pig will do better if he is properly fed, and will cost less and weigh more by fall. In proportion to the food consumed, the young pigs will grow the more rapidly, and besides, if they are grades of the small breeds, they will be ready for market when very young, and will bring a fancy price. Starvation and neglect of the fall pig will counteract every advantage that may be given the following summer. W. MILTON KELLY.



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Man however, goes yet further and asks the cow to not only consume more food than she needs, but to continue the stuffing process for months when nature would limit the milk-producing period to the brief infancy of the calf. A little thought shows how impossible it is for such conditions to long continue without bringing derangement of bodily functions. Indigestion, loss of appetite and consequent loss of flesh and milk, are common troubles resulting from heavy feeding.

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**Breeding Beef Cattle for the Market**

[CONTINUED FROM PAGE 1]

and weak as to give birth to delicate calves, which they can scarcely nourish, on account of their insufficient flow of milk.

**COWS SHOULD BE DEHORND**

Cows used for this purpose should be dehorned or natural polls, as they can thus be run in large droves and cared for much more economically than can horned cows. If dehorned, a considerable number of them will run together quietly, and if calves are dropped in the spring, except in the most northern climates, the cows will require no other shelter than a shed open to the south. Such cows should go into winter quarters in good, thrifty condition after weaning their calves. By good, thrifty breeding condition we mean the condition in which the animal is fleshy but not fat, about as fleshy as you expect them to go to grass the following spring. With this condition to start with the feeder has simply to maintain that weight, or, better, keep them gaining slightly through the season. This gain should always be slightly more than sufficient to account for the growth and weight of the fetus.

We should brand as gross mismanagement the practise of permitting cows to run down into noticeably thin flesh, making it necessary to feed lavishly during part of the season to regain flesh lost during a corresponding season of neglect. The most satisfactory results in breeding and rearing calves, and, we believe, the most economical system of maintaining such herds, involves the keeping of the cows composing the herd in good, thrifty condition throughout all the year.

The proper feeding of such a herd during the winter season is frequently looked upon as expensive. This does not necessarily follow. Such a herd should be maintained largely upon cheap roughage, some at least of which is unobtainable. These roughages will vary in different localities, and the varieties used should be governed largely by their availability.

**SILAGE IS BEST FOOD**

Where corn silage is available it is undoubtedly one of the very best feeds to use as the principal part of the winter ration of beef-breeding cows. It is neither necessary nor advisable to feed to such cows all they will eat, but rather limit the amount to a medium ration of silage and supplement it with clover hay and

**Live Stock and Dairy**

**FROSTED WHEAT FOR HORSE FEED**

The following is from a Canadian subscriber:

"An unusually wet season has delayed the ripening of crops in this district, Saskatchewan, so that while we have an excellent oat crop, the wheat crop is generally damaged by frost, and a good deal of the late wheat will be fit only for feed. Can you give some suggestion as to what will be the best use to make of this frosted grain?"

"Oats are worth forty-five cents a bushel, barley fifty-six cents locally, and we would like to sell as much as possible of the oats, providing a cheaper substitute for horse feed can be found to use in connection with frosted wheat (thrashed or unthrashed). Some of the settlers have planted winter rye, which will ripen early in the season and help out, but it is now too late for that. Of course there is plenty of green feed here in the spring, both grass and pea vine, on which horses do well, but I understand that wheat is not much good for horse feed, although some have made money feeding it to hogs and cattle.

"Would horses do well if fed, for instance, on cotton-seed meal or cake in connection with wheat, or is there anything else (other than oats) that can be used to advantage for horse feed together with poor wheat?"

The digestible dry matter in any grain materially increases as the grain nears maturity, hence the actual feeding value of this frosted wheat would depend largely upon the stage of development of the grain when it became frosted. Not having definite information on this point, I can only assume that the grain was well formed and had elaborated sufficient nutritive elements to make it of medium feeding value.

It is a mistake to suppose that wheat is not a good horse feed. It is quite as good as it is for poultry, cows or hogs. A pound of digestible carbohydrates or protein from wheat is as valuable as a pound from corn, barley or oats, and in any of our grains the great questions that confront the economical feeder are cost and palatability; and I may add that cost

tured, and the bulky or forage part of the rations is of good hay, it will be found that the chaffed wheat may be almost the entire grain ration.

If the wheat is thrashed the grain should be ground and fed with linseed-oil meal or some other meal on cut hay or straw.

Cotton-seed meal is not a desirable feed for either horses or hogs. It is all right for ruminants.

If this correspondent can procure a cheap grade of molasses, and dilute with water so each horse gets about a pint of molasses per feed, I think he may keep his horses "in good heart" on chaffed wheat and good hay and do it at a minimum of cost. I am using sugar-house or the old-time "black strap" molasses, at a cost by the barrel of a little less than twelve cents a gallon—about twenty dollars a ton—and find it a cheap, valuable addition to the rations for my horses and hogs.

W. F. McSPARRAN.

**SELECTING AND CARING FOR THE BROOD SOW**

Great care should be exercised in the selecting of the brood sow. Study your herd carefully before making a decision. Choose the good natured animal, her with the motherly look. Her head should be feminine in appearance. There is much to be seen in the eye. The body should be large and roomy; especially should she be roomy in the coupling. The heart and flank girth should be large and even in size, thus forming a straight underline. The back should be straight. Even a slight sway in a young sow's back shows a weakness there and is a great fault. The fore and hind quarters should be well proportioned. It is desirable that the legs be short and strong. The pasterns should be straight and should be able to carry the weight without bending down.

After they have their first litter of pigs you can come to a final decision as to which are worthy of keeping and which are not. If you have made your choice very carefully in the first place you will find very few to reject. Five, six or even



ABERDEEN ANGUS AND GALLOWAY CALVES, GOOD KINDS TO BREED

other roughage, such as straw or corn stover. A ration composed of eighteen pounds of silage and four pounds of clover hay per one-thousand-pound cow a day, together with all the straw the cows will eat, will not only keep cows from losing in weight during the winter season, but will cause them to gain at the rate of from one to one and a quarter pounds a head a day. If silage is not available, a daily ration of ten pounds of shock corn, four pounds of clover hay and all the straw the cows will take will winter them satisfactorily, but not as well as the silage ration to which we referred.

Beef-breeding cows may be wintered on corn stover, supplemented with a limited amount (two pounds a day per one thousand pounds of live weight) of clover hay. This ration contains no grain, and while the cows may be maintained on it at less cost than the previous ration, it will not prove economical for a series of years, because the thrift of the animals is not well maintained nor their milk flow sustained. A small amount of grain in the ration is a matter of very great importance. Wintering in stalk field, with access to oat straw and open-shed shelter, is a suitable method of wintering, provided there is a sufficient supply of grain in the field or added to the ration.

in relation to value depends greatly upon palatability.

I have fed considerable matured wheat to horses, but have ground the grain with corn, in proportion of one part of wheat to two of corn, and supplemented with wheat bran or linseed-oil meal.

My specific advice in this case would be: If the wheat were not thrashed, to use a fodder cutter and cut enough off the heads of the sheaves of wheat to ensure getting all the grain, say one third of the sheaf, withdrawing the remainder of the sheaf from the cutter and using it for straw. Then this chaffed or cut wheat could be used as a basis for a ration of mixed feed to be used either dry or moist. Oats at forty-five cents a bushel cost about as much as I am now paying for linseed-oil meal, and the latter is very much more valuable as a feed.

The quantity of the chaffed wheat that might be fed to a horse can be determined only by careful feeding observation, but my judgment is that it can be used pretty heavily after the horse becomes accustomed to it; to the quantity of chaffed wheat I would add linseed-oil meal and ground barley in such quantities only as careful notations of results on the horse would indicate as desirable. It is quite likely, if the wheat was pretty well ma-

four pigs make a good litter for a young sow. But where they have had the proper care and raised less than that number I would not keep the sow for a second litter. The second litter of those kept, however, can be expected to be larger than the first. Where a sow behaves well and always brings large litters of pigs, I would keep her as long as she lives.

The brood sows should be allowed the privilege of plenty of exercise. They should be liberally supplied with food rich in protein. For at least twenty-five hours after they have pigs give the sows very little food—a thin slop with a very little, if any, grain. After the twenty-four hours, gradually increase the supply of food until a full feed has been reached. A liberal supply of food just after farrowing will cause an increased flow of milk. Thus the pigs will get too much, and are liable to get sick and die. Many a fine litter has been killed in this way.

For the first four or five days do not give the sow too large a run, for the pigs cannot follow her, and it weakens them to get too much exercise while still so young; but after that time they should be able to keep up, and then they should be turned to pasture.

GREGOR H. GLITZKE.

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## PUMPKIN SEEDS FOR SHEEP

I RECENTLY learned a fact that I do not believe the majority of stock raisers know. It is that pumpkin seeds are one of the best remedies that can be given stock for worms. I do not know the special properties of the seeds, but I do know that they are doing the work in a bunch of lambs for me.

I have read a number of articles on the stomach worm in sheep this year, and the only thing so far that I had found that claimed to fill the bill was the gasoline treatment, drenching the lambs twice before turning out to pasture. There are a number of so-called worm killers on the market, but I know nothing of their efficiency. They may be all right, but they are high in price compared with the pumpkin seeds, which can be bought, if you do not have them from your own raising, at about twenty cents a pound from some of the Chicago houses.

I had known for some time that the seeds were good for worms in hogs, but must not be fed too largely, as they act directly on the kidneys. I presume this is also true with sheep or any other animal. The dry seeds seem to act more readily than the green ones, and these can be bought whole or ground. The ground ones may be fed more easily, as they may be mixed with ground oats, corn or any other finely ground feed.

The dose for a lamb or a sheep is about half an ounce daily as long as necessary. Of course, you will have to use your own judgment in this, and not keep it up too long, for the reasons mentioned.

The pumpkin itself, if cut very fine, makes a good feed for the sheep, and they seem to relish it greatly. If fed in this way they will soon learn to eat the seeds, providing they are fed in troughs.

W. B. ELLSWORTH.

## A SUBSTITUTE FOR GRAIN

The sweet-potato crop of the South is one of the most profitable of all crops. This year a splendid crop is being made throughout the state of Georgia, and prices are keeping at a high point through the midst of the harvest period. This is due to the exceptionally high price of grain. While there has been much written on substitutes for grain, there is probably no crop that so completely answers the demand as sweet potatoes. All stock eat them, including chickens, hogs, cattle and horses. As an article of human food they are hard to excel, and there is hardly a family table in the South that does not serve potatoes two or three times a day for four or five months in the year. For this reason they are substitutes for grain in stock feeding and for bread in supplying human food. As a consequence they are selling at good prices, ranging from seventy-five cents to one dollar a bushel, though of course in isolated instances they are selling for less. The yield is enormous, and two to three hundred bushels an acre is a common occurrence, while almost a thousand bushels have been grown. It is easy to figure profits on such productions at such prices, especially when it is considered that the crop can be grown as cheaply as corn and more cheaply than cotton.

In feeding to cattle it will be found advantageous to cook them, as all possibility of choking is then eliminated. Besides this, they are more easily digested and a greater feeding value is derived from them. The latter truth can be applied with equal significance to feeding them to hogs.

The question of keeping them through the winter is one of importance, but by development a variety has been produced which keeps without great care. Digging when the soil is in condition, and putting in a dry cellar, or the old system of hilling, can be followed with success. The crop is one that can be enlarged profitably without fear of loss, and on every farm the surplus can be used to splendid advantage. The area in which they are grown and the improved varieties should be extended during the next few years.

J. C. McAULIFFE.

## BUTCHERING ON THE FARM

To do neat and rapid work at hog-killing time it is necessary to have a good scraper, sticking knife, hog hook and a place that is convenient for working. For scalding a barrel is commonly used, and it is all that is needed unless the hogs are very large. If very large hogs are killed, a scalding tub will answer the purpose for scalding much better than a barrel. I have one which is made of two-inch planks for the sides and ends and sheet iron for the bottom. It is six feet long and three and one half feet wide, with a depth of two and one half feet. Two hooks are fastened near the top, on one side, with a pair of trace chains to run under the hog, to facilitate the turning and withdrawing from the tub. It is placed over a furnace, which

is made by digging a trench in the ground, and when in use I place pieces of wood across the bottom, in order to keep the hog from coming in contact with the iron bottom and getting too hot.

I find that the proper temperature for good scalding is from one hundred and eighty to one hundred and ninety degrees, and if a barrel is to be used the water should be boiling when dipped out of the kettle, as the barrel will cool it some. If a scalding tub is used, the water should be cooled by adding a bucket of cold water before the hog is put in. To ensure a correct heat of the water I use a thermometer. Small quantities of lye, ashes or lime will have no effect in removing the hair, but will cause the scurf to come loose more readily.

A hog hook is almost indispensable, and if one is to be made it should be made in the form of a hay or bale hook. In fact, I find that a hay hook answers the purpose very well. In handling the hog I stick the hook in the flesh of the lower jaw, just behind the fork of the jaw bone. However, the hook may be stuck under the tendons of the hind leg. I keep the hog in constant motion while being scalded, and draw it out to air occasionally. When the hair and scurf slip easily from the body the scalding is completed.

In scraping and cleaning the hog I clean the feet and head first, then the legs, and last, but not least, the body. I hang the hog with a rope and pulley, as it is more easily hung in this way than any other. However, it may be hung with the ordinary gambrel, a stick which is sharpened at each end and inserted under the tendon strings of the hind legs. A short singletree will be found to answer for a gambrel stick. If there is sufficient help at hand, the hog may be hung on a pole put up for the purpose.

After the hog is hung up I rinse it down with scalding water, remove the entrails by running a sharp knife lightly down, marking the belly straight, cutting to the bone between the thighs and in front of the ribs, which bones I split with an ax, being careful not to cut beyond them. I open the abdomen, and with a little use of the knife seldom cut the entrails in removing them. However, I have a few short strings at hand to use in case any of the entrails are cut.

After removing the entrails, liver, heart, etc., I spread the carcass apart with a stick, and rinse it down with cold water. When cooled sufficiently I remove the leaf fat and kidneys and cut it up. I



BUTTERBOY PIETERTJE

usually salt down on a bench or in a box as soon as it has cooled enough to trim, but I never put any salt on the ribs and backbones if the weather is cool.

The amount of salt I use is ten pounds to every one hundred pounds of meat. In addition to the salt I also use two pounds of granulated sugar and two ounces of saltpeter mixed. I rub the meat once every three days with one third of the mixture. While it is curing I pack it in a box in a cool room, where it will neither become warm nor freeze. Two barrels may be used, changing the meat from one to the other each time it is rubbed. After the last rubbing I let the meat lie in the box for a week or ten days, then take it out to smoke. When I take it out of the box I dip each piece in a kettle of boiling water and let it remain half a minute, after which I sprinkle a little powdered borax on the meat side, and hang. I smoke it four or five days

with hickory chips or corn cobs, then dip and sprinkle it with borax again, and put it down in clean hay. The hot water destroys any fly eggs that may have been deposited, and the borax prevents flies from depositing fresh ones. Meat treated in this manner may be left hanging all summer.

WM. H. UNDERWOOD.

## DAIRY POINTERS

Milk the cow clean every time if you would keep up a uniform flow of milk.

Suit the feed to the cow. Some cows will give more milk on one kind of feed than on another. Find out which is the better, and give her that.

Don't stunt the heifer calf if you intend to make a milker out of her. Treat the calf like she was already a good cow, and some day she will be.

Rich food assures good milk. However high bred your cow, she cannot manufacture rich milk out of impure water and trashy feed.

Remember that cleanliness and sunshine have the same effect in the stables as in the human habitation. They mean death to disease germs and health and strength to the dairy cow.

A good milk cow never gets rolling fat. Her surplus food goes into the milk bucket. As soon as she begins to fatten she will decrease her flow of milk.

Be sure the cow's udder, as well as your hands, are perfectly clean before you begin milking, that no dirt may fall into the bucket. Never use lard on the hands, as it keeps the cow's teats tender and makes a hard milker. It is better to milk with the cow's teats dry.

A dry floor, a good bed, a warm stall, plenty of wholesome feed and pure water provided for the dairy cow when the wintry winds are blowing and the mercury stands below zero will have their reward in the continued flow of good rich milk.

W. D. NEALE.

## THE AGED BULL

The custom of sending young herd bulls to the block is to be deplored, as it tends away from the establishment of high quality in the herd. Most breeders who have followed this policy are able to recall some one of these bulls in particular that was far above the average,

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but usually the discovery is not made until the bull has gone to market. The steers or heifers of such a bull "make good" and attract the attention of the breeder, but where is the sire? Butchered, and sold for market prices, when he should have been passed on to some other breeder at a breeder's price.

The picture on this page is that of the Holstein-Friesian bull, Butterboy Pietertje. He is one of those old bulls that have been kept until real merit showed up. He keeps on stamping his individuality on the herd of his owner; the older he gets, the more his merit is appreciated.

The great Paul DeKol was another marked instance of the wisdom of giving the bull a chance to prove his prepotency. What if this famous sire had been carelessly sold to a butcher! Let the farmer given more attention to this matter, and the gain for better stock will be marked.

GEO. P. WILLIAMS.



**MOISTURE IN POULTRY HOUSES**

**T**HE condensation of moisture, the drying out of the lumber in the poultry house and the moisture exhaled by the fowls will all be conducive to dampness. The best way to keep a poultry house dry is to open all the doors and windows on bright, sunshiny days. The windows should contain plenty of glass and be so arranged that the sunlight may enter.

A good draft of air would soon dry up the dampness, but it is unwise to allow a current of air to flow over the fowls. The litter on the floor should be renewed daily, as fowls bring in a great deal of moisture on their feet. An ordinary lantern suspended from the ceiling by a wire will warm the poultry house to a certain extent and will assist in drying it.

If the poultry house is allowed to remain damp, especially during the winter, when the fowls are shut in more or less, the fowls will be subject to roup and all forms of colds, not excepting leg weakness, swelled heads and lameness of the back. They must be kept comfortable and dry.

**WORMS IN FOWLS**

By eating slugs, snails, decayed vegetables, etc., fowls introduce into their bodies eggs and heads of what will form worms. As a rule fowls do not seem to suffer much inconvenience from the presence of worms, especially tape worms, and in a short while the parasites will forsake the intestines of the birds. Fowls are naturally not the special host which Nature intended the eggs of worms to invade, and consequently the process of development is interrupted and the worms will be expelled.

If it is found that fowls are suffering from worms, give a small dose of turpentine made into bread pills. If they haven't worms, this will not hurt them. After giving the turpentine, in a few hours give a dose of oil.

**RHODE ISLAND REDS**

A subscriber to FARM AND FIRESIDE asked for a few points regarding the Rhode Island Reds, which we will endeavor to give him. The Rhode Island Reds are going to be one of the most popular breeds of the poultry industry.

They are particularly adapted for the farmer and the commercial poultryman. They mature early, their chicks feathering out nicely when quite small, and the pullets often begin to lay at the age of five or six months. They have yellow skin and their feathers shade from a delicate light brown to a deep red buff. They have dark tails, yellow legs and beaks, and their combs and wattles are of a bright, beautiful red. They are very hardy, being able to stand a great deal of heat, as well as continuing in excellent condition during the coldest winter months. They are excellent market fowls and are prolific layers.

These birds are bred mostly as utility fowls, but are coming into prominence with the fanciers. As with all breeds of fowls, there are several varieties, some having single combs and some double or rose combs.

The eggs of the Rhode Island Reds are about the same size and color as those of the Plymouth Rocks, and they will lay about the same number of them in a year as will good, healthy Plymouth Rocks, which are considered by some to be the best all-round fowl of the day. For hardiness, utility and beauty nothing can surpass the Rhode Island Reds.

**SPADE THE YARDS**

Spading up the yard is more important in summer than in winter; but as the cold weather sets in, the yards begin to flatten or harden, prohibiting any moisture, waste food, refuse litter and droppings from becoming incorporated in the soil, and there must be some means of getting rid of this unhealthy condition.

When the ground is allowed to get in a filthy condition, the fowls become susceptible to diseases of all natures, and it is then that the loss commences. Spade up the yards and scatter lime over the surface of the ground. Lime prevents gapes, roup and cholera, and also serves as a disinfectant. Of course, if the ground is frozen, to dig up the dirt will be impossible, but the yards can be cleaned and fresh dirt and litter added at least twice a week.

**THE VICE OF EGG EATING**

When hens eat their eggs it is an indication that there is something deficient in their nourishment. It is usually the shells that they consume more than the contents of the egg, denoting that their systems crave lime. When hens run at large during the summer they find all that is necessary for the formation of egg shells, but in the winter, when they are confined, they must be fed lime in some form. Feeding lime or egg shells to

**Poultry Raising**

fowls not only prevents them from eating their eggs, but makes the shells of the eggs harder.

Oyster shells ground fine, are a good substitute, and will satisfy the birds. The farmer who does not have very large flocks can afford to give them two or three times a week all the egg shells they care to eat. It is the lime that they need; but should they once begin to eat their eggs, it is difficult to prevent it thereafter.

**GUINEAS ON THE FARM**

The guinea is not a valuable fowl, but it is exceedingly useful. Its carcass and eggs will not realize for the farmer as many dollars and cents in cash as other birds, but in usefulness it will save many more dollars than any other fowl or animal on the farm.

Unless the farmer has a large farm, and can allow these birds to run at large and forage, it is useless to attempt to raise them. They seem to prefer to go as far away from home during the day as they possibly can, always returning to their home in the evening. They prefer to seek their own food in the fields as long as they can procure it, but if they get hungry they will come home to feed.

These birds eat a great many worms, bugs and beetles, and on account of their ability to fly to the tops of the high trees on the farm, they secure many insects and worms which would otherwise prey upon the leaves and fruits of those trees. Guineas partly keep down noxious weeds and plants. They are good watchers, and will set up a loud shrill to warn their comrades if a human being, dog or hawk attracts their attention.

Guinea eggs sell for less than other eggs, but as they are secured practically for nothing, the farmers should not complain. The guinea fowl has a very keen sense of odor, and if the eggs in a nest are removed by hand it will cause the hens to seek another place.

About twenty or thirty guineas will be found very useful on a farm of from fifty to one hundred acres, but they will not thrive on a small plot or in confinement.

**WASTING THE FOOD**

It is unprofitable to feed poultry and not get returns from the food and labor, but in all cases the fault is with the poultryman, not the birds. There are as many cases in which a flock is ruined by overkindness as there are with neglect. Too much food is wasted and a large quantity of expensive material is given the fowls from which no benefit is derived. The cheapest kind of food is that which brings the best results.

One must feed different kinds of food and change ever day or two, so as to afford a variety; and if eggs are desired, the poultryman must feed for eggs, and not for fat. Bone meal, lean meat, green cut bone, table scraps, cut clover and a certain amount of grit are all elements necessary for the production of eggs.

There are many vegetables on the farm which are not salable, and are unfit for the farmer's table, which will be highly relished by the fowls, but if not made use of for them will be wasted. These are imperfect heads of cabbage, small potatoes, knotty carrots, turnips, etc. The cabbage may be thrown in the yard green, but the others must be cooked.

Too much corn is not good for poultry, unless they are to be made fat for market. Keep the fowls in warm houses, give them plenty of sunshine and a range, and give them all the fresh water they can drink. Warm the water before putting it in the vessels, as a great many diseases are brought on by the fowls becoming chilled.

There are many ways of feeding poultry and not getting anything from the food, and these are through wasting, and overfeeding the fowls, causing the hens to become fat and out of condition, when they will cease to lay, and also make them liable to all kinds of diseases. Kindness in overfeeding is one of the greatest difficulties to be encountered, for when a poultryman is fond of his fowls, which he should be, it is hard for him to understand that too little instead of too much will keep the fowls in better condition.

**ABOUT LICE**

Lice are natural to all kinds of fowls, but they can and must be kept in check. A thorough drenching of the poultry house with kerosene emulsion will rid the house of them, provided the fowls are first removed and treated for lice. Of course the warm climates are favorable to

these pests, and there more work is necessary. Twenty drops of oil of pennyroyal in an ounce of lard is an excellent application for the bodies of fowls. Kerosene oil is too severe and irritating for them.

No doubt many of our readers fully understand how to get rid of lice, but the fact is, they will not believe lice are present, and they ascribe the results of the work of lice to some disease, thus doctoring the birds unnecessarily. If the house is kept clean, and a dust bath provided, the hens will drive the little mites away, but it is not easy to get rid of the large ones.

Never use wood ashes for the dust bath, but finely sifted coal ashes or dry dirt. One ounce of carbolate of lime in half a bushel of dry fine earth makes an excellent dust bath.

Filth of all kinds causes lice. The mites will breed in the droppings. Rotten nest eggs are good sources. The heat from the body of the hen on the nest hatches them by thousands. Every crack and crevice contains them. Look on the birds to find the large body lice, as they never leave the fowls. Rub a little melted lard on the heads and necks of the birds and dust the bodies well with insect powder. There is, however, no use in wasting time doctoring the birds unless the premises are thoroughly cleaned and kept clean and sanitary.

Mr. J. H. Munnell, of Ontario, Ohio, a reader of FARM AND FIRESIDE, sends us the following recipe for the eradication of lice: "To eradicate lice from hens' nests and from the bodies of sitting hens, put in each nest a camphor ball (moth ball), and the lice will leave the nests."

**THE COMB AS AN INDICATOR**

Some breeds, such as the Minorcas and Leghorns, have abnormally large combs, while others have rose or pea combs, which are small. The supply of blood for the large combs must be greater than that for the small-combs, which accounts for the greater liability of large combs to the effects of severe cold in winter.

When a bird is in perfect health the comb will be of a bright scarlet color, and should the fowl feel out of condition, the comb will change its color to that of a paler hue, but so far as being able to detect the nature of the disease by the comb, such is impossible. No matter what the disease may be, the comb will be pale or dark. All laying hens have large red combs, but when they cease laying the combs become smaller and usually pale.

A dark comb is more indicative of lack of thrift than a pale one, for a fowl may have a pale comb and not be ill, but when a comb turns dark it means something serious. A large red comb is a thing of beauty, but the large outer surface not only presents invitations for all kinds of insects to attack, but also is very quickly frozen.

**INDICATIONS OF PURITY**

The comb is one of the main points to observe in a breed. One of the surest indications that a breed is not pure is that the comb peculiar to it is not what is required. Brahmans have pea combs—that is, a large comb with a smaller one on each side, making three combs, the whole resembling an open pea pod containing peas. The Leghorns, Minorcas, Plymouth Rocks, Langshans, Javas and Cochins have straight, single combs with points. The Hamburgs, Wyandottes and others have rose combs, which somewhat resemble a rose.

To attempt to describe the combs in detail would demand a full description of each breed, but it is important, when procuring a breed, to be sure that the comb is correct, for if not so there is a probability of a cross or impurity. As with cattle, sheep and swine, all the breeds of poultry are bred to a standard, to which they must strictly adhere, or they will be at a disadvantage in the show rooms.

**HOME CONSUMPTION**

If farmers will only consider that they should consume a large portion of the poultry at home, the matter of profit and loss would be a secondary consideration. We do not sympathize with the man who sends a choice fowl to market and eats fat pork the entire year, nor do we think it best to eat only chickens while the luxury of a tender young duck or goose can be had. We hope our friends will look to their own tables first. Poultry is cheaper than pork or beef, if quality is to be considered, and we should not be content with pork all the time.



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Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/4 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

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To pay the excess postage charged by your government upon American periodicals, all Canadian subscribers to Farm and Fireside must remit 25 cents over and above the regular subscription price for each year their subscription is to run. This applies to both new and renewal subscriptions.

It is not alone the greatest amount of feed that gives the best condition in your animals. The manner and time of feeding and watering are equally important.

Our advertising columns are kept as clean and reliable as our editorial columns. Our readers will get fair treatment from every advertiser in FARM AND FIRESIDE.

The value and usefulness of a farm animal does not depend alone upon its physical strength, but upon its temper, also. Most animals, if properly treated while young, can be trained to be kind and reliable.

Have you been a soil robber? The greatest problem of the average farmer is not the growing of grain or the breeding of stock, nor is it how to make the farm pay; but it is how to maintain and increase the soil fertility.

Have you a "fixing up" time? If not, you ought to have. There ought to be some time set apart each week for fixing up things around the home. The place will then have a more pleasing appearance, and you will be made happier and more contented thereby.

The farmer who contrives methods for performing his work that render him independent of the varying weather conditions, and thus makes himself master of the situation, prevents the serious losses recognized and feared by all, and will necessarily be successful.

In a way each one of us is a servant. If we are to be successful we must learn to do the things which other people about us want done. The farmers who are successful have learned to produce those things which others demand and for which they are willing to pay a satisfactory price.

The difficulty of getting the practical agriculturist interested in scientific farming is rapidly disappearing. New methods of teaching are showing its immediate utility, and the establishment of experiment stations in rural districts is giving the farmer an opportunity to become more thoroughly acquainted with the work, while farmers' institutes and farmers' clubs help to enlighten him and break down the existing prejudices.

Many farmers make the mistake of trying to buy their tools and machinery too cheaply. It is not necessary always to buy the highest-priced implement, but it is frequently mistaken economy to buy the cheapest. Get a good guaranteed piece of machinery when you buy, and because of its doing better work and costing less for repairs and lasting longer you will save more money than by getting a so-called bargain in a cheap machine.

FARM AND FIRESIDE has always urged that our readers make their homes attractive. Trees and flowers and a well-kept lawn in summer, and music or some other form of entertainment for the winter evenings, will make farm life pleasanter and keep the children at home. Such life is far more attractive than being shut up in a city. After you have bought the implements you need in the fields, do not be afraid to lay out part of your money in some form of entertainment for the home.

In a recent sermon on "The Divinity of Little Things," Dr. Emil G. Hirsch sagely remarks:

"Man is too apt to forget the divine factor in the affairs of commerce, and to plunge it into a speculative basis where the effort is to get something for nothing. This country has just passed through one of these periods of financial intoxication and now is in the throes of a financial katzenjammer. The night of the spree the man believes he is a millionaire, but the next morning—'Such a headache!' It is the 'morning after' for the nation, and we are suffering from Wall Street's financial spree.

"If we keep the producing and gambling systems of finance distinct the nation as a whole will escape the resulting katzenjammer."

In every county there are local problems which the state experiment station and the few substations are not able to solve. There are questions as to the varieties of corn, wheat, oats and grasses that are best adapted to the various localities, as well as questions about the best methods of handling the various types of soil. The state stations are realizing their inability to cope with these local problems, and in some states are taking steps to get in closer touch with each county by co-operating with the county farms. Iowa already has several such county farms doing experiment work, and other states are falling in line. Ohio has two counties that began the work this year.

**THE FARMER PAYS FOR THE PANIC**

In expressing his opinion on the recent financial panic, in "Everybody's Magazine," President James J. Hill of the Great Northern railway system says:

"There is nothing in the actual business conditions of the country to cause or to account for the financial stress everywhere so severely felt. The crops are good, and until money began to disappear, prices were higher than for many years. Buying and selling are not interrupted, trade is active, business as a whole is sound at the core. Neither is there an insufficient volume of money in the country. A year ago there was enough for all current needs.

"The trouble clearly comes from the hoarding of money; not by the few, but by the many. Investors, both large and small, feel uncertain about the future of business enterprises, sound and unsound alike.

"The consequences bear hardest on the farmer. The fruits of a year's labor are now just gathering, ready for the market. He has the food supply ready, and the world needs it and is able to purchase it. But the movement from producer to consumer requires the use of both money and credit. Without such use the farmer, who is the foundation of all prosperity and whose loss or gain affects the state of other industries, loses a large percentage of the value of every bushel of his wheat and oats and barley, of every pound of butter and of live stock that he has to sell. It is this which makes the present situation such a hardship and an injury to the whole community. For if the cultivators of the soil suffer, no business will escape.

"The best and quickest remedy is for every man who is hoarding money to return it to its usual employment. It is he who is doing the mischief. As has been seen, the money is in this country, but it must be made available. It is as much the duty of every citizen to deposit all his surplus cash in the banks, which are entirely sound and solvent, as it would be to subscribe to a war loan."

The farmers did not cause the panic; nor did the merchants or manufacturers. It was a strictly machine-made affair turned out by high finance. But the agricultural, manufacturing, mercantile and general industrial interests of the whole country are paying the cost of it.

The "System," however, has been reap-

ing a rich harvest. The collapse of the United Copper Company makes the Amalgamated Copper Company, owned by a clique of the Standard Oil crowd, the biggest monopoly of its kind in the world. The great Westinghouse Company, rival of the "Systems" General Electric Company is now a cripple in the hands of receivers. The Tennessee Coal and Iron Company, with its immense holdings of coal and iron properties, has been swallowed up by its big rival, the United Steel Corporation, and the latter now has almost absolute control of the iron-ore situation in this country. These notable results show how greatly monopoly has been fattened by Wall Street's latest assault on the legitimate business interests of the country.

There is a frantic appeal to stop hoarding money. Did the farmers, merchants and manufacturers hoard money and produce the currency famine? No; but eventually they will be taxed to pay the premiums on currency raked off by brokers and speculators in the period of artificial stress.

**GRANGE NATIONAL BANKS**

At the Williamsport convention of the Grange National Banks of Pennsylvania, held about a month ago, there was formed the Grange National Bankers' Association of America. Within less than two years fourteen Grange National Banks have been established in Pennsylvania, and the success of these institutions has caused the movement for the expansion of the system over all other states.

These banks, as the name indicates, are national banks controlled and officered by members of the Grange. They will be under the scrutiny of the national-bank examiners sent out by the federal government and also of a special examiner representing the State Grange.

In an address before the convention, Mr. John G. McHenry, superintendent of the national banking department of the Pennsylvania State Grange, set forth some of the objects of this movement as follows:

"Considering the fact that the farmers represent forty per cent of the total population of the United States, that the farm products represent the greatest source of our country's annual wealth, they have conceived the idea of educating their members along higher and broader lines than the mere following of the plow.

"They believe that in the due and natural process of evolution that they have a right to participate both in the management and in the profits which might come from wise management in the handling of the money which they have produced.

"Considering the problem of taking this step, it was believed to be best to lead the farmer along lines of known conditions, and to do a business which is governed by exact business science. From the organization of his financial forces would come a cementing strength, holding more firmly together the union of his physical and social forces in his organization.

"Our work thus far shows a total amount of money invested of \$862,000, a total amount of 2,100 stockholders, of 165 directors and officers. In every instance the holding control of these organizations lies entirely with grange patrons.

"This movement has not for its purpose the antagonism of any other banking institution, and we are most happy to point to the fact that wherever our banks have been, we have invariably worked in harmony with the older established banks of the community. What is most gratifying and fully demonstrates our theory is that, while the deposits have been growing to amounts exceeding our expectations, the older banks have likewise a continuous growth in deposits which, with rare exceptions, has equaled their enormous growth in preceding years.

"This proves conclusively that among the farmers and laborers of a community there are vast sums of money hoarded in the bureau drawers and stockings that are not brought into active circulation.

"To what extent this movement will grow will depend largely upon the successful management of the institutions

already established. Thus far we have been most fortunate in the selection of our officers and directors. The same degree of care will be observed in the continuance of the work, and I but voice the sentiment of the State Grange of Pennsylvania when I say that we do not want to be looked upon as intruders or rivals in the banking business, but rather as co-workers and fellow-helpers."

**DISTRUST DUE TO RICH RASCALS**

Prof. Walter E. Clark, head of the department of political science of the college of the city of New York, who lives right among the Gotham gamblers in stocks and bonds, does not find it difficult to locate the main cause of the recent financial panic. He says:

"It has been charged that the President has condemnably aroused this panic by means of government prosecutions and policies for reform in railroad and industrial affairs. That such a charge should be soberly made to the great American people is either an insult to their intelligence or a proof that the accusers have a sickening low estimate of their morality.

"It is not the 'muck raking,' but the muck that has been actually in evidence on the rake, which has made the public suspicious and angry. It is the fact that state and national investigations have revealed dishonesty and corruption and rascality, which cause the investor to stand aloof, and not the fact that the President is aggressive.

"Honestly and efficiently managed corporations need have no fear of investigations. The outcome would only advertise their virtues.

"That the great corporations object to investigations; that they seek to evade lawful penalties of proved misdeeds, and that they sedulously belittle and demean and besmirch such officials as have the temerity to insist that they comply with the law—such facts as these make the case against high finance so much the stronger in the judgment of the great jury, the public.

"The executive is but discharging his sworn duty when he seeks to enforce the law against the respectable thief who steals a million, as well as against the petty criminal.

"The American nation is not yet so spineless and so mushy minded that it will consent to abandon the very basic principle of its democracy—equality before the law. And until it is ready to yield that principle it must, and it will, support its executives in their endeavors to punish for law-breaking all offenders against the law, regardless of their bank accounts and financial relationships.

"There can be little doubt that the half suspicious and half angry and wholly aroused public has aggravated this panic greatly by taking counsel of its fears.

"Some of this distrust is justifiable. Several great corporations have been shown to have juggled their accounts, to have corrupted public officials, to have defrauded investors, to have diverted common funds to individual uses, to have sought and to have received unlawful secret rebates. Under such circumstances it appears almost humanly intelligent in the public that it should begin to distrust somebody.

"The public is growing intelligent. Through tutelage of the press, and the schools and travel, and most of all, through bitter business experience, it is gradually coming into that wisdom which knows a hawk from a hand saw.

"And when the public grows wise and suspicious and ceases to invest and hesitates to deposit, or even seeks to withdraw funds already deposited, then the contraction of credit goes on apace. Contraction, which might otherwise have come normally, slowly and to a needed degree only, may be hastened and carried far beyond any need."



# The Greatest Funeral on Earth

By A. W. Westrop

Marvelous Spectacular Features Mark the Burial of the Archbishop of Burma

**A**MONG the many curious sights I saw in Burma, none impressed me with such force as the funeral ceremonies of the great pious chief Thatanabaing, the archbishop of all the Burmans. I was informed by my guide that I was the most fortunate being in existence, and though I did not believe him, I was curious to know why; he said because I had just come with my camera in time to impress upon the sensitive plate the grandest sights in the universe. He informed me that the Thatanabaing had been dead nine months, and they were about to burn the body. I said surely by this time he stinketh,

built. In some cases the body of archbishops are kept in the Kyaung, or monastery, until the great lying-in-state car, or pyatthatt, is built.

Illustration No. 1 shows the magnificent structure built for the ceremony; all the panels are oil paintings (behind glass), each representing scenes in the life of the departed. The body rests in the fifth story, and is conveyed there by means of a cliff train on rails. The car bier is a work of art, and the whole building, train and car are a glittering mass of gold and silver gilt. The chief Burman stopped the bier while ascending, to enable me to get a photograph. The gold-covered coffin is heaped up with flowers and is retiring for the night, to be placed in the outer case above. The outer case was shaped as a fiery dragon, beautifully decorated with gold and silver gilt and mosaics in colored glass. Having built this noble structure as a temporary resting place for the Thatanabaing, there seemed no urgency for the final ceremony.

In the meantime the Kyaungtages (head men) were preparing for the great event. Monster cars, pyatthatts, biers and catafalques were built, elephants, tigers, peacocks and other peculiar objects were being made. Magnificent palls, for covering the coffin, and a thousand other things were being prepared, all from voluntary contributions.

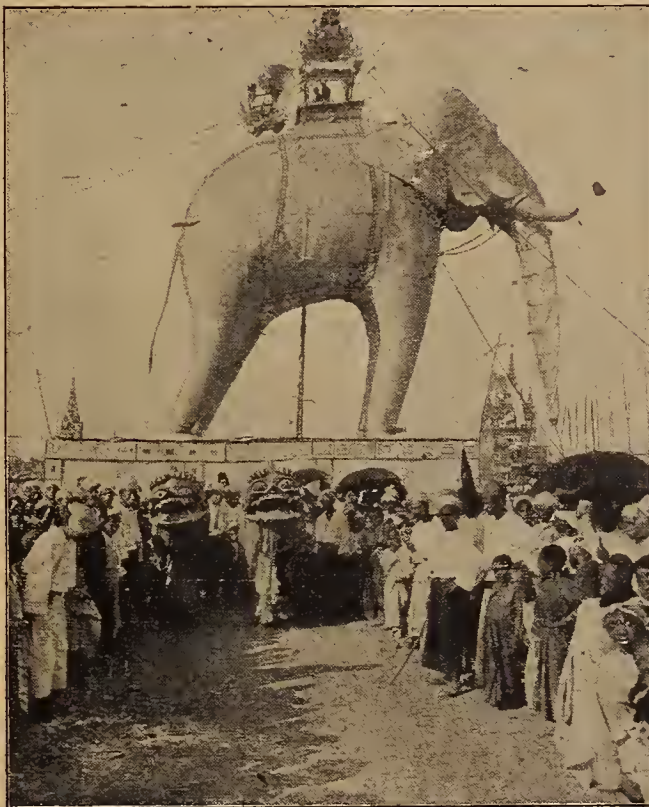
The designs of the cars and pyatthatts were very beautiful, and the decoration magnificent. The panels were oil paintings, as in the case of the lying-in-state pyatthatt, except they represented scenes in Burman life. Some of these were built at the expense of a single Burman or one family, but as a rule from general contributions. These flow into the coffers of the Kyaungtaga with little or no solicitations, and principally because all who contribute, however small, toward the ceremony obtained "Kutho" merit. The main religion is Buddhism, which teaches that every act of kindness or liberality gains for the giver merit, or brings him nearer that desired heaven, Nirvana. On this occasion there seemed no lack of Burmans who wished to gain merit, for not only were there more cars, biers, elephants and pyatthatts than had ever been given before, but I was informed that eight hundred bales of

which "peeve" was enacted (native theatricals), singing, etc. At the end of these stood a gigantic built-up peacock in natural colors, with the exception of the spots in its tail, which were composed of dinner plates made from brass, engraved and polished. More than two hundred of these plates had been given, as I understood, for the use of the archbishop in his next existence. Passing on, we came to stands laden with bowls, pans and pots, one with jardinières all full of flowers. Passing along the southwest side of the grounds, we saw the tents full of silks, cloths, watches and clocks and nearly every kind of article that a



1—IN PARADE—THE COFFIN IS BORNE ON THE BACK OF THE GREAT WHITE ELEPHANT

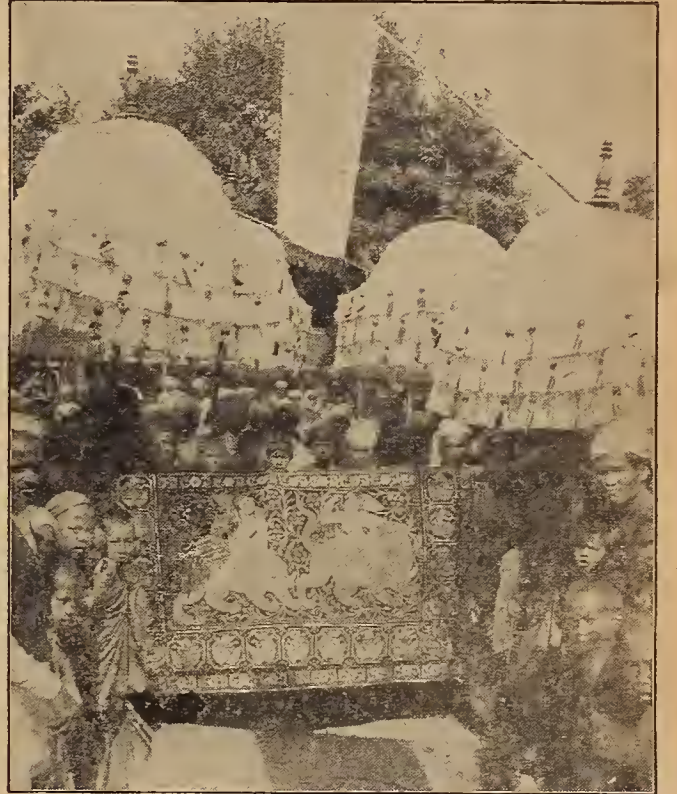
but he assured me that the body had been soaked in honey to preserve it, and that all these months great preparations had been made for the greatest funeral ceremony ever seen or held upon earth. I was told of monster elephants, tigers and other animals that were made to take part. Also of peacocks with tails reaching into the clouds, and gigantic cars and buildings hundreds of feet high, of daly, pyatthatts and catafalques all covered with gold and silver, which so excited my curiosity that I went off and consulted the police. They informed me that there was a little truth in the man's statement, that the archbishop had been dead several months, and that it was the Burman custom to give the archbishop a great pondyibyan (funeral). The superintendent informed me that it takes several months to prepare for the ceremony, and to preserve the body it is partly embalmed and placed in a wood coffin well sealed. This is covered with gold gilt, a daly (large covered bier) is built hastily of bamboos or other material, and a magnificent outer case is made for the coffin. This case is fixed in the upper part of the daly, and the coffin is placed inside. Here it remains until a more fitting place is found or



3—THE SPECIAL BIER CAR WITH STATE UMBRELLAS ARRIVING AT TOP OF THE GREAT ELEPHANT

silk and pongee cloth and other clothing material had been contributed, and wagonloads of other material. The palls numbered one dozen, and were magnificent in colors, worked in gold and silver on velvet grounds, one of which is shown in illustration No. 2, which was held up with the coffin under it for me to photograph. The most extraordinary object on the funeral grounds was the gigantic elephant, which was nearly one hundred feet high, and could be seen for miles around. A beautiful bier was built upon it, and a cable railway was attached, to enable the special "bier" car to run up with the coffin. We see in illustration No. 3 the car with the state umbrellas just arriving at the top, and men receiving the coffin into the elephant biers. Below are the demon masqueraders, or guardian spirits; so long as the corpse remains on the elephants, so long these imitation devils remain to guard it. Indeed, wherever the corpse was placed it was always guarded by imitation demons.

The ground upon which the final ceremonies took place was near Mandalay, lent for the occasion, and covered about twelve acres. It was bounded on every side by booths, tents and temporary buildings. Passing in at the northwest, on our right stood a large structure, for the great boxing contest, in which fifty-four couples had entered. To the left were several tents with marionette shows, followed by others, in



2—THE FUNERAL PALL, MAGNIFICENTLY WORKED IN GOLD AND SILVER ON A VELVET GROUND

human being could desire, and in such quantities, that there was enough to last forever and ever.

On this side was a large stand built of sacks of flour and rice, lanterns and lamps. Several tents full of provisions, followed by a stand full of carpets; another containing rugs, and yet another with mats and hearth rugs, all of velvet pile or plush. To the left of us stood a large built-up white elephant, with a magnificent bier, and near which we were permitted to photograph another pall, with the elephant in the background. Continuing around the grounds, on the southeast side were store tents for more gifts (in the furniture line), and one stand was made up of about two hundred bent-wood chairs, and hanging in the wind were about a score of beautiful plush traveling rugs; near by were a large number of Burmans playing games (in tents), which my guide called gambling.

At the east corner stood a large built-up elephant covered with silver, and a gold and silver gilt (bier) howdah on its back. All along the northeast were "peeve" tents and booths, and at the northwest corner stood a large built-up tiger with a deer in its mouth. "The venison for the use of the archbishop in his



4—GIGANTIC PEACOCK WITH GLITTERING TAIL OF BRASS, AND BUDDHIST FUNERAL CARS



5—TOSsing THE COFFIN, A PART OF THE CEREMONY IN WHICH THE CORPSE GETS SEVERE JOLTS

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next existence," so I was informed. Near to this stood the great state pyathatt, in which the coffin was kept and rested when no procession was on. In the center of this square a large crematory was under construction, and here and there all over these large grounds stood catafalques, biers, dalyes and pyathatts, and towering above all was the gigantic elephant with its car and cables, and wending among all these wonders were a multitude of Burmans, in rainbow hue, which with the glitter of the gold and silver tinsel made one mighty kaleidoscope not soon to be forgotten.

The chief part of this great ceremony consisted in amusement of every kind—boxing, racing, dancing, fencing, theatricals—and all kinds of music and feasting was the order of the night and day. Reverence there appeared none, and the whole attitude of the people bears out the fable of the serpent, which was jealous because he never saw a Burman sorry or sad, determined to try to make them sad. To this end he laid in wait and bit and killed the best of them. But when he drew near their friends, in hope of seeing weeping and sadness, he found nothing but dancing and singing and much revelry, just as I saw it. Instead of weeping and mourning for their dead and dearly beloved chief, they danced and sang and enjoyed themselves in every way, more consistent with a



6—FUNERAL RITES FOR A BUDDHIST ARCHBISHOP, SHOWING MASSIVE ELEPHANT-SHAPED CAR

marriage feast or fair than with a funeral, and so this revelry continued night and day until that much-tired corpse and much-used coffin had taken its ride on every elephant and on every car, bier or pyathatt, and had been carried under every pall, so that all contributors should receive full merit for their gifts. This riding the corpse around the grounds took place as a rule twice daily. In the morning he would be high up on a pyathatt, and in the evening perhaps higher still on an elephant. The procession was preceded or followed by a multitude of people, among whom were all kinds of grotesque figures. On one occasion the proceeding group were all Burman ladies dressed in white silk.

I noticed many of the cars were made to a standard height, so that the coffin could be passed from one to the other over a small bridge. The passing of the coffin through a car, I was informed, was sufficient to give merit to its donor, and there was never any difficulty in finding where the corpse was, owing to the large white silk umbrellas; the only difficulty was to get near enough to see and hear.

I never saw a priest touch the coffin nor take any but a passive part in the whole proceedings. There



9—THE COFFIN COULD BE LOCATED BY THE LARGE WHITE SILK STATE UMBRELLAS

were hundreds, nay thousands, in Mandalay and about the grounds, but they never directed nor interfered with the operations in any way. The Kyaungtaga men who had built monasteries and founded schools or built shrines and pagodas made all arrangements, received all gifts, and finally distributed all the gifts among the monasteries. Strange to say, none of the gifts, none of the cars, structures, elephants nor anything that had taken part in this great ceremony could be used for a like purpose again. It was all broken up and distributed among the priests and the people.

On one occasion I saw a group of men tossing the coffin, as in illustration No. 5. It was evidently a low part of the ceremony, for there were no priests about, nor were the umbrellas used. It was a fair game of pitch and toss for about ten minutes, during which the coffin and corpse received a fair amount of knocks. Sometimes it was end up and bottom up and all ways up, until sheer exhaustion made the men give up the game.

At first I wondered how these great cars and elephants could be drawn in procession, but all doubt was soon removed when long ropes were attached, and a rush of men, women and children, all eager to gain merit gave a long pull and a strong pull and trundled the heaviest of them along with ease. There was no lack of human horses and ponies, owing to the heavenly reward obtained for their labors.

In illustration No. 6 we see the northeast corner of the grounds in early morning. To the right are booths and tents with gifts; to the left, cars; in the rear of the elephant can be seen the large stands with sacks of flour and rice, and this represents what could be seen at almost any point on the grounds. At last all the cars and paraphernalia had received merit, and the great day for the final ceremony had arrived. From an early hour all the approaches from Mandalay and district were thronged with people, all dressed in the gayest attire, and children in the brightest of silks, all wending their way to the great cremation ground. On the ground, in every corner, under every cover, were sleeping groups, determined not to lose the chance of seeing the final event, to which they had been looking forward with so much pleasure, for indeed to them it seemed a great treat.

At about 10 A. M. a procession was formed to the east of the great crematory. It consisted of a multitude of people, many of them masqueraders, some on elephants, some on ponies, others on stilts, some dressed as demons, and some in royal robes—in fact, all kinds from a prince to a demon. The procession moved around the crematory six or seven times, converging each time until it encircled the building. The coffin covered with flowers was brought in, and several Europeans, government officials and others paid their last respects to this great dead chief. In the center of the building hung a large iron cradle of gold gilt. Into this cradle was placed sandalwood, chips and dust saturated with spirits of wine. The coffin was broken



8—SPLENDID HONORS TO DEAD BUDDHISTS—ELEVATING COFFIN IN CAR TO A GILDED SHRINE

open and the body quickly placed in the cradle and covered with more chips and dust and saturated with spirits of wine. Though this was done quickly, there was no lack of scented pocket handkerchiefs in use, and the aroma reached me, though a good distance away. A light was applied and the cradle set swinging to and fro, and a great blue flame with the roaring of cannon told the multitudes of people that the greatest funeral ceremony was at an end. The people shouted, danced and sang, and every one seemed boisterous and gay, as if a marriage had taken place, and the constant remark was what a glorious pondibyan. It was a great scene before me, and beggars all description, and quite in opposite contrast to the life of so pious a chief.

#### THE NEW "THATANABAING"

On my return to Mandalay I inquired if a new archbishop had been appointed, and was told that he had been selected by the Kyaungtaga and Hypanadies (head men and priests). I paid him a visit, and on the request for a sitting he told me in fair English that "he could not understand what I wanted with a photograph of a poor mortal like himself. There are hundreds of others younger and more handsome than I, but if I did really desire a photograph of him, if I would wait five minutes, until he had finished his dinner, he would sit for me." I was struck, nay,

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amazed, at the humility and humble demeanor of the man, who was just about to be appointed to the highest post in Burma, reminding me that he was nobody—in fact, only a poor creature—and apologizing for keeping me waiting for a few minutes. He chose to be taken in front of the gold-gilt Buddha, in a small temple in the aiudawe pagoda grounds, surrounded by his faithful attendants. Western notions of greatness and those of Burma are as far apart as the poles.

Writing on the subject, Capt. Francis Thatcher says that the pyre had to be lighted by rockets fired from a distance. Scores of these had been prepared weeks beforehand and carried around triumphantly in procession by the people who had made them, preceded by bands of music, with young men and dancing girls singing and dancing of the potency of the powder and the accuracy of the aim which will attain for them the glory of setting fire to the pyre.

Amid the shouts of the multitude the rockets were exploded, and the sky, literally liquid gold and fire, lighted up the strangest scene imaginable. The largest of the rockets were mounted on go-carts. Many of the rockets failed to have any other effect than making a great splutter; others toppled off their go-carts, amid screams of derision from the crowd, but it was not unattended by loss of life, for some of the bigger rockets flew off at a tangent into the crowd, where the fiery



7—FANTASTIC AND COSTLY CHARIOTS SHAPED LIKE PAGODAS AND ELEPHANTS

belchings found many victims; but this was only incidental and was to be expected.

In the midst of the flashing lights and thundering reports one lucky rocket plunged right into the inflammable materials piled below the bier, and in a few moments the flames were leaping like great yellow tongues, licking the topmost pinnacle of the spire. It was the beginning of the end. Roof after roof fell, setting fire to all the surrounding spires and offerings placed around the basement. The joints of the bamboos exploded with the noise of pistol shots, while the swaying crowd cheered each separate occurrence, and when finally the central spire fell with a hiss, a shout of triumph rose from the assembled multitude, suggesting anything but death and pious observances.

But there on earth they will tell you all is changeable, sad and unreal, and one more death brings but nearer to the final rest of any Nep'ben. When the smoldering embers have cooled, the monastic brethren search for any pieces of bones that may remain, and these are carefully gathered up and pounded down, mixed into a paste and molded into an image of the Buddha, which is stored up in the monastery.



10—THE TIGER CARRYING THE VENISON IN THE FUNERAL OF THE ARCHBISHOP



# The Impostor

By Frank E. Channon

## Synopsis of Previous Chapters

Amos Jackson, rich American, athlete, and his chum, lawyer and fellow-countryman, Donnaly, were returning from the international race meet at the Stamford Bridge Athletic Grounds, England, where the former had won great honors, when their attention was attracted to a runaway tandem team that was dashing in their direction. The two Americans at much risk stop the horses, make some new acquaintances in the frightened occupants of the trap, and receive an invitation to dinner. The hosts prove to be the queen, and her uncle and aunt, of the island kingdom of Mirtheium, off the mainland of Greece. While on a tour of the Continent the royal party had met with a terrible loss in the sudden death of the King, since which time return to the island had been repeatedly postponed, for it was feared that to return without a king meant the overthrow of the dynasty. The chance acquaintance of Jackson opens a remarkable solution of the difficulty that the shrewd old uncle was not slow to grasp. Jackson in appearance proves to be a double of the late King, and the proposition is made that the American athlete return with the royal party as ruler of Mirtheium.

## CHAPTER IV.—CONTINUED

AMOS was about to speak, but Donnaly stopped him with a gesture. He had been acting as his millionaire friend's lawyer for some years. "May I ask by what name I may call you, sir, since it seems that Colonel Danguousem is neither your title nor name?" he inquired.

"I would prefer that you continue to call me as before; that is my incog, and it is best to preserve it, but for your own and for Mr. Jackson's information I will state that I am Count Benidect, and the lady who is my wife is, of course, the Countess of that name. You both know who 'Miss Ashtonette' is."

"It shall be as you wish, sir," said Donnaly. "Now, Colonel, putting aside entirely the moral aspect of this little plot of yours, I want to ask you if you honestly consider the idea feasible, and if you answer that question in the affirmative I want to further inquire—if you yourself think you have given the plan enough thought. Recollect, it was only this afternoon that you first met my friend. You have been struck with the great resemblance to your late King. Now I suggest Colonel, that you have become enthused over the plot; that you have been carried away with the idea without giving it sufficient consideration. You think you see a way out of your difficulties, but be careful lest you become the more firmly embedded in your difficulties than before. Do you know who Mr. Jackson is? Do you know who I am? How do we know that your story is correct? How do we know that you are not, what we call in America, a 'crank?' You see, Colonel, I am perfectly frank with you, as you promised to be with us; I trust I am not offending you."

"Gentlemen, I do not know who you are, beyond the fact that you are both apparently gentlemen, and that Mr. Jackson is an excellent runner and the exact counterpart of our dead King; that is sufficient for my purpose. Now in regard to myself and my plans, I can soon satisfy you, I believe. I have sufficient documentary evidence to prove my identity, and I rely on the feasibility of my scheme to prove that I am not what you call crank. I understand, from several hints, that Mr. Jackson is rich, therefore I do not expect that I can offer any great inducement in that respect, although I may state at once that there will be no lack of cash in the furtherance of the plans; but, gentlemen, I have one inducement to hold out to you, which I hope will prove irresistible. I know it will appeal strongly to an American. Gentlemen, it is the magnet of ADVENTURE. There is risk; there are great obstacles to be overcome and possible triumphs to be achieved, and added to these is the greatest of all inducements—the opportunity to save strife and bloodshed; for if I return without the King there is not the slightest doubt but that civil war in all its horrors will burst out. Mr. Donnaly referred to the moral aspect of this affair; does not that alone justify my deception? Which is the greater wrong, to harmlessly impose upon a people, or to plunge them into strife? Answer me that, gentlemen!

The old gentleman was rising above himself. With flashing eyes and passionate gesture he urged his cause. There was no mistaking the man; he was a patriot first, last and all the time. Then in a second a tremendous change came over him. The flush faded from his face and a ghastly pallor overspread it. He glanced around the room with an almost hunted look. In a moment he was himself again. He commenced speaking as before, but while he spoke he tore from his note book a leaf and as he spoke he wrote. Then the paper was pushed gently over toward Jackson.

Amos glanced down at it, and read: "We are being shadowed; the door of the inner room is unlocked; some one is watching us from there; we have been overheard."

"Excuse me, gentlemen; I will bring the paper of which I spoke," the Colonel was saying, and the next moment he had vanished at the hall door.

The two friends looked at each other blankly. What was coming now? Donnaly rose uneasily from his seat. Amos signaled for him to be seated again. Donnaly, who was facing the door of the inner room, kept his eyes fastened upon it; Amos began edging around to him, under pretext of reaching the cigar box. And then a whirlwind burst upon that quiet room.

With the velocity of a cannon ball, and with a shriek of anger and surprise, a tall, muscular man was precipitated through the door by some force from his rear. He fell in a heap upon the floor, and the next moment the Colonel, hot upon his trail, had flung himself upon him.

"Gag and bind him!" he panted, as he hung on like a dog to a grizzly.

With a spontaneous movement the two friends sprang to the rescue, and in a moment four men were rolling squirming upon the floor. It would have fared ill with the gallant Colonel if the two Americans had not been present, for the intruder was of immense proportions, and struggled desperately.

"Spy!" hissed the Colonel between his teeth. "The window cord quick!"

Amos sprang for it. Donnaly was holding the fellow's arms. The Colonel was forcing his handkerchief into the man's mouth. Amos made it fast with the cord. After a desperate struggle the fellow was secured hand and foot.

"Quick! In here with him!" whispered the Colonel as he rose scratched and torn from the fray. "I hear some one coming."

There was a knock at the outside door. The bound man was hustled into the further room. Donnaly went to the door.

A bell boy stood without.

"Anything the matter, sir?" he inquired. "No," replied the lawyer, with a reassuring smile; "my friend slipped upon your highly polished floor as he rose, and in doing so overturned the table; that's all."

The lad glanced in at the disordered room. "Manager was afraid there was some trouble," he said.

"No," replied Donnaly, "everything's all right; tell him so," and he closed the door.

"Now what's to do?" he demanded sternly, as he went into the further room, to where the Colonel and Amos were bending over their prisoner. "Now, Colonel what does all this mean?"

"It means, sir, that what I promised you a few minutes ago has already commenced. You have met your first adven-

ture in defense of the Kingdom of Mirtheium. This man I know well; he has been shadowing me for days; he is a spy. He has overheard what was spoken to-night."

There was a knock at the door. "Uncle," inquired a soft voice "is anything the matter? We heard such a noise. Auntie is uneasy to-night. I wish you would join us as soon as possible."

"Come in, Edna," invited the uncle.

The girl queen entered. "Gentlemen, Her Majesty the Queen Dowager of Mirtheium," dramatically exclaimed the Colonel. Then placing himself by the side of his niece, he continued, "Can you resist now, gentlemen? Surely a queen worth bleeding for!" and he flung his hands out in an appealing gesture.

She looked it, every inch! With head thrown back, her face expressing the surprise at the scene of disorder which met her eyes, she glanced first at one, then the other. Her bosom rising and falling with suppressed excitement, one daintily slipped foot tapping the floor impatiently, her rounded, white arms hanging limply by her side, she waited an explanation.

The blood surged through the veins of the two Americans. The cautious, reserved Jackson and the businesslike Donnaly were carried away with the madness. Urged by one common impulse, they both sprang forward.

"At your service, Miss!" said Amos quietly.

"Yours to command," said Donnaly. The Colonel beamed on them triumphantly.

"I knew it," he muttered, as he stepped forward and grasped both their hands; then, turning to his niece:

"I congratulate Your Majesty on the acquisition of two such powerful and devoted friends."

## CHAPTER V.

### A JOURNEY AND A WELCOME

"You will withdraw now," suggested the Count Benidect to the Queen. "There are some things we must attend to first, then we will be with you."

With an inclination of her head the girl retired.

Scarcely had she gone before the Count was whispering:

"This fellow, what shall we do with him?" He jerked his thumb over his shoulder toward the anteroom. "He knows all; he has been following me for some days; he must in some way have obtained admission to this suite and have overheard all that was said. He is an agent of the Cassell party in Mirtheium. They wish to place a Roumanian, Rudolf, upon the throne. He must never return, this spy."

"What would you suggest?" inquired Donnaly, looking very straight at the Count.

"There must be no violence," said Jackson quietly. "He must be persuaded, or placed in safe keeping."

The Count looked from one to the other in perplexity. Evidently, if he had his way, the man would have a short shift. He pulled fiercely at his gray mustache.

"What would you propose? How can it be done?" he inquired.

"I think," said Donnaly speaking with a very serious face, "that this fellow in the next room is insane. An asylum would be the safest and best place for him. Certainly, if he tells his story, the doctors will think so."

The Count and Amos looked perplexed.

"Why," resumed Donnaly, "he has made an attack upon us this very evening. He is evidently afflicted with homicidal mania. He must be confined for a space."

The Count's face cleared, and Amos smiled grimly.

"You have a great head, Donnaly," he commented. "But listen, there must be no cruelty. I will be no part to anything of that sort. He must be detained in comfort."

[CONTINUED ON PAGE 19]



"Gentlemen, Her Majesty the Queen Dowager of Mirtheium," dramatically exclaimed the Colonel!



Winter Guests

BY HILDA RICHMOND

SOMETIMES, in looking at the outside and inside of country homes, one is moved to wonder why so much was spent on the building and so little on the furnishings. There are houses all over the country with ten and twelve and even more rooms that do not contain the actual necessities of life. In summer they are comfortable with their big rooms and many windows, but when winter comes the family huddles around one fire, or at best there are two stoves "going," and the rest of the mansion is as cheerless as the grave. Actually I have been in country homes where it was warmer out of doors than in the bedrooms.

And into these icy, creepy bedrooms guests are often sent for the night by the hostess. Long ago she made the bed up clean, and she knows there is an abundance of bed clothes, so what more could any mortal ask? To make assurance doubly sure, she brings in a lot of extra comforters, and considers her duty done. It is healthy to sleep in a cold bedroom is the rule of most country houses, and a very good rule it is, but no one in his senses could believe it healthful to sleep in a damp room. Of course, the dear ladies hoot at the idea of their substantial new houses being damp, but it is the truth nevertheless.

On wash day the steam will penetrate every nook and corner even with the doors closed, and dampness will gather where rooms are not regularly sunned and aired. Spare beds should never be made up for occupancy, for they are positively dangerous unless aired and dried. Better cover the mattress with a spread and have the bedding where it can be sunned and aired often. It is easy to make up a bed when guests come, and in this way everything is sweet and pure. It is also easy to thoroughly air the bedroom, no matter if zero weather prevails. If it is not convenient to have a stove in every bedroom, a small oil heater that can be quickly carried where it is wanted will supply every need. Keep the stove burning in the room after it is aired for a few hours, and be sure there is a supply of fresh air constantly entering the apartment. In new houses, where everything is trim and tight, there is not the opportunity for ventilation afforded by the loose window casings and sagging doors of the old structures. If the weather is too unpleasant to permit the clothes to be aired outside, they may be hung by the kitchen range on the clothes rack.

In entertaining guests in the winter it is well not to make plans for sleigh rides and other outings until you learn if it will be agreeable to them. One young lady from a small city, who went out very little in her home town, because the care of an invalid mother kept her close, suffered from the kindly attentions of her country friends because of the weather. In their zeal to give her a good time they took her here and there until she was blue with cold. At home her rather light jacket and moderately heavy clothing kept her comfortable, because the few places she went were close to her home, but out in the country she nearly perished.

If company in winter is a burden, do not invite your friends to visit you. There are too many ladies who feel that they must urge friends and relatives to come, even if they know they cannot make them comfortable, to keep up the reputation of the family for hospitality. Winter is such a good, quiet time to visit that it is a wonder more of it is not done at that season, but uncomfortable guests are not likely to want to repeat the experiment. Warm, cheerful rooms are essential to happy home life, and therefore should be ready at all times for guests, but unfortunately too many housekeepers have not learned that lesson. They cram the family into the kitchen and sitting room from fall to spring, and even in these two rooms there are not always abundant supplies of sunshine and clean air.

And it isn't pleasant for guests to be entertained in a home where there is barely enough room for the family. To know that one has crowded the children out of their room, or made some member of the family occupy a hard lounge, does not add to the pleasure of the visit. Some hostesses invite more company than they can manage, and then put the children to sleep with the guests—a thing that never should be done, for many reasons. It is not fair to the children, and it is inconvenient to the guests. Better explain quietly that it is impossible to have company over night because your house is too small, and your friends will think much more of you than if you urged them to come, only to be uncomfortable.

With comfortable bedrooms, a pleasant sitting room, good, simple food, books, sewing, fancy work and delightful conversation the days when company is entertained pass all too rapidly. There are pleasure and profit in meeting friends, and more people would enjoy their homes if they made them habitable for family



The Housewife

and guests. If you have never entertained in the winter time, do it this coming winter. You and your family will be benefited, provided you have time and a comfortable home, and your guests will thoroughly enjoy every minute they spend under your roof.

"The Best Citizen of Chicago"

BY J. L. BOWDOIN

IT IS certainly a great distinction for a woman to acquire the reputation of being the "best citizen" of a great city like Chicago. This honor has come to Miss Jane Addams, the Chicago Settlement House worker, who is in many ways one of the most remarkable women of the age. It would take many columns of this paper to give in detail all of the work Miss Addams has done for Chicago in bettering civic conditions and in being helpful to women in particular. Her Hull House has become known in lands other than our own as the center of a wonderful work for the growing good of Chicago and the world in general. No woman living has done so much along the line of social and political reform as has Jane Addams, and her book on "Democracy and Social Ethics" has become one of the standard books on these themes. Miss Addams is known throughout Chicago as the staunch friend of the poor, and has done a great work in bettering their condition. Of late she has been especially interested in exposing the fake investment concerns that reap a rich harvest from confiding and ignorant women. Then she has been "showing up" some of the many concerns who offer work to poor women on alluring terms in their own homes.

Writing recently of this form of humbuggery, Miss Addams says: "Poor women in almost every state in the Union were defrauded by an 'apron club' concern, which claimed to be organized on a co-operative basis and for the philanthropic purpose of affording those who 'joined' an opportunity to earn money at home. The initiation or membership fee

was two dollars. The swindlers operating this scheme were prosecuted and convicted by the federal government, and in the trial it developed that many of the victims were widows who had believed that a membership in this club would permit them to earn a living for their families without the necessity of being absent from their little children. The 'letter-copying scheme' is another development of 'easy and profitable work at home' swindles. Some fifteen of these petty swindlers were recently closed out in Chicago, and detective Woolridge, who handled the cases, found that a large and pitiable number of victims were invalids, some of them bedridden."

Miss Addams has set herself the good, if difficult, task of ridding the country of as many of these swindlers as possible, and she gives the women of the country some information as to how they may know when some of these fake concerns are trying to cheat them. Of this she says: "There is one way in which poor women may know when they are being offered a swindle in the game of 'work at home.' If it develops that there is any kind of a fee demanded at the outset it is safe to close the proposition as a fraud, although the demand may be in a very plausible form—a 'deposit' against 'materials' sent or a 'membership' in an organization. Many of these schemes are concerned with so-called 'art work' and make that flattering appeal to women of refinement and appreciation. When it comes to an investment of any sort, the promoters of which appeal to women who are comparatively or actually poor, to float their enterprise, is it not fair to assume that the thing is a swindle?"

There are so many unscrupulous concerns seeking to swindle the unwary that Miss Addams is doing good service in ridding the country of them, and thus helping confiding but ignorant women to save their money. Miss Addams is devoting her life to such singleness of purpose that she deserves to be called "the best citizen of Chicago."



JANE ADDAMS

Gift-Bearing Rhymes

BY MAUDE E. S. HYMERS

IN NOTHING can it be more truly said that "the gift without the giver is bare" than in the matter of the Christmas gift giving. To be something more than a mere present, a gift should bear something of the individuality of the giver, not only in the matter of the selection and making, but in the manner of presentation as well.

A pleasing fancy is the accompanying of each parcel with a bit of verse, either sentimental or mirth provoking, selected with a sympathetic understanding of its surrounding of its appropriateness. Quotations are always in good taste, but if one makes rhymes readily it makes the gift more intimate and personal to have the accompanying verse original with the writer.

The jingles given herewith are bits of rhyme sent out with some of last year's Christmas gifts, and will serve as samples of what may be done in that line.

Accompanying a lingerie bow:

This little bow I send to you  
Is not for all to see;  
Just wear it on your heart, dear girl,  
Where other beaus would be.

With a box of home-made candies:

By box and label, patented,  
Dear friend, be not betrayed;  
There's thought of you in every piece—  
The candies are home made.

Introducing a pair of piccaninnies, made of black yarn, wound and tied in form of dolls, to be used as a penwiper:

Johnny Jones and Sister Sue  
Christmas greetings bring to you;  
Kindly welcome give us, when  
We'll lend our skirts to wipe your pen.

With a sweeping cap:

This cap's to keep your tresses bright  
When at your daily task;  
If wearing it brings thought of me,  
Dear heart, 'tis all I ask.

With a hand-made handkerchief:

To envy is a stumbling block  
O'er which but Folly trips:  
Yet envy I this handkerchief—  
'Twill sometimes touch your lips.

A Delicious Roast Goose

BY MARY FOSTER SNIDER

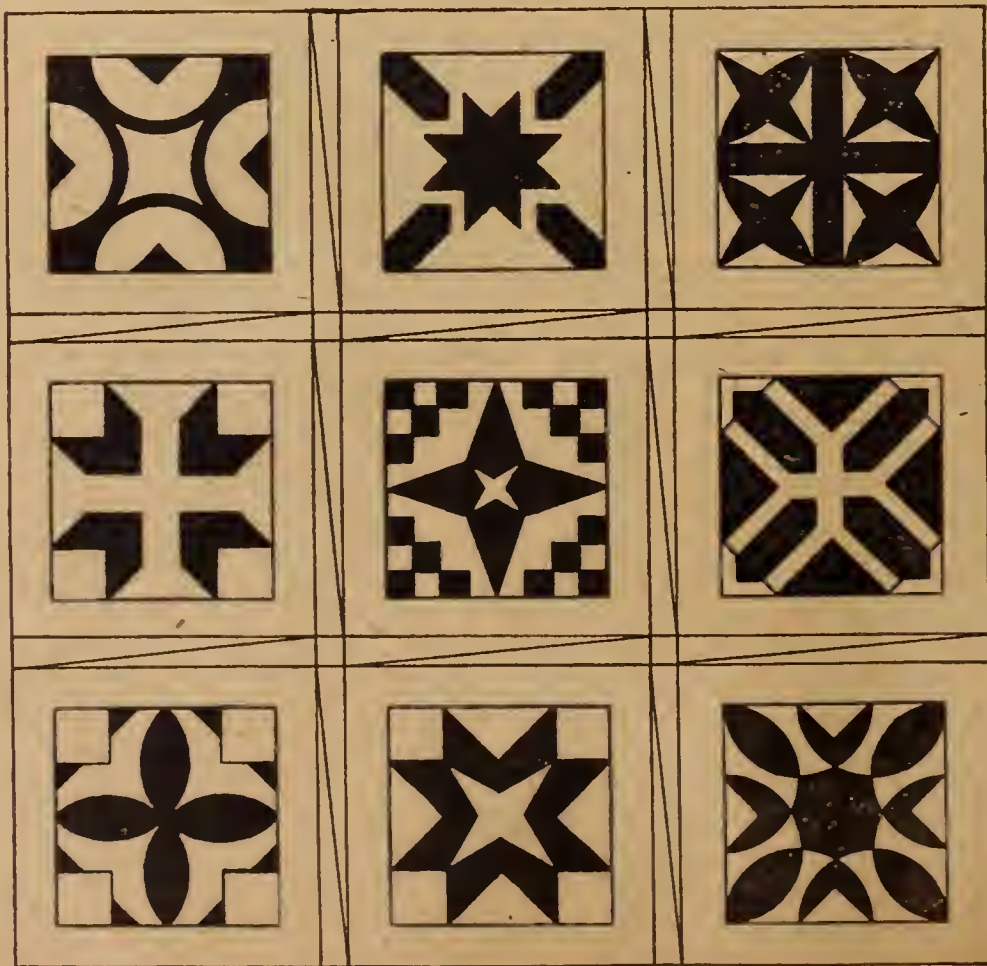
A TURKEY for Thanksgiving and a goose for Christmas is the rule in many households, and especially so with those who claim kinship with "merry England." The flesh of a goose is both rich and delicious, but occasionally after enjoying it one is ungratefully disposed to find fault with it because of its greasiness and tendency to cause heartburn and indigestion. A thorough washing and scrubbing with soap and hot water, then rinsing well in cold water, will very largely overcome this fault, and makes the rich flesh altogether more delicate and tender. After rinsing, wipe the goose as dry as possible, then draw carefully and prepare for the oven.

A writer in an agricultural paper claims that a strong salt douche is even better. Clean and dress the goose ready for stuffing, then rub it well inside and out with coarse barrel salt. Put it in a large steamer, or basket with loosely woven bottom, that will allow the salt to drip through as it melts, and hang it in a cool place for two or three days. A pan should be placed beneath, to catch the drips. Before stuffing, wash it very thoroughly through several waters, to remove the salt, wipe dry, and stuff as preferred.

A stuffing made with a mixture of chestnuts, mushrooms and sausage meat is most delicious for roast goose. To make this, chop one medium-sized onion very fine, and cook it for five minutes in three tablespoonfuls of butter. Then mix in one cupful of finely chopped mushrooms, one cupful of mashed chestnuts and one fourth of a pound of sausage meat stripped of its skin. Heat the mixture, add one cupful of bread crumbs, and one cupful of whole chestnuts which have been boiled until tender and skinned, salt and white pepper to season nicely, a generous lump of butter and one half teaspoonful of minced parsley. Let stuffing cool a little before using it. Do not pack it in the goose, but stuff lightly, and sew up. Baste often as it roasts, having the oven very hot at first and gradually moderated to a good steady heat, and roast until it is thoroughly done and richly browned.

Mushroom sauce accompanies this delectable bird delightfully. For this melt two tablespoonfuls of butter in a sauce pan, add a few drops of onion juice, then stir in gradually two tablespoonfuls of flour and one and one half cupfuls of cream or rich milk. Add one half cupful of mushroom caps (that have been cut in thin slices and fried in butter for five minutes), let simmer a few minutes longer, and serve in a gravy boat.

A tart apple sauce has always been the favorite accompaniment of roast



DESIGNS FOR QUILT BLOCKS

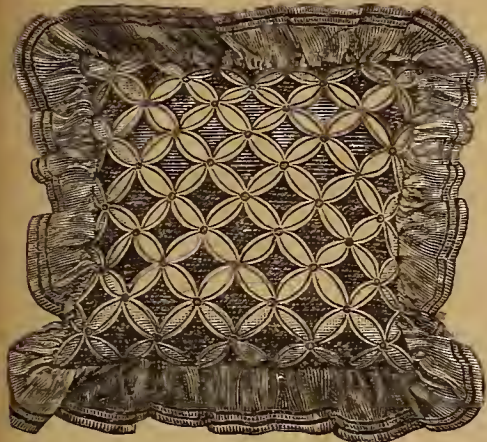
Drawn by Arthur J. Ransom



goose and is to be commended both upon the score of the palatability of the combination and because of its excellent effect in assisting to digest the rich flesh of the goose. The cry of the twentieth century for something novel, however, has even been heard here, and oftener than not the apple is now served with the goose in another form, baked apples and apple-and-celery salad being perhaps the most popular of all at the informal family dinner. Turnips, sweet potatoes, celery and stewed tomatoes are the best of vegetables to serve with goose.

**Pillow in Yellow and Black**

The pillow herewith illustrated was made of small black velvet squares on a foundation of large squares of yellow mercerized, and were joined together



THE COMBINATION IS BLACK VELVET AND YELLOW MERCERIZED

with black velvet buttons, and the pillow finished with a yellow ruffle of the mercerized, with two rows of black velvet ribbon at the hem of the ruffle, one row a little wider than the other.

The large squares of this pillow are about eight inches. After you have cut



**How the Women of the Farm Can Make Money**

For each plan or idea found suited for use in this department we shall be pleased to allow one year's subscription to Farm and Fireside. If you are already a subscriber, then you can have the paper sent to a friend. This, however, does not apply to extending your own subscription. If your idea is not printed within a reasonable time, it is very likely a similar idea has previously been accepted from some one else. Write plainly on only one side of paper, and enclose self-addressed and stamped envelope if you wish unavailable offerings returned. Address Editor Housewife, Farm and Fireside, Springfield, Ohio.

**Buy Calves**

Let me whisper a word to the farmers' wives: If hubby is a good-natured sort of creature, and willing to let you share the pasture, buy calves. Last year I bought one little calf for six dollars and fifty cents, put it in the pasture, and it lived all winter without one bit of grain, and I sold it for nineteen dollars—the easiest money I ever made in my life.

MRS. R. I. WADE, Tennessee.

**Hotbeds in the Spring**

Industrious housewives can pick up some spare change very easily and pleasantly by having a hotbed made early in the spring. I clean up a neat sum by sprouting sweet potatoes. Good seed beans and sweet-corn will sell readily in early spring, as will also onion sets.

MRS. D. M. C., Illinois.

**Using the Camera**

I use my camera to bring in a little extra money, and I find it more pleasure than work. I make pictures and postals for my friends who do not care to do the work themselves. I develop the films and make the prints for them usually in the evening, so that it doesn't take any valuable time during the day.

MRS. F. D. HAWTHORNE, Maine.

**Good Money in Peanuts**

The firm of Mrs. Blank & Son, who lives on the farm adjoining ours, made over seventy-five dollars from the sale of "goobers" last year. Mr. Blank had two acres of not overrich land which he intended to let "lay out" for a year, but readily consented to its being planted to peanuts, at the suggestion of Mrs. Blank. I purchased a bushel and a half of peanuts at one dollar a bushel, for seed, but did not plant all, as the little ones who shelled the nuts for planting took liberally for eating. Shelling is better than just breaking the hulls, as the nuts come up more quickly and evenly. The ground was prepared and the nuts planted just as one would plant Irish potatoes, dropping two or three in a hill and covering about four to six inches deep. Just as the first tiny yellow leaves peeped through

enough of these large squares for your pillow, which will require about twenty-five, turn the corners of each square until the points of the square meet in the center.

The small squares are about three and one half inches. Cut as many small squares as you have large ones; lay them over the large square, after it has been brought to the center, and then bind each of the small squares with the large squares. After this is done, take the corners of the two squares which have been bound together, turn back the corners, as you did with the large square at first, and join them together with a button.

After the squares are all completed, they are joined together, and this forms a beautiful pillow. It may be made out of any colors that will harmonize nicely. In black and yellow it is very beautiful. C. O'B.

**Raisin Filling with Cream**

Beat the yolks of three eggs. Beat again with one third of a cupful of sugar, one fourth of a teaspoonful of salt, and, if desired, the grated rind and juice of a lemon. Then add one and one half cupfuls of seeded raisins chopped fine, and mix well. Then stir in one cupful of cream, and turn the mixture into the prepared crust. Cover with a second crust. Bake about thirty-five minutes in a rather moderate oven.

**Butter Scotch**

The children never tire of the good old-fashioned butter scotch. Place two cupfuls of brown sugar, one half cupful of butter, four tablespoonfuls of molasses, two of water and two of vinegar into a porcelain-lined kettle. Stir over the fire until the sugar is dissolved, then boil without stirring until it hardens when dropped in cold water. Pour into shallow buttered pans to cool. When sufficiently firm, mark off in squares, and when cold break on these lines.



**The Rocker Washer**

It's so easy to wash with this Washer that you can sit beside it in a rocking chair and do your washing by just keeping your hand on the Washer.

Your washing will be done so soon that you will have time to go visiting wash-day.

For this is the famous 1900 Gravity Washer.

It washes quicker—and easier—and cleaner—than any other Washer made.

Your clothes can't be worn in this Washer because they are held still while the water and soap and motion of the tub do the work.

This 1900 Gravity Washer has features you cannot find in any other Washer.

No other Washer is as good—or as strong—or as durable.

There isn't room here to tell you more about this wonderful Washer.

But you can test a 1900 Gravity Washer at my expense.

I will trust any responsible party.

I will send you a Washer, all transportation charges prepaid.

You need not send me a cent in advance.

Just take the Washer and use it a month FREE.

Then—if you aren't satisfied say so, and I will tell you how to reship the Washer at my expense.

The trial doesn't cost you anything.

If you decide to keep the Washer you can pay 50c a week—less than 8c a day—until the Washer is paid for.

Could I make you a more liberal offer? I have put the whole story of this Washer in a beautifully illustrated book—printed in colors on heavy white paper

—and, if you will write your name and address on a post card and mail it to me today, I will send you a copy of this beautiful book by return mail—FREE and fully postpaid.

Pictures in this book show you exactly how 1900 Gravity Washers look and how they work.

And the book tells you "How to Wash a Tuhful of Clothes Spotlessly Clean in Six Minutes" with a 1900 Gravity Washer.

Send for this book today—now.

I want you to have the book and I know you will enjoy reading it and looking at the pictures whether you want to buy a Washer or not.

Remember, you don't even have to send me a postage stamp for the book.

It is yours for the asking—FREE.

Don't mortgage your health and strength to washday drudgery.

Don't spend your time doing work a 1900 Gravity Washer could do better and quicker, and easier for you.

Don't rasp your nerves and spoil all your pleasure in life a-dreading washday.

Send for my Beautiful New Illustrated Washer Book and read it all—from cover to cover. My word for it—its worth your reading.

Write me today—now—at once. Just your name and address on a post card—or in a letter.

Address me personally—R. F. Bieber, General Manager, 1900 Washer Company, 849 Henry St., Binghamton, N. Y.

Or—if you live in Canada, write to the Canadian 1900 Washer Company, 385 Yonge St., Toronto, Ont.

**For School Children**

I live near a public school, and realizing the great demand for candies, school supplies and knickknacks, I started a small store. I didn't put in much time at this store—not more than an hour in the morning or noon and at the closing of school. I am a dressmaker, and I found that the store did not in any way conflict with my dressmaking business, besides netting me a neat little sum.

ESTELLE SHEETS, Massachusetts.

**Animal Toys**

I make considerable spending money by making cotton flannel bunnies to sell. I make them out of white cotton flannel, and never have made too many bunnies. I also make puppies to sell. For these I use brown cotton flannel. Besides these, I knit and crochet mittens, scarfs and hoods, and I find sale for pincushions, pillow tops and chair cushions.

Miss L. E., Kansas.

**Maple-Sugar Candy**

In my locality, where maple sugar is made, you can earn pin money by making up candy of various kinds, or even little fancy cakes. On nearly every farm there are more or less butternut and walnut trees. The meats of either added to the sugar make the most delicious candies, and bring a high price.

MRS. C. F. PERKINS, Vermont.

**Teaching the Art of Dressmaking**

There is an undeveloped field for the sewing school, and for the person who will form a class and teach the art there is money to be made. Of course, it must be understood that the teacher knows her business, and if she does there will be no doubt of the success of her sewing class. This work can all be conducted in your own home.

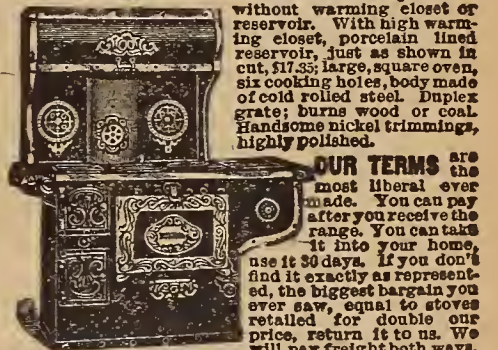
CATHARINE WEAVER, New York.

**Woman's Exchange**

There is money in it for the woman who can make tempting creations in flour. Almost every city of any size has a woman's exchange, and for the person who can bake, an avenue is open for a good business. If your baking is something different from others there will come demands from private customers, and, perhaps, hotels.

MARGARET SMITH, Pennsylvania.

**11.25 Buys This Large Handsome Nickel Trimmed Steel Range**



without warming closet or reservoir. With high warming closet, porcelain lined reservoir. Just as shown in cut, \$17.85; large square oven, six cooking holes, body made of cold rolled steel. Duplex grate; burns wood or coal. Handsome nickel trimmings, highly polished.

OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your home, use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, equal to stoves retailed for double our price, return it to us. We will pay freight both ways.

Write Today for our beautifully illustrated stove catalogue No. 5108, a postal card will do. 150 styles to select from. Don't buy until you get it. MARVIN SMITH CO., CHICAGO, ILL.

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## In the Land of Poet Whittier

By J. L. Harbour

His Birthday Centennial to be Celebrated the Seventeenth of This Month

OF ALL our American poets none have won for themselves a more lasting place in the affections of the American people than John G. Whittier, the coming centennial of whose birth recalls to mind with renewed interest and affection the life and the songs of this poet of the people. With the possible exception of Henry W. Longfellow, no American poet has had a wider popularity in our own country or in other lands than John Greenleaf Whittier, of whose ancestry it is worth while to know something, since both his forebears were among the earliest comers to our country. He was descended from Thomas Whittier, who came to America in the ship "Confidence" in the year 1638, and on this same ship was a young girl named Ruth Green, whom Thomas Whittier married not long after reaching the new land of promise, to which both had come to better their condition. Thomas Whittier took up his abode in the town of Salisbury in Massachusetts, but in the year 1647 he removed to Haverhill, ten miles from his former home. He built himself a good log house on his farm, and here he lived until he was sixty-eight years of age, and here his ten sons and daughters were born. The five sons and the father were all men of gigantic stature and great strength, and while they were all poor men, the Whittiers were noted for their force of character, and they were men of consequence in the community. They were tillers of the soil and knew all of the hardships of life in a new country.

Thomas Whittier built himself a new house when he was nearly threescore and ten years old, and it was in this house, built in 1688 and still standing, that John Greenleaf Whittier was born on the seventeenth of December in the year 1807. Thomas Whittier had a son named Joseph, who married a Quakeress named Mary Peasley, and they in turn had nine children, the youngest of which they named Joseph. He was born in March of the year 1716, and when he was twenty-three years old he married Sarah Greenleaf, and they emulated the good example of Joseph Whittier's father and grandfather by having a family of eleven children. One of their sons, John, was the father of the beloved poet, John Greenleaf Whittier. The poet's mother was Abigail Hussey. He had one brother and two sisters. Born on the same farm and in the same house in which his father and grandfathers had lived, the poet lived the rather hard life of a farmer's boy until he was about twenty years of age. His father was poor and there was a mortgage on the farm, and the stony soil of New England was not very productive, while the prices paid for such crops as the land did produce were very small. Few of the farmer's sons attended school more than three months of the year, and some of the teachers were sadly unfitted for their work, so that when young John Whittier was eighteen years old his education was still very limited, and he was eager for more knowledge. The poetic fires were already burning strong within him, and he had decided within his own mind before he was eighteen that he would never be a farmer, and his father had come to the conclusion that this son was not "cut out" for a tiller of the soil.

Whittier himself has given us a description of the home of his boyhood, written in the year 1843: "Our old homestead (the house was very old for a new country, having been built at about the time that the Prince of Orange drove out James the Second) nestled under a long range of hills which stretched off to the west. It was surrounded by woods in all directions save to the southeast, where

a break in the leafy wall revealed a vista of low green meadows, picturesque with wooded island and jutting capes of upland. Through these a small brook, noisy enough as it foamed, rippled and laughed down its rocky falls by our garden side, wound, silently and scarcely visible, to a still larger stream, known as the Country Brook. This brook, in its turn, after doing duty at two or three saw and grist mills, the clack of which we could hear across the intervening woodlands, found its way to the great river, and the river took it up and bore it down to the sea."

A peculiarity about the old Whittier homestead is the fact that from the day it was built down to the present time no

New England rural home than this.

Whittier was not a very strong boy, although he sprang from a race of powerful men, and the work that was too hard for him to do when he was a boy on the farm told on him throughout all his later life, and he remembered to the day of his death how he suffered from cold in his boyhood, when such things as underclothing for boys was unknown and there was a prevailing opinion that it "toughened" boys to suffer from lack of proper clothing, and that it was "cod-dling" a boy to give him robes or blankets for his protection if he set out for a drive of ten or twelve miles in the bitter winter weather. Whittier's Quaker par-

Whittier was a mere lad when he first began to rhyme, and in some of these rhymes he gave expression to his dislike for the work of the farm and his eagerness to secure a better education that he might be better fitted for other work. Many were the rhymes he wrote on his slate when he was a boy at school, and erased them as soon as they were written, that they might not fall under the eye of the teacher. His sister Elizabeth remembered one of these rhymes, and it was as follows:

And must I always swing the flail,  
And help to fill the milking pail?  
I wish to go away to school;  
I do not wish to be a fool.

This sister Elizabeth was ever her brother's faithful friend and admirer. She was the first to recognize the hopeful signs of real genius in his rhymes, and it was through her interest in her brother's work that his first poem appeared in the public prints when Whittier was nineteen, although the poem had been written before that time. This poem was entitled "The Exile's Departure," and it appeared in a weekly paper William Lloyd Garrison was publishing in his native town of Newburyport, a few miles from Haverhill. Elizabeth Whittier sent the poem to Newburyport unknown to its author. Mr. Garrison has told of the discovery of the poem in these words:

"Going upstairs to my office one day, I observed a letter lying near the door, to my address, which, on opening, I found to contain an original piece of poetry for my paper, the 'Free Press.' The ink was very pale, the handwriting very small; and, having at that time a horror of newspaper 'original poetry'—which has rather increased than diminished with lapse of time—my first impulse was to tear it in pieces without reading it, the chances of its rejection, after its perusal, being as ninety-nine to one; but, summoning resolution to read it, I was equally surprised and gratified to find it above mediocrity, and so gave it a place in my journal. As I was anxious to find out the writer, my post rider one day divulged the secret—stating that he had dropped the letter in the manner described, and that it was written by a Quaker lad named Whittier, who was daily at work on the shoemaker's bench, with hammer and lapstone, at East Haverhill. Jumping into a vehicle, I lost no time in driving to see the rustic bard, who came into the room with shrinking diffidence, almost unable to speak, and blushing like a maiden. Giving him some words of encouragement, I addressed myself more particularly to his parents, and urged them with great earnestness to grant him every possible facility for the development of his remarkable genius."

The first stanza of this poem written by a boy of seventeen will show that it was a very remarkable production for a boy of that age, and that Garrison had reason for thinking that here was a writer it was worth while to encourage:

Fond scenes, which have delighted my youthful existence,  
With feelings of sorrow, I bid you adieu—  
A lasting adieu! for now, dim in the distance,  
The shores of Hibernia recede from my view.  
Farewell to the cliffs, tempest beaten and gray,  
Which guard the loved shores of my own native land;  
Farewell to the village and sail-shadowed bay,  
The forest-crowned hill and the water-washed strand.

We have seen that Garrison writes of



SCENE AT THE OUTDOOR FUNERAL SERVICE OF WHITTIER

neighbor's roof has ever been seen, because of the peculiar situation of the house. Whittier says of this isolation in his "Snow-Bound":

No church bell lent its Christian tone  
To the savage air; no social smoke  
Curled over woods of snow-hung oak.

All through "Snow-Bound" one may find descriptions of the old house in which the poet was born, and no poet ever wrote more delightfully of the entire environment of his boyhood than did Whittier. Of the interior of his home in the long winter months when the New England winter was fiercest he has written:

Shut in from all the world without,  
We sat the clean-winged hearth about,  
Content to let the north wind roar  
In baffled rage at pane and door,  
While the red logs before us beat  
The frost line back with tropic heat;  
And ever, when a louder blast  
Shook beam and rafter as it passed,  
The merrier up its roaring draught  
The great throat of the chimney laughed;  
The house dog, on his paws outspread,  
Laid to the fire his drowsy head;  
The cat's dark silhouette on the wall  
A couchant tiger seemed to fall;  
And, for the winter fireside meet,  
Between the andirons' straggling feet,  
The mug of cider simmered slow,  
The apples sputtered in a row,  
And, close at hand, the basket stood  
With nuts from brown October's wood.

No writer of either prose or poetry has ever given a truer picture of the early

ents. drove a distance of eight miles twice a week to "meeting" in the dead of winter, and sat in a cold little wooden church listening to the interminably long sermons preached in those days. Whittier and his sisters and brother had to go with their parents to those "meetings," and the wonder is that Whittier was so true to the church and so unflinching in his attendance throughout his whole life with the harrowing memories he must have had of his sufferings in attending "meeting" during his boyhood.

There is in Haverhill a very crude old wooden desk said to have been the one at which Whittier sat in the "deestrick" school he attended, and the desk has his initials cut in it. He had a very poor opinion of most of his schoolmasters, but there were one or two to whom he became greatly attached. One of these was a Joshua Coffin, and it was to him that Whittier in his later life wrote his beautiful lines, "To My Old Schoolmaster," beginning with:

Old friend, kind friend! lightly down  
Drop Time's snowflakes on thy crown!  
Never be thy shadow less,  
Never fail thy cheerfulness!

Of himself as a pupil in the school Whittier wrote:

I, the urchin unto whom,  
In that smoked and dingy room,  
Where the district gave the rule  
O'er its ragged winter school,  
Thou didst teach the mysteries  
Of those weary A B C's.



THE OLD QUAKER CHURCH WHITTIER ATTENDED



WHITTIER'S BIRTHPLACE AT HAVERHILL



THE AMESBURY HOME OF WHITTIER



Whittier as being at the shoemaker's bench at the time his first poem was published. This was because his father had told him that if he would earn the money for his expenses he might go to the academy in Haverhill for a year. Whittier gladly accepted the offer, and set to work making a cheap kind of slipper, for which he received twenty-eight cents a pair. With the money thus earned he attended the academy a year, and this ended his school days. The academy was opened the year Whittier entered it, and he had the honor of writing the dedication ode. While a student in the academy he wrote scores of poems for the newspapers, no less than forty-seven of them appearing in one year in the Haverhill "Gazette." Very few of these early poems were thought good enough by Whittier to be included in any of the volumes of poems he published in his later years, although many that he rejected were far superior to much of the poetry we find in some of the periodicals of our day.

When his school days were done at the academy, Whittier, through the influence of Garrison, secured a position as editor of the "American Manufacturer," published in Boston, and he left the farm for his first experience of real city life. He could not have spent much money enjoying the allurements of the city, for his salary was but nine dollars a week, and he had a lifelong horror of debt. Moreover, he saved one half of his salary and applied it to the part payment of the mortgage on his father's farm. The ill health of his father made it necessary for the youthful editor to return home when he had been in Boston about a year, and he remained at home until the death of his father, when he became editor of the Haverhill "Gazette" for six months, and later he was editor of the "Review" in Hartford, Connecticut. Here he made the acquaintance of a kindred spirit, in the person of Mrs. Sigourney.

Mr. Whittier sent his first volume of poems into the world when he was twenty-four, giving to it the title "Legends of New England." He was so eager to suppress this volume in his later years, that he paid as much as five dollars each for some copies, that he might burn them. Although he lived to be nearly eight-five years old, Whittier suffered much from ill health, and in 1832 we find him writing to Mrs. Sigourney: "I intended when I left Hartford to proceed immediately to the West. But a continuance of ill health has kept me at home. I have scarcely done anything this winter. There have been few days in which I have been able to write with any degree of comfort."

Ill health and the need of his presence in his home in Haverhill compelled Whittier to resign the editorship of the "Review" in January of the year 1832. Although he was a Quaker, Whittier had high political aspirations in his early manhood, and was eager to make his mark in the world of politics, and even hoped to go to congress, where he would surely have found himself among rather ungenial and unsympathetic surroundings. He had now published more than one hundred poems, with almost no compensation for any of them, and was discouraged in regard to earning a livelihood with his pen. Poetry was then, as now, about the most unprofitable product of the literary market. Mr. Samuel T. Pickard, who has given us the best and most detailed life of Whittier, and whose wife was a niece of the poet's, says of Whittier's political aspirations: "Up to 1833, when Whittier was in the twenty-sixth year of his age, whatever thought he had for the future, outside his work as a farmer, was in the direction of politics."

His opposition to the institution of slavery was a birthright from his Quaker ancestors, and there is no doubt but that Whittier's wish to enter politics was founded partly on the hope of in some way helping along the anti-slavery cause that was becoming one of the issues of the day. Indeed, his friend Garrison had already suffered imprisonment in Baltimore because of his anti-slavery utterances, and Whittier had appealed to Henry Clay for his release, Whittier being up to this time a great admirer of Clay, and had written much in his praise.

We have not space in these columns to write of Whittier's long and fierce warfare against slavery, but when the fight was really on he threw himself into it heart and soul, and with voice and pen waged what he felt to be a just war against a great wrong.

Whittier left his Haverhill home to take up his residence in Amesbury in the year 1836, and after that time until his death his permanent home was in Amesbury. The farm was sold for three thousand dollars, and Whittier and his mother and sister took twelve hundred dollars and purchased a little house of four-rooms in Amesbury. This house was gradually enlarged to the quite commodious dwelling that it is to-day. Here Whittier wrote his finest poems, and here may be seen many interesting relics of him and his ancestors, while many more may be

seen in the Whittier house in Haverhill. There is in the house a small, low-ceilinged room, called the "garden room" because it overlooks the pretty garden back of the house. It was more retired than any of the other rooms, and here Whittier did most of his writing, and here he received many of the distinguished men and women who came to see him when his fame as a poet had gone all over the world. To this little room came the Fisk Jubilee Singers in the year 1879, and the tears rolled down his cheeks as well as theirs while they sang:

The Lord bless thee and keep thee,  
The Lord make His face to shine upon thee,  
And be gracious unto thee,  
The Lord lift up His countenance  
Upon thee, and give thee peace. Amen.

Whittier died at Hampton Falls, New Hampshire, while on a visit to that place. His funeral was on a fair day in September. The services were held in the garden back of the house, and then he

was carried to his last resting place in that part of the cemetery reserved for the Society of Friends. One of his close friends, Mr. Robert S. Rantoul, has written thus of Whittier's funeral:

"I attended his funeral. The day was ideal—cloudless September sky above, a wealth of autumn beauty all about. No word was uttered in speech or song that day, but it was apt, spontaneous, sincere. I think I never joined in obsequies more fit. Their simplicity was absolute. The poet Stedman spoke as few men can, and with grace and aptness which, perfect as they were, yet seemed unstudied. It was hard to say whether deep feeling or critical characterizations were the leading qualities of his words. And the Hutchinsons sang 'Lay Him Low' as if it had been written for themselves and the day; and the sister Friends, whose habit of speech in the public gatherings made the part they took seem only the expected thing, bore testimony from out of the depths of their experience to what the world had come at last to know."

## The Impostor

By Frank E. Channon

[CONTINUED FROM PAGE 15]

"What's the matter with a private sanatorium?" inquired Donnaly blandly.

"Can it be arranged, do you think?"

"I see no reason why not."

"How will that suit you, Count?"

"I am content, if—if—" and the old Count bent forward in terrible earnestness, "if you are sure that he will not be able to get away," he finished.

Next morning the Birmingham papers contained the account of a violent attack by a madman upon three guests at the Grand Hotel. It had been a desperate affair, and the guests had barely come off with their lives, but the insane man was in confinement, and safe. The fellow was afflicted with homicidal mania, and conceived himself to be the means by which a pretender to some throne in eastern Europe could be thwarted. He raved insanely, and declared one of the guests to be a Count and an enemy and a plotter against his country. It was with great difficulty that the madman was at last removed to Wood's Private Sanatorium, where it was hoped his case would succumb to treatment.

That same morning a Pullman was attached to the 11:34 Southampton Express from New Street Station and a party consisting of three gentlemen and two ladies, with servants, ensconced themselves comfortably within it. The train connected with the big J. & M. Mediterranean liner "Republic" at Southampton, which later in the day, dropped down the Solent, and, casting off her pilot, stood out into the English Channel. She met the big Atlantic rollers as she doubled old Ushant, and buried her nose in the mighty waves of the Bay of Biscay.

In the Bay of Biscay, oh!  
There she lay,  
All next day  
In the Bay of Biscay, oh!

Not that the big "Republic" had any intention of "laying" in the bay for modern liners disdain winds and waves, so she pushed her forty-foot freeboard through the surging green waves at a twenty-knot gait all that night, and three days later steamed slowly under the shadow of England's gate of the Mediterranean, Gibraltar, and anchored close under its mighty batteries. Then the passengers all surged over the sides and for six hours "did" Gibraltar. They watched "Tommy Atkins," in his pill-box cap, mounting guard and playing polo. They heard the band play at the governor's place, and gazed off over the marshy stretch of sand into sunny Spain. And then they hastened aboard again, and the "Republic" up anchored and was off.

But the Pullman party did not leave the ship. Instead, they remained closely in their state rooms, and talked and talked.

It was during the stop at Gibraltar that the subject of the relations between the Queen and the new King was first broached. It was Amos himself who mentioned it.

A lengthy conversation resulted, for the subject was one requiring considerable tact in handling. It was finally arranged between the Count and Amos that the new King and his consort should continue in residence at the Royal Palace as had the old King, each occupying their respective suites and appearing together in public when the occasion demanded it.

"Colonel," said Amos thoughtfully, "how long is this farce to go on? What

will be the end of it? Where is the stopping place?"

"Time, which tells all things, will show that, too," replied the Count.

"The only way for you to treat this affair, Amos," said Donnaly, "is as a huge joke. The laugh or the cry, the comedy or the tragedy will come at the curtain's fall. We have rushed into this, old man; we must stay and play it out, making our minds easy in the meantime, in the knowledge that we are acting for the best and in the best interests of all concerned. If the Count has judged rightly, if your face is good enough to carry you through, then you have ability to bring things to a successful termination, of that I am sure. Meantime, old man, polish up your French, which the Count says is the diplomatic language of Mirtheium, and is used on all occasions. That mixed, half-Turkish, half-Grecian, language, which is commonly spoken, you can pick up as you go along; you will have no immediate need of it. Finally, old man, recollect we are out for an adventure; let's see it through. I, as Your Majesty's newly acquired American secretary, will stand by you and see you through, never fear."

The Queen and the Countess joined them and the conversation again became general. Since the plot had been explained to her there had occurred a decided change in her manner. Her girlish vivacity had gone and given place to a strained reserve. Once, and once only, had she spoken openly and candidly to Amos, and that was on the first day of the voyage.

"Uncle says it must be so, and that you have promised to play your part," she said with an almost childish look upon her face. "But oh, I hate and despise all this deceit and concealment. I would willingly, aye, willingly and gladly, give up to Rudolf if only all would agree upon him, but they would not. There would be fighting and slaughter again, as there was forty years ago. It was terrible then, terrible; my uncle has often told me of it. Fathers fought against sons, and brothers against brothers; the island ran with blood and the whole country was filled with wickedness. The people are quiet and peaceful until once aroused, and then they are fiends. Are they as bad in your land? Do they fight and slay there?"

"Sometimes," admitted Amos.

"I know," she went on. "I have read of your fearful war of fifty years ago. It was the same then, was it not?"

"It was," replied the American, "and always will be as long as men are upon this earth."

"Oh, I hope not, I hope not," she cried. "I think we are becoming better; I think we are learning to love, not to hate; in time war will surely pass away. It is ambition," she went on; "and yet ambition is good, my uncle says."

"I charge thee, Cromwell, throw away ambition, for by it fell the angels," quoted Amos.

"Who said that?" she asked quickly.

"Wolsey, Cardinal Wolsey," he replied, "or at least Shakespeare puts those words into his mouth. Do you agree with them?"

"I scarcely know," she said. "The world would be very sad without some ambition. I think," she added quickly, "that if it is a worthy ambition, then it is good; it is when our aims are misdirected and our objects unworthy that ambition becomes a curse."

"Surely then," said Amos, "we should go with easy consciences into this—into this—this deception of ours."

"Oh," she cried out in horror, "don't call it by that name."

"But it is," he persisted.

"Can good come out of evil?"

"That question has been answered before," he replied evasively.

"She moved uneasily in her deck chair, then changed the subject.

"This man, this agent of Count Casell's, will any harm come to him?"

"No," replied Amos; "he will be kindly treated, but detained until we order him released. It was our only course. 'All's fair in love and war.' I suppose we are going on that axiom."

"And you," she inquired, "how long will you play the king to my queen?"

"Like Mr. Micawber, 'until something turns up,'" he said lamely.

"I have read that book," she said. "I have laughed and cried over it, but you are not like Mr. Micawber."

"I hope not; it would be a poor character for a king," and he laughed grimly.

Since that conversation they had had little to say to each other; by almost mutual consent they avoided one another. Both seemed to feel their position uncomfortably.

On through the blue Mediterranean steamed the "Republic." She touched at Naples, and then rounding the southern shores of Greece, entered the Aegean Sea, with Constantinople as her port of destination. But when the great forts which mark the entrance to the Dardanelles loomed up in the distance, the Count's party prepared to disembark. They traveled overland to Gallipoli and from there a cablegram was despatched to Mirtheium announcing the home coming of the King and Queen. A special steamer of small tonnage was chartered.

Never, as long as Amos lives, will he forget that "home coming." It was late in the evening when the island was first sighted. Darkness soon fell and completely hid it, but a hundred bonfires marked its position, and as they neared its shores and stood for the one harbor which Mirtheium possessed, its capital city, Doonroon, the welcoming shouts of the waiting people were borne to them across the silent, calm waters.

"Boanzies! Boanzies! Boanzies!" ten thousand throats were shouting.

The royal party were gathered on the forward deck of the little steamer—"The King" and Queen standing a little in advance of the rest; behind them, "His Majesty's" secretary and Count Benedict and the Countess.

Amos had been well coached in the history and traditions of the island kingdom; he was prepared to do his part.

"Boanzies! Boanzies!" the shout rang out again.

"It is Welcome! Welcome!" the Count whispered in the King's ear. "As you step ashore, kneel and kiss the soil; it is customary. Conduct all your conversation with the officials in French; the late King always did."

"I fear," said the Queen, with a shudder, "I fear disaster."

"Fear nothing!" replied Amos, as he offered her his arm. "We must be bold: remember, 'faint heart ne'er won fair lady.'"

The little jetty was very near now. The crowding mob of people could be plainly distinguished by the waving light of hundreds of torches. A dozen small boats were escorting the steamer to her berth, and as her nose touched the stage, a brilliant motto of fire burst into flame: "Tries boanzies a Leopold X. of Mirtheium!" and ten thousand throats rang out the words once more: "Welcome! Welcome to our King!"

The steamer touched lightly, and in a moment the King was ashore and assisting the Queen to land. Inside a small roped-off space a dozen officials were ready to extend an official welcome, but the populace could wait no longer. With a roar of welcome they broke through the rope and swept over to greet their King.

With a commanding gesture the monarch waved them back. Then he fell upon his knees and solemnly kissed the ground. He rose again, and drawing himself up to his full height, extended his hand.

"Gracieous, Gracieous, ma pouplous!" he exclaimed, using one of the stock phrases he had been taught.

Next moment he was surrounded by the cheering people and hoisted shoulder high; the officials fought a path through for the Queen, and together they were escorted to a waiting carriage, drawn by four gorgeously decorated mules. Next moment the animals were out of the traces, and their places were taken by a hundred willing men. With a jolt the vehicle sprang forward, and the royal couple were drawn in triumph up the steep street toward the palace. The King stood erect, and grasping the front rail for support, waved his thanks to his people; the Queen sat smiling and pale by his side. The Count and his party were following in another carriage.

[TO BE CONTINUED NEXT ISSUE]



# Dolls and Animals

## Christmas Gifts that Will Surely Please the Children Patterns for Complete Outfits

By Grace Margaret Gould



CHRISTMAS marks the changes of fashions in Doll Land just as distinctly as Easter does for grown folks. Little mothers watch anxiously for magazines that will illustrate dolls and their latest outfits. Every new detail is noted carefully, for last season's dolls must be thoroughly up to date in order to associate with the dolls of 1908.

Paris has innumerable modistes who design women's gowns, but Santa Claus is the one authority, the Paquin, in the Doll World. To be sure, dolls' clothes follow closely the trend of fashions created for their little mothers, but the designs must be shown exclusively for the dolls in order to persuade children that they are strictly modern.

Here we have the pattern of a rag doll, which may be cut out and stuffed and will stand the hardest sort of wear without showing any signs of injury. Included in the pattern is a pretty little party dress made to fit the rag doll.

Every well-ordered doll's wardrobe should include a short reefer for pleasant days, and an automobile coat, too.

To wear in her own doll's house there should be kimonos, long and short, and dressing sacques, that any little girl may make with tiny pieces left from her own frocks.

No. 936—Teddy Bear's Overalls and Bathing Suit

Pattern cut in one size, for a 15-inch bear

No. 940—Teddy Bear's Pajamas and Bathing Suit

Pattern cut in one size, for a 15-inch bear

No. 837—Toy Bear 15 inches high



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. 841—Rag Doll and Dress

Pattern cut in one size, for a 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 one eighth of a yard of lace. Quantity of material required for sunbonnet, one fourth of a yard of thirty-six-inch material, with one yard of embroidery for frill.



No. 839—Dog With Blanket

Pattern cut in one size. Quantity of material for dog, three fourths of a yard of twenty-seven-inch material, with two buttons for eyes. For the blanket, one half yard of twenty-seven-inch material



No. 667—Flannel Bunny

Pattern cut in one size. The quantity of material that is required for making the bunny is three eighths of a yard of twenty-seven-inch material. Two buttons are required for the eyes



No. 1049—Doll's Kimono and Dressing Sacque

Patterns 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



No. 838—Outfit for Mammy Doll

Pattern cut in one size, to fit a doll 22 inches high. Quantity of material required for cloak, one half yard of forty-four-inch material. Quantity of material required for dress and kerchief, one and one fourth yards of thirty-six-inch material. Quantity of material required for apron, one fourth of a yard of thirty-six-inch material

### How to Order Patterns

We will furnish a pattern for every design illustrated on this page. The price of each pattern is ten cents. In ordering, be sure to mention the number of the pattern desired and the size required. Send money to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. Write for our new catalogue; sent for four cents in stamps.



No. 1048—Doll's Reefer and Automobile Coat

Patterns 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. 1051—Jointed Pussy Cat

Pattern cut in one size. Quantity of material required, one half yard of thirty-six-inch material, two buttons for the eyes, and one small piece of chamois for the four paws



No. 670—Baby Doll's Outfit

This outfit consists of dress, petticoat, coat and cap. Pattern cut in one size, for a doll 22 inches high. Quantity of material required for coat and cap, one and one fourth yards of forty-four-inch material. Quantity of material required for dress one and one eighth yards of thirty-six-inch material, with one eighth of a yard of tucking for yoke. Quantity of material required for petticoat, one yard of thirty-six-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



# Miss Gould's Dressmaking Lesson

## Two Dressing Sacques—Practical Home-Made Christmas Gifts

SOME of the most acceptable Christmas gifts are home-made ones, and women who sew just a little can make dainty but inexpensive dressing sacques for their friends instead of purchasing frivolous trifles in the shops.

### Directions for Making Dressing Sacque No. 1039

Dressing Sacque With Collars and Sleeves in Two Styles, No. 1039, is a particularly practical and adaptable pattern. It may be ordered from the Pattern Department of FARM AND FIRESIDE, 11 East 24th Street, New York City. The price of the pattern is ten cents.

The pattern envelope contains ten pieces. Each piece is perforated with and designated by a letter, so that it is impossible for an amateur dressmaker to mistake one piece for another. The front is lettered (V), the back (T), the front yoke (E), the back yoke (H), the rolling collar (L), the sailor collar (N), the belt (X), the sleeve (K), the armband (I) and the cuff (J).

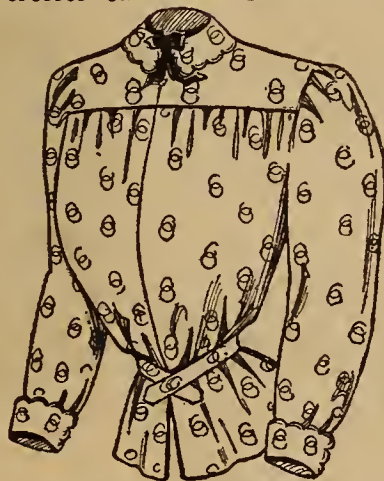


No. 1039—Dressing Sacque With Collars and Sleeves in Two Styles

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 thirty-six-inch material, or three yards of forty-four-inch material. The price of this pattern is ten cents. It can be ordered from the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City.

Smooth the pieces of the pattern out carefully and place on the material with the edges marked by triple crosses on a lengthwise fold. Lay the other parts of the pattern with the line of large round perforations in each lengthwise of the goods. One illustration shows the most economical way of placing the pattern pieces on forty-four-inch material, which is not quite wide enough to cut out the two fronts. Small triangle piecings, however, that must be made below the waistline, do not show if carefully joined.

If the rolling collar is to be used, leave out the



This Shows How Dressing Sacque No. 1039 Looks With the Rolling Collar and Long Sleeves

sailor collar, and if short sleeves are preferred, cut off the long sleeve on line of large round perforations and omit the cuff. Do not cut two collars and both cuffs and armbands for the same dressing sacque.

Be sure to mark each perforation and cut out each notch before removing the pattern pieces from the material. Join the back and fronts by corresponding notches. Form the box plaits in the back by bringing the corresponding lines of triangle perforations together. Baste the full length of the box plaits, but stitch only as far as the waistline, which is indicated by square perforations. Open each box plait out flat, with the seam at the center of the plait on the under side, and press well. If the sacque is made of material which will not remain plaited, stitch one fourth of an inch in from the edges of the plaits to make them perfectly flat. This stitching should extend only as far as the waistline, however, as the additional fulness in the plaits is required below the belt.

Gather the front at upper edge between double crosses. Join fronts and back to the yoke as notched, and close shoulder seams of yoke, matching lines of small round perforations. Turn hems on yoke and fronts by notches and fasten invisibly at the center front. Join the sailor collar to neck by notch and fasten at the neck with a ribbon. Arrange a ribbon around the waist and tie in front.

For elbow puff, cut the sleeve off on line of large round perforations. Gather the sleeve at upper edge between double crosses, and at the lower edge, too. Join the armband to lower edge of sleeve.

Pin the sleeve in the arms-eye, placing the front seam at notch and the top notch at shoulder seam. Pin the plain part in smoothly, and draw up the gathers to fit the remaining space. Distribute the fulness carefully and baste firmly. Finish each armband with a frill three fourths of a yard long and as wide as desired.

For the dressing sacque with rolling collar and long sleeves follow the directions given for making the body of the dressing sacque. Arrange the belt around the waist along lines of square perforations. Bring small round perforations to under-arm seams and cross in front, matching large round perforations. Join rolling collar to neck by notch and roll over on lines of small round perforations.

Gather the long sleeve at upper and lower edges between double crosses. Join the cuff to lower edge of long sleeve as notched.

This is a particularly adaptable pattern and can be used to make dressing sacques in several different styles. The illustrations show two of these varieties. In addition, one could make a sacque with sailor collar and long sleeves, or another one with rolling collar and short sleeves.

### Directions for Making Dressing Sacque No. 1040

Here is another dressing sacque which is easy to make, and may be more practical than No. 1039 for figures that are inclined to be stout. Both sacques, however, are very becoming and have a distinctive style all their own.

The pattern of Box-Plaited Dressing Sacque With Fitted Back, No. 1040, may be ordered from the Pattern Department of FARM AND FIRESIDE, 11 East 24th Street, New York City. The price of the pattern is ten cents.

Each piece of the pattern is perforated with a letter, which distinguishes it from all the other pieces. This is to keep the beginner from confusing the different parts. The pattern envelope of No. 1040 contains seven pieces. The front is lettered (V), the under-arm gore (W), the back (T), the collar (L), the belt (X), the upper sleeve (K) and the under sleeve (N).

Smooth the pieces of the pattern out carefully and pin on the material, placing edges marked by triple crosses on a lengthwise fold. Lay other parts of pattern with line of large round perforations in each lengthwise of the goods.

The material used for dressing sacques is often twenty-seven inches wide, and for this reason we show the most economical way of placing the pattern pieces on material of this width. Pin two lengths of twenty-seven-inch material together and place the pieces with the line of large round perforations in each lengthwise of the goods. The collar and belt are cut double, and one of the thicknesses may be used for lining. In this case, too, there is the little piecing on each front below the waistline. The right front of the sacque is cut like the pattern. There is no box plait on the left front, so this is cut off on line of small round perforations.

Mark the perforations and notches before removing the pieces of the pattern from the material. Then join the pieces by corresponding notches. Open the back and side back seams out flat and stitch one eighth of an inch each side of the seam. This gives an attractive finish to the otherwise plain back.

Form the inverted plaits at the back below the belt by bringing the corresponding lines of triangle perforations together. Baste and press.

[Concluded on Page 23]



No. 1040—Box-Plaited Dressing Sacque With Fitted Back

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, five yards of twenty-seven-inch material, or four yards of thirty-six-inch material.

Send the order for this pattern to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. The price of the pattern is ten cents.

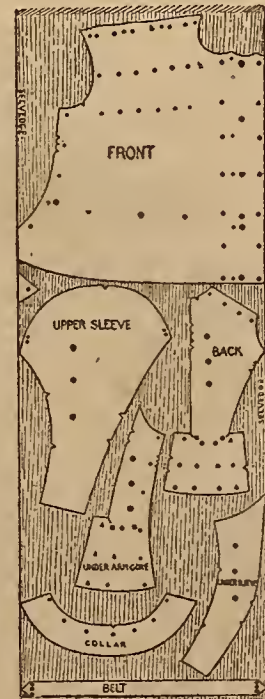
### Directions for Making Dressing Sacque No. 1040



Dressing Sacque No. 1040 Worn Without the Belt, With Front Loose



The Most Economical Way of Placing the Pieces of Pattern No. 1039 on Forty-Four-Inch Material



The Pieces of Pattern No. 1040 Are Most Economically Placed on Twenty-Seven-Inch Material in This Manner

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NOTE: For Canadian subscriptions to Farm and Fireside, add 25 cents extra. Canadian subscriptions not accepted for the other papers and magazines. The Roosevelt Calendar may be added to this offer for only ten cents extra up to January 1, 1908.



## Some Relics of Long Ago

BY FELIX FANTON

IN BOSTON'S fine old state house of the gilded dome may be seen some of the most interesting ancient war-time relics in our country. The collection of torn and tattered battle flags carefully preserved in glass cases is a very notable one, but other state houses have such flags. No other state house has, however, such an interesting collection of drums as are to be seen in the Massachusetts State House. Here is what is called the Baltimore drum, which was carried and beaten by Henry White, a drummer in Company I, when the Sixth Regiment of Massachusetts Volunteers Militia marched through Baltimore on that fateful nineteenth of April, in the year 1861, and there is also a musket carried by Charles A. Taylor, a private of Company D, who fell on that eventful day. Henry White was a drummer in the Massachusetts militia for sixty-seven years, and on the seventeenth of November, in the year 1882, when he was nearly eighty years of age, he came from his home in Haverhill, Massachusetts, to the state house, and presented his old drum to the governor of the state, to be hung in the executive chamber with the flags of the Sixth Regiment.

But a far more ancient drum than this is a drum that was beaten at the Battle of Bunker Hill on the seventeenth of June, in the year 1775, by Thomas Scott. With this drum is an old flint-lock musket used by Major John Buttrick at the famous Battle of the Bridge at Concord on April nineteenth, when

By that rude bridge that arched the flood,  
Their flag to April's breeze unfurled,  
Here once the embattled farmers stood  
And fired the shot heard 'round the world.

Another interesting historic collection consists of an elaborately ornamented old cocked hat, a drum and a sword which were captured at the Battle of Bennington on the sixteenth of August, in the year 1777, and which were presented to Massachusetts by Brigadier-General



DRUM CARRIED BY HENRY WHITE IN BALTIMORE WHEN FIRST BLOOD OF THE CIVIL WAR WAS SHED

John Stark. There is also a letter of acknowledgment to General Stark written by Jeremiah Powell, President of the Common Council, dated December 5, 1777. One may also see in the state house two unusually interesting flags. One is a regimental flag which General Winfield Scott, U. S. A., gave to the only Massachusetts regiment that fought in the Mexican War. The flag is of green silk, embroidered with the national coat of arms in the center, while above it are thirty stars, representing the number of states then in the Union, and below are the words "Massachusetts Volunteer Infantry." The other flag is a United States garrison flag which waved from the flag staff at General Ulysses S. Grant's headquarters, City Point, Virginia, in the Civil War. It was given by General Grant to his staff officer, Colonel Amos Webster, in April, 1865, after the surrender of the Confederates at Appomattox Court House, and he in turn presented it to Roger Wolcott, Governor of Massachusetts, through Hon. John D. Long, Secretary of the Navy. The flag is thirty-six feet long.

But none of these trophies of war equal in value the famous "History of Plimoth Plantation," written by Governor William Bradford, which was returned to the Commonwealth of Massachusetts from the library of the Consistorial and Episcopal Court of London, through the efforts of George F. Hoar, United States Senator, and Thomas F. Bayard, Ambassador at the Court of St. James in the year 1897. This ancient document is guarded with all the jealous care with which the original copy of the Declaration of Independence is guarded in Washington.

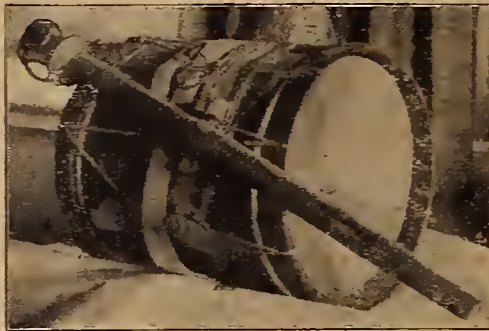
One of the things in the state house in Boston is the historic old wooden codfish, serving as a memorial of the importance of the cod fishery to the welfare of the Commonwealth. This codfish hangs above the speaker's chair in the splendid chamber of the house of repre-



## The Young People

sentatives. The exact age of this ancient and curious and far from beautiful emblem is not known, but it is certain that it dates back to the year 1773, for there is a record of the fact that in that year the state paid fifteen shillings to have the codfish repainted. It is also known that a codfish hung in the old state house in the year 1747, but this codfish was destroyed by fire when the structure was

burned in the year 1747. Just when the present codfish took its place is not known. The corner stone of the present state house on old Beacon Hill was laid on July 4, 1795. The stone was drawn to the hill by fifteen white horses, each with a leader, and Samuel Adams assisted by Paul Revere laid the corner stone. The original structure cost but one hundred and forty thousand dollars, but the additions made to it since that long-ago time aggregate, with the cost of the ground, several millions of dollars.



DRUM AND SWORD USED AT BATTLE OF BENNINGTON, AUGUST 16, 1777

## Nebraska Sod Schoolhouse

THE picture of the sod schoolhouse and pupils was taken April 3, 1907, by Mr. Goehring, of Burwell, Nebraska. The schoolhouse is located five miles northwest of Burwell, in Garfield County. South of this school is the beautiful Calamus Valley, through which flows the Calamus River. The picture was taken on the south side of the building, which you will notice is of sod, the door being in the east, by which passes the well-traveled "Burwell Road."

"The furnishings of this building were not the best," writes the teacher, "but we were as happy as if everything were of the best. I taught this school (known as District 5) the past two years, and was very kindly treated by both parents and pupils."

## The Trade That Didn't Last

BY BARBARA WILLIS

"WOULDN'T it be nice to live in the city, like Harold and Margaret?" said Arthur to Elizabeth, as they sat digging their toes in the warm sand one October day. "There's something to see in the city, but out here we have nothing but the same old things all the time."

"I wish we could go there to live," said Elizabeth sadly. "Margaret wears a dress better than this for every day, and she wears her shiny shoes all the time. I guess papa and mama are awful poor or we'd have nicer things."

"How would you like to exchange with your little cousins?" asked their mama, who had been listening on the porch. "If you like, you may go to stay with Aunt Ida in the city, and the children can come out here. Their flat is so small that the exchange would suit all around."

"You and Aunt Ida would just trade children, do you mean?" asked Arthur. "Goody! Goody! Only Elizabeth and I won't want to come home for a long, long time."

"Very well. I will write to Aunt Ida to-day about it."

The city children were wild with delight to hear they could go to the country, and very soon the exchange was made. Mrs.

Landis told Elizabeth she could wear her "shiny" shoes every day, and told Arthur he must not take his old clothes along. The city was not very far from the farm, so Mrs. Landis and her sister could easily "trade" children.

It was still very warm, though the first of October, so Harold and Margaret took off their shoes as soon as they reached the farm, and went to wade in the brook. Then they rolled in the long green grass, and picked apples and pears and grapes, and did so many other delightful things that it would indeed be hard to tell about them all.

"Did you get a letter from the children?" asked Mr. Landis the second day after the trade, when he saw Mrs. Landis coming from the letter box with the mail in her hand. "I hope they are having a good time."

"Yes, here is one," said Mrs. Landis, sorting the letters and papers. "I will read it to you."

"DEAR PAPA AND MAMA:—

"We are so homesick, and want to come home. We are tired of wearing our best clothes and having no place to play. You have to pay five cents for two little apples here, and there isn't any yard to play in. Aunt Ida says she will trade back if you will. Please do right away. Your loving  
"ARTHUR AND ELIZABETH."

But instead of trading back again, a letter was sent to Aunt Ida asking her to come out and stay a week or two and bring the children home. Harold and Margaret were not by any means ready to go home, so they could all have good times together.

"Hurrah! Hurrah!" cried the children when they reached home once more. Elizabeth had her shiny shoes in her hand and Aunt Ida carried Arthur's new coat. They scampered to the orchard, and Arthur shook down a lot of ripe late peaches. "Eat all you want!" he said to the city children. "You don't have to pay five cents for two little ones here, nor for apples, either. I want to gather the eggs and wade in the brook and go to the woods and play in the sand pile and ride old Fan all at once."

"Then you don't want mama and Aunt Ida to trade children for all the time, do you?" asked his papa.

"No indeed!" cried Arthur. "I never want to be traded again."

## The Enchanted Teddy Bear

BY FANNIE M. PENDLETON

HE WAS a big white Teddy bear, and Betty's aunt had crocheted for him a pale blue sweater and a blue toboggan cap. He wore blue shoes and stockings, and Betty thought him just the loveliest Teddy in all the world.

All day long she carried him about, and when sleepy time came, and she was snugly tucked into her little white bed, Teddy was placed on a chair right where she could see him when she first opened her eyes in the morning.

"Gurrr-rrr!" What was that! Betty sat up in bed. Teddy was gone; not even a glimpse of his blue sweater was to be seen.

There was the doll house in the corner, and there in the door stood the Princess. She was Betty's loveliest doll, and just now she was wearing her pink ball gown. Betty was puzzled because she was sure that she had undressed her and put her to bed just as usual.

There was some one talking to her. Betty looked around the corner of her pillow, and then she nearly laughed aloud, for there, cap in hand, stood Teddy. The Princess was speaking:

"If the Godmother doesn't come soon we will be late for the ball."

Just as she spoke the fairy appeared. She was a little, old woman, much like the pictures of Mother Goose in Betty's book, and she sailed up on a golden broom. She broke off a glistening splint, touched Teddy, and he changed at once into the most charming fairy Prince. He was dressed in white silk and blue velvet, and he at once offered his arm to the Princess to take her to the ball.

They had not far to go, for it was to be held in the next room, and Betty could see through the parted curtains that the guests were arriving.

There was every doll that she had ever possessed, and all those belonging to her little neighbors. There was Rosilinde, who lived next door; there was Maud Clarice, from two houses down the street, and Dorothea Eileen, who belonged to the little girl in the last house. Oh, it



DRUM THAT WAS BEATEN AT BATTLE OF BUNKER HILL

would take much too long to tell who was there; but they were all talking and laughing, and Betty noticed with pride that the Princess was the most beautiful and the most admired.

How they waltzed and talked and smiled and enjoyed themselves! Betty could scarcely believe her eyes.

All at once she noticed that the Princess was quite uneasy, and that she kept glancing at the clock. At last she and the Prince walked off by themselves, and she reminded him that it was time to go.

"Just one more dance," he begged. "There is time."

The Princess consented, and around they whirled.

Suddenly there was a whirring sound. The clock was going to strike. The Princess gave a little cry of dismay, and Betty could see that the Prince turned pale. Fortunately, they were near the curtains, and they waltzed through, just as the hour struck.

At the last stroke the beautiful, slender Fairy Prince began to grow fat and short, and finally he changed back into a Teddy bear. He tried to speak to the Princess, but all that he could say was "Gurrr-rrr."

"Don't you growl at me," said the Fairy Godmother, who sailed in through the window on her golden broom. "You nearly got caught, and it served you right. You are almost as bad as Cinderella."

The Princess entered the doll's house and closed the door, while Teddy climbed once more into his chair.

Betty watched him, but he never moved. The house was very still, and the little girl went back to sleep.

The first thing that she did in the morning was to make sure that Teddy was there and that the Princess was safe in bed. Mama laughed and told her that it was all a dream, but Betty believes in her own heart that the Princess goes to a ball every evening with Teddy, who is really an enchanted Prince.



A NEBRASKA SOD SCHOOLHOUSE, TEACHER AND PUPILS



Miss Gould's Dressmaking Lesson

[CONTINUED FROM PAGE 21]

Form the box plaits in fronts by bringing the corresponding lines of triangle perforations together. Stitch on these lines. Open each box plait out flat, with the seam at the center of the plait on the under side, and press. Stitch one fourth of an inch in from the edges of the center front plait.

Turn a one-inch hem on the left front by long line of triangle perforations. Lap the fronts, bringing the edge of the left front to center line of large round perforations in right front. Fasten with buttons and buttonholes worked through the front plait.

Arrange the belt around the waist, which is indicated by square perforations. Match the centers of sacque and belt at the back, and tack firmly at the under-arm seam. Lap the belt in front, matching center lines of large round perforations, and fasten with button and buttonhole. Join the collar to neck by notch and roll over on line of small round perforations.

Join the pieces of the sleeve as notched and ease fullness in upper sleeve at elbow. Gather the sleeve at upper edge between double crosses and sew in arms-eye as directed for No. 1039.

If a loose front is preferred, the belt may be arranged around the back and under-arm gores as directed, and then passed through openings left in under-arm seams, fastening under the fronts and keeping the backs in place. The loose front is shown in one illustration on page 21.

Three-eighths-of-an-inch seam is allowed on all edges of these patterns, except at the shoulder and under-arm seams, where one-inch seam is allowed, designated by lines of small round perforations.

For Christmas gifts dainty dressing sacques of sheerest lawn and dotted swiss may be made from these patterns. Fine hand embroidery, frills of Valenciennes or Point Venise lace and coquettish little choux of narrow ribbon transform a plain lawn sacque into a chic matinée which will please the most fastidious woman.

Dressing sacques of albatross are lined with white China silk. The edges of the sailor collars and rolling collars are scalloped and finished with buttonhole stitch. Large coin spots surrounded with tiny French dots are embroidered in the scallops and provide an effective trimming.

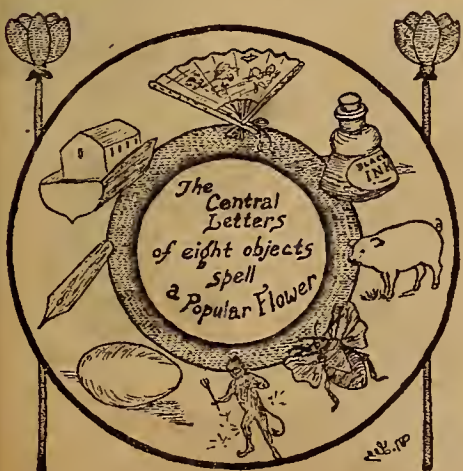
There are some very attractive and inexpensive designs shown in flannelette and eider flannel made especially for house sacques, and the edges bound with wash ribbons.

The Puzzler

Here is an old riddle that will, in all probability, be new to you:

God made Adam out of dust, But make me first he thought he must. So I was made before the man, To answer God's most holy plan. My body he did make complete, But without arms or legs or feet; My ways and actions did control, And I was made without a soul! A living being I became, And Adam gave to me my name; Then from his presence I withdrew, Nor more of Adam ever knew! I did my Maker's laws obey; From them I never went astray. Thousands of miles I run in fear, But seldom on the earth appear; But God in me did something see, And put a living soul in me! A soul of me my God did claim, And took from me that soul again, And when from me that soul was fled, I was the same as when first made. And without hands or feet or soul, I travel now from pole to pole! I labor hard, both day and night, To fallen man I give great light. Thousands of people, both young and old, Do through my death great light behold. No fear of death e'er troubles me, For happiness I cannot see! To heaven above I ne'er shall go, Nor to the grave, nor hell below. The Scriptures I cannot believe— If right or wrong cannot conceive. Although therein my name is found, They are to me an empty sound. Now, children, when these lines you read, Go search the Scriptures with all speed, And if my name you don't find there, I'll think it strange, I do declare.

CENTRAL ACROSTIC



Answer to Thanksgiving Rebus in the November 25th issue.

The extreme Puritan was at once known from other men by his gait, his garb, his lank hair, and sour solemnity of his face, the upturned white of his eyes, the nasal twang with which he spoke, and above all by his peculiar dialect.

# The Roosevelt Family Calendar

## Free with your subscription or renewal

These offers are made to both old and new subscribers, and we strongly advise you to accept one of them promptly, for at the rate these handsome calendars are going now, we may not be able to continue these liberal offers after January 1, 1908.

It is unnecessary to call the attention of our readers to President Roosevelt's great friendship for the farmers of this country. He has fought the trusts and other

enemies of farmers so bitterly that many of them are now begging for mercy, and the illegal ones have been put out of business. The country has never been so prosperous as under President Roosevelt's administration.

For this reason we want to send one of these handsome calendars to the home of every FARM AND FIRESIDE family.



Quentin The President Kermit Archie Theodore Jr. Mrs. Roosevelt Miss Ethel

This is the picture of President Roosevelt and his family, that appears on the front of The Roosevelt Family Calendar. It was taken last August at Oyster Bay, N. Y., the President's country home, by the President's own family photographer. It is the latest and best picture of President Roosevelt and his family, and was taken with his special permission and by his authority. We have reproduced it in The Roosevelt Family Calendar at great cost, because we want our big family to have only the newest and best to be obtained.

This beautiful calendar is different from any other calendar you can possibly get. It is made on beautiful coated super-calendered stock, and printed in sepia so as to get the full artistic effect. A silk cord is attached to the top, and when the calendar is hung on the wall it will be an ornament to any parlor. In every way it is a work of art, carefully gotten up, beautifully made, and new and up to date in every respect. Every one, whether a democrat or a republican, should have a picture of this great President and his family. This is the latest and best picture of them that has ever been taken. You cannot get this calendar in any other way. We have had it made solely for the readers of FARM AND FIRESIDE and we shall send it prepaid and carefully packed to every one who accepts one of the offers below promptly. Do not delay!

Offer No. 1	Offer No. 2	Offer No. 3
<b>\$1.00</b>	<b>50c</b>	<b>25c</b>

gives you Farm and Fireside seven whole years—168 big, helpful numbers—and the beautiful Roosevelt Family Calendar, the publishers' gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but six-tenths of a cent.

gives you Farm and Fireside three whole years—72 big, helpful numbers, and the beautiful Roosevelt Family Calendar, the publishers' gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but seven-tenths of a cent.

gives you Farm and Fireside one whole year—24 big, helpful numbers, and the beautiful Roosevelt Family Calendar, the publishers' gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but one cent.

**Rush the Coupon Below Right Now Before January 1st**

**CUT ALONG THIS LINE AND SEND TO-DAY**

FARM AND FIRESIDE  
 SPRINGFIELD, OHIO.  
 I accept your Offer No. .... for which I enclose..... Please send FARM AND FIRESIDE and the Roosevelt Family Calendar to

Name.....

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Dec. 10 P. & F.

**A BLUE MARK**

in the square below indicates that you are an old subscriber and that your subscription expires this month.

Renew by accepting one of these offers before they are withdrawn.



# Tissot's Celebrated Bible Pictures

A Special Christmas Offer of the First Popular Reproductions of These Celebrated Paintings

At last we are able to offer the readers of FARM AND FIRESIDE a popular reproduction in full color of the most celebrated Bible paintings ever produced.

Through a special, low-priced contract with the American Tissot Society, we are able to make you a special Christmas offer of twenty-four Tissot masterpieces, twelve Old Testament and twelve New Testament, which would ordinarily cost you a large amount of money, at practically no extra expense to you.

## Great Popularity of the Paintings

Tissot's Bible Pictures have been more wonderful and successful than any series of paintings ever produced. They have been exhibited in the leading cities of Europe, England and America. Over a million people have paid 50 cents each simply to see these paintings, while you can have the reproductions of them, which we now offer, right in your own home at practically no cost to you.



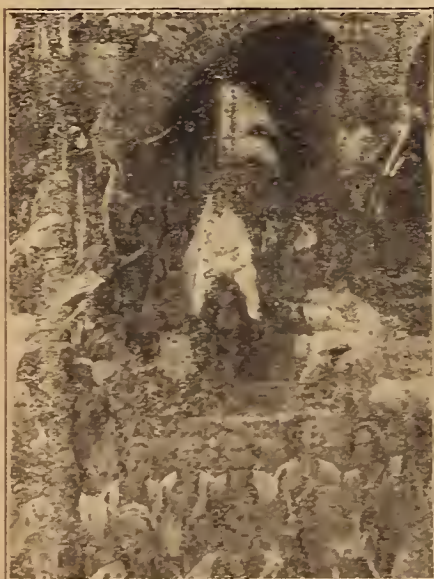
Copyright by Tissot, 1895-96.

The Wise Men on Their Way to Bethlehem

## Tissot Makes the Bible Real

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 Jacob, Joseph, Moses and Ruth. Tissot's paintings are wonderful, not only in their coloring, but in their truth to nature.

These twenty-four art reproductions are cabinet size, printed on coated paper, and give not only the exact coloring, but the minutest details of the famous originals. We believe this is the greatest offer for the money, that we have ever made the readers of FARM AND FIRESIDE.



Copyright, 1904, by de Brunoff.

The Procession in the Streets of Jerusalem



Copyright, 1904, by de Brunoff.

Jacob and Rachael at the Well

## Our Offer

These twenty-four Tissot Reproductions Carefully Packed, Prepaid, and Farm and Fireside Two Whole Years

All For Only **50c.**

The regular price of two yearly subscriptions to Farm and Fireside alone

To get the twenty-four Tissot reproductions in full color, write as follows, or send this coupon. The Roosevelt Calendar is not included in this offer. Canadian subscribers should send \$1.00. The Tissot Pictures make a fine Christmas gift and may be sent to a different address from FARM AND FIRESIDE if desired.

FARM AND FIRESIDE,  
Springfield, Ohio.

Enclosed find 50 cents for which please send Farm and Fireside two years beginning with the..... number, and also the 24 Tissot pictures, prepaid.

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## What a Dollar Bill Will Do

## FOR OUR READERS

We have just made a contract whereby we can offer the readers of FARM AND FIRESIDE the biggest bargain in the farm paper field. At the retail price for yearly subscriptions, the papers alone in this offer would cost you \$1.75, but we offer them to our readers at very greatly reduced prices, with the handsome Roosevelt Family Calendar free.

### Farm and Fireside (Three Years)

is the national farm paper read all over the country by nearly three million happy people each number. FARM AND FIRESIDE pays more for its editorial matter than any other farm paper. It is a Great Farm Paper Growing Greater—all the time.

### Green's Fruit Grower (One Year)

and Home Companion, edited by Charles A. Green, is the largest and greatest horticultural publication in America. It is a magazine for the fruit grower, for the success of his occupation, for his home, and for his home folks. Some of the special features are: Editorial Comment, Orchard, Poultry, Farming, Health, Small Fruits and Woman's Department.

### Vick's Magazine (One Year)

is the ideal Magazine for the farmer's wife and daughter. It is a home magazine in every sense, and devotes many pages to flowers, the garden, and beautifying the home. Vick's will be welcomed in every farm home.

### The Roosevelt Family Calendar

is different from any other calendar you can possibly get. It is made on beautiful coated super-calendered stock, and printed in Sepia to get the full artistic effect. It contains the latest and best picture of President Roosevelt and his family—the official picture recently made by the President's own family photographer.

ALL FOUR including Farm and Fireside three whole years—72 big numbers

**\$1.00**

Canadian Subscribers should send \$1.25 extra for excess postage. If you want Farm and Fireside only one year the price of this club is 75c (\$1.50 in Canada).

## THE BARGAIN OF THE SEASON

This offer is the bargain of the season, and you must accept it soon if you accept it at all, for these handsome calendars will not last long in so liberal an offer as this. We cannot guarantee to send the calendar with this offer after January 1, 1908. The papers and calendar may each be sent to a different address if desired, and the subscriptions may be new or renewal. You can accept this great offer whether your subscription has expired or not, and we will put it ahead from the time when it does expire. A dollar bill will bring them all.

USE THE COUPON BELOW

FARM AND FIRESIDE,  
SPRINGFIELD, OHIO

Date.....

Gentlemen:—  
Enclosed find \$1.00 for which enter my name for FARM AND FIRESIDE for three years when my present subscription expires, and also send me GREEN'S FRUIT GROWER, VICK'S MAGAZINE and The Roosevelt Family Calendar.

Name.....

NOTE—If you want the magazine sent to different addresses, just say so.

Town.....

State.....

## TWO FOR THE PRICE OF ONE

Here is your chance to get the best farm paper of your state or section of the country, with the best farm paper of the whole country—FARM AND FIRESIDE—for the price of your sectional farm paper alone.

BLOODED STOCK AND FARM AND FIRESIDE	} Our Price for Both	50c
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PLANTER'S JOURNAL AND FARM AND FIRESIDE	} Our Price for Both	50c

These subscriptions may be either new or renewal, and sent to one or different addresses. A Roosevelt Family Calendar will be sent to you free if you accept one of these offers before January 1st, 1908.

SEND ALL ORDERS TO

FARM AND FIRESIDE, Springfield, Ohio



# The Grange

BY MRS. MARY E. LEE

## QUALIFICATIONS OF WOMEN INSTITUTE LECTURERS

READ BEFORE THE AMERICAN ASSOCIATION OF FARMERS' INSTITUTE WORKERS

**T**HE woman institute lecturer should have ability to impart instruction and arouse interest in further study of a question. Sympathy, enthusiasm, consecration, efficiency are all essential, but the greatest of these is efficiency. Sympathy is a divine attribute, but it never prepared an appetizing meal to be converted into productive energy in the human furnace; enthusiasm is good, but it never bound up a wound or saved a life while the doctor was coming; consecration is essential and beautiful, but it may lose in desire to do. Sympathy, enthusiasm, consecration, plus efficiency will do more to cure human ills than any other quartet of human qualities.

It is a noteworthy fact that three of the best books of the season bear directly on this point. They are Doctor Allen's "Efficient Democracy," Doctor Gulick's "The Efficient Life," and Dr. Nicholas Murray Butler's "True and False Democracy." I would commend each of these books to every reader desiring to make his life of the most value. You cannot pick up a magazine of high order or enter a convention of broad-gaged men and women but the demand is voiced for better workers, and better from the standpoint of being able to perform exactly the work one is hired to do.

Society in any age has never risen higher than the women of that period. For the reason that women must play this important part, and the farmers' institute has been, is, and will be yet more in the future one of the great forces in human development, I feel that those women shall be selected as teachers and leaders who represent the highest type, those who can think clearly and do.

Two years ago this organization honored me with membership on the woman's institute committee. At various times, through the medium of our paper, farmers' institutes, Grange meetings and women's clubs, I asked these questions: Do you favor women institute lecturers? Shall they come from the rank of good housekeepers with no special training for the work, who simply do as their neighbors do, or shall they be from those who have studied and know better ways of doing things than is apt to be handed down by tradition? I asked this also relative to what was desired in women's departments.

The answers to these questions were so nearly uniform that I summarize as follows: We certainly want women lecturers. Most farm women are good cooks and keep houses clean. What we want is instruction in how to do the work better, with less energy; new methods where new are better than the old; how to make our homes beautiful and healthful, from which we can send our families into the world with strong, alert bodies, tenanted by clear minds and clean hearts, people capable of sustaining long stretches of mental and physical effort, or sudden demands that sap vitality. We want more leisure for improvement, music, reading and a social life. Some way we are losing the best of living; and we believe a better way can be found. We want those who are paid to teach us to be able to help us to that better way. And we want women who have given time and study, women who know, to teach us. We feel that more harm has come through faulty teaching than can be rectified in years. In the beginning of a new time we want to begin right. Coming from so many sources I feel that this can be called the universal demand of my sisters on the farm. Hence I plead in the establishment of the new order that competency be made the first desideratum.

Where are those trained women to be found? Let it be known that women are to be employed at a good wage and that a standard of efficiency must be met, that they must be submitted to a civil service examination and that a certificate or a diploma from a first-class school in domestic science is of great importance as a recommendation, and the bright women of the farm will do the rest. It is purely a business matter. People will go where it is to their interest to go, will do the work it is to their interest to do. If women know there is a demand for their services, schools of domestic science will be thronged, instead of business colleges. And when it is known that such women are in demand, the agricultural press will educate the farm women to their opportunities. For in the last essence it is the agricultural press that must be depended upon to carry, week after week, the new ideas, the new thought.

We are coming to a saner notion of education. No matter how high the notes a girl can reach, or how delicately she can embroider, or how many languages she can speak, though these are essential to a well-balanced life, if she cannot perform some useful service in an exact and precise manner, then she is uneducated. For some good reason the Creator has made it necessary to perform manual labor. In the perfection of its performance lies the solution of some of the most perplexing problems in our national life. Competent service will bring financial gain and honorable recognition. The rank of the work in the minds of people is pretty accurately gaged by what they are willing to pay for it. Raise the standard of excellence, and the recognition in the line of honor is raised. Housework has been praised by poets, but it was the poorest paid of all labor. Not until house help became scarce through higher-prices and more honorable recognition in other lines of industry did the home begin to achieve anything like the rank the poets gave it. Even now it is one of the worst-paid employments. The whole question is purely an economic one, and science, the best friend to mortals given, must solve it. A woman lecturer fails in her mission if she does not show that there is a distinct financial gain in a sanitary, well-balanced home, well-cooked food, and rooms furnished in an artistic manner. When this can be done, woman's economic position is assured, and her work in the home, the natural place, will be to her the highest aim. Until the home takes its rightful rank in industry women will continue to seek every other avenue of employment.

I would not convey the impression that none but college-bred women should be employed as institute lecturers. Far from it. But I do say that the good business woman with practical, common sense will avail herself of every opportunity and of the immense advantages a college training gives. A genius can get along without it and discover forces that make colleges a necessity, but the average woman will see the practical value of competency in work.

The art and science of home making is in its infancy. There is much to learn, and much that is already known to be carried to the people. But one who does not know cannot teach. My final plea is that those who go out to teach women shall know whereof they speak, shall know their subject so well that they forget it as a thing apart, but feel it a part of life. They shall know it so well that it becomes simple. These will reflect, rather than impart, knowledge, will lend it grace and dignity and beauty. Set the standard high, and be sure the wives on the farm will recognize what is done for them.

## THE GRANGE A FACTOR FOR GOOD

I believe in the Grange as the greatest factor for good in our modern conditions. In saying this I do not mean that everything the Grange does must necessarily have my utmost sanction. It made some big mistakes when it was learning to walk, but no more than any other organization has made. It has triumphed over them and has won the profound respect of all people who are in touch with the moving forces of our country.

President Roosevelt mentioned it in various addresses as one of the safest and most powerful organizations in this country, and educators and business men in those states where the Grange is well organized turn to it as the best organization in the state. Why, then, not go into it? And if it is in undesirable hands in your community, and you know its value as an organization and believe in its splendid work, why not quietly work up a class, send in your applications and take hold of the lodge and bring it up to your expectations? You will be apt to find, after you get into it, that the members are after the same things you are after, and that they have clung to a hope that seemed forlorn, simply because you stood off and criticized instead of taking hold and helping. A Grange can't grow in numbers unless it has new members, though some people seem to think otherwise. Take hold of the Grange in your community and help along. Or if there is none in your town, put one in. If you want good things, get together and go after them.

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## ENLARGING ONE'S EFFICIENCY

When the Grange was organized forty-one years ago, its only platform was the preamble to its constitution consisting of less than three hundred words.

In that brief document occurred this cumulative series of statements, namely: "Human happiness is the acme of earthly ambition. Individual happiness depends upon general prosperity. The prosperity of a nation is in proportion to the value of its productions. . . . The productions of the earth are subject to the influence of natural laws. . . . Hence, knowledge is the foundation of happiness."

Then followed "three ultimate objects for which the organization was founded:"

- (1) "To lighten labor by diffusing a knowledge of its aims and purposes.
  - (2) To expand the mind by tracing the beautiful laws the great Creator has established in the universe.
  - (3) To enlarge our views of creative Wisdom and Power."
- Thus in the very inception of the Grange movement was the threefold nature of man recognized and provided for. He was to be dealt with as a muscular man, a mental man and a moral man.

An illustration of how this all-round development of a man can be and is sometimes worked out in real, rugged life was well set forth recently during the program in a certain Grange. The discussion was upon the problems of present-day farming, when a man, who became a charter member thirty-four years ago, and has been a regular attendant ever since, in speaking on the subject, said: "Farm life is intensified. Years ago I kept three men and three or four boys to work on my farm. This year, though I am seventy-five years old, one man and I have done all the work on the two hundred and ninety acres. It takes system, it takes activity. I dragged fifteen acres of wheat ground this forenoon before coming here. People are not worn out by overwork. A farmer can work twelve hours a day and not wear out by it—the change enables him to do it."

This man is a prodigious reader, a constant student of the deepest stores of philosophy, religion, politics and agriculture. Some one asked him, "Do you find time to read as much as you did when you kept three or four men?"

"I read," he replied, "an hour every day, no matter what I have to do. And every morning I read a chapter from the Bible and ask the help of Almighty God for the work of the day. Any man who will open up himself for assistance in these ways will get it."

Is there not ground for serious self-examination in such testimony for the young men who, by the score and thousands, are saying, "I have no time to read, nor to attend farm institutes, the Grange and church; I must work with my hands; my head profiteth me nothing; my heart is a sterile field."

JENNIE BUELL.

## THE LITTLE THINGS

It's the little things in life that count. No great thing stands out alone for the man or woman who will not do the little things at hand. Every inspiration upward is a divine command from God to go after that thing with all the intensity and strength of the human soul. Begin in some little, out-of-the-way community to do that which will make your place a better one, and though you tied the winds of heaven, they would carry the story to others. Little things well done make the big things. It's the thought in one mind put into effect that brings reforms.



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# LISTEN, GIRLS!

### Little Marguerite Tells Our Young Readers How to Get a Big Teddy Bear and a Beautiful Doll, Handsomely Dressed, Like Hers

DEAR GIRLS: Oh, I have such good news for all of you girls who read this paper!

Papa gave me a Teddy Bear and a Doll just like the one he wants to give you. I wish I could tell you how much fun I have had with them, especially the Teddy Bear. Teddy is such a dear! Papa says it does his heart good to see how much fun I have with them, and he wants to make other little girls happy and have fun, too. That is why he is going to give these dolls and bears away.

I'm sure you never saw a Teddy Bear like mine. I'll tell you what he is like. He is awful big and looks so real and lifelike. I think if a real live Mother-Bear saw him she would think he was one of her own children.

MARGUERITE WITH HER TEDDY BEAR AND DOLL



You can make him hug you if you want to, and that is what I like, but he will not hurt you as a live bear would do, and you can hug him, too, but if you hug him too tight, he will tell you so, for he has a voice and will talk if you make him.

I suppose you have read about the little girl who slept in the little bear's bed? You can take this Teddy Bear to bed with you and let him sleep in yours. He makes a splendid bedfellow, and will play with you all day. You can make him do such droll, cunning things. I know you will like him because I am so fond of my own Teddy.

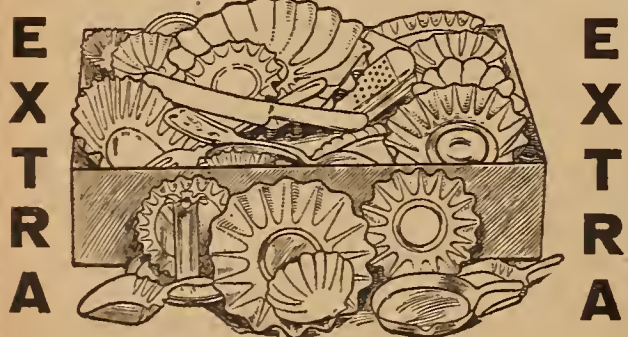
It is a Teddy Bear just like mine that my papa wants to give you, and he will also give you a doll just like my dear dolly, Louise, as well. The doll looks just like a real live little girl, just like you and me. She has beautiful hair, large, bright eyes and pretty cheeks, and is as pretty as any fairy. She is beautifully dressed all ready to go out walking. Really, girls, she is the cutest doll you ever saw, and when you lay her down, she closes her eyes and goes to sleep, just like we do when we are tucked in our beds.

I am sure that you would like to have the doll and the bear for your very own. I am so glad my papa is going to give them to you. I think it is kind of him to let me tell you, because I like to think that other little girls and boys can have good fun like I have.

Now, my dear little friends, I hope you will send the coupon to my papa, and let him send you the bear and the doll, for I am sure you will be pleased. My papa himself will tell you how you can get them, so read what he says in the next column and then send the coupon to him to-day.

Your loving little friend,  
MARGUERITE.

## 25 EXTRA PRESENTS FOR YOU



### A COMPLETE KITCHEN SET GIVEN—25 PIECES

I want every little girl to have one of these kitchen sets. They are made of stamped metal, in a great many pretty designs, and every little girl who has a set can play house better than she ever could before. The set contains everything that a little girl wishes:

- |               |                |                    |               |
|---------------|----------------|--------------------|---------------|
| 1 KNIFE       | 1 CANDLE STICK | 1 BAKING PAN       | 2 PATTY PANS  |
| 1 FORK        | 1 GRATER       | 3 PIE PANS         | 2 FANCY TRAYS |
| 2 TEA SPOONS  | 1 FRYING PAN   | 1 JELLY MOLD       | 1 LARGE TRAY  |
| 1 DUST PAN    | 1 FLOUR SCOOP  | 2 LARGE PATTY PANS | 1 CAKE PAN    |
| 1 SUGAR SPOON | 1 SUGAR SCOOP  | 1 PAN              | 1 CAKE DISH   |

There are 25 pieces in the set, so many that a small picture cannot give you an idea of how nice it really is. I want to send you the set in a big box with the other presents.

CUT OR TEAR OUT THIS COUPON

P. J. ALLEN, 627 W. 43d St. Dept. 726, N. Y. City

Dear Mr. Allen: Please send me the twelve premium pictures and outfit so that I may earn a Teddy Bear, a beautiful Doll, the 25 Piece Kitchen Set, Album and 10 colored Post Cards.

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Just Sign and Mail Coupon. No Letter Necessary The Coupon Will Do.

# A BIG BOX OF PRESENTS GIVEN TO GIRLS

# A BEAUTIFUL DOLL A BIG TEDDY BEAR A KITCHEN SET AND 10 SOUVENIR POST CARDS

# BIG BOX FOR YOU

TO PARENTS: I will send a big box containing these fine presents to your little girl, and will prepay the express charges.

I love children and I want to be known as the children's friend. And so, as my little daughter tells you in her personal letter to you, I want to give to every child who reads this paper A REAL TEDDY BEAR, A BEAUTIFUL BIG DOLL, A 25 PIECE KITCHEN SET and TEN COLORED POST CARDS.

Just think of it! A Teddy Bear, Doll, a 25 Piece Kitchen Set and 10 Colored Post Cards Given. You do not have to pay a cent of money to get them. I give them to you as a present, on my GREAT OFFER, which is printed in the lower right-hand corner.

Now be sure and read EVERY WORD of this, for I am sure that every girl (and even the boys) will want one of these Teddy Bears I am giving away, and I know the girls want both the Teddy Bear and the Doll, as well as the 25 Piece Kitchen Set and 10 Colored Post Cards.

## A BIG TEDDY BEAR GIVEN

I have had thousands of these fine big Teddy Bears made specially for me, to give away to the children of this country.

This Teddy Bear is nearly a foot high. He is made of fine quality of genuine bear skin cloth, and he looks as though he were alive. You can move his arms, legs and head, and make him do anything you want.

I know you will enjoy him as a play-fellow, just as my little girl does. Teddy Bears are so popular that it is hard to get them now; but by buying thousands I have been able to get a large supply for my little friends. I want you to have one, and will gladly send it to you with the other presents if you will give me just a few minutes of your time. Read how to get the big box of presents in the lower right-hand corner of this advertisement.



HAS A VOICE



AS PRETTY AS A PRIZE BABY

THIS BEAUTIFUL DOLL ALSO GIVEN

Girls, I am sure you never had a finer doll than the one I will give you free. She is EIGHTEEN INCHES HIGH and as lifelike as your own little baby sister would be. She has beautiful hair, large, bright eyes, pretty cheeks, and is handsomely dressed, all ready to go out walking. I will give you either a golden-haired doll or a dark-haired doll whichever you like, and I promise you you will like her better than any doll you ever had.

Really, my little friends, she is one of the cleverest dolls you ever saw. Her arms, head and neck and legs are movable. I am sure you would like this doll for your very own. My own little girl has one just like her, and she says it is the nicest doll she ever had. Now, then, children, read my offer and see how to get the Doll and Bear as well as the 25 Piece Kitchen Set and 10 Colored Post Cards.

## EXTRA 10 Comic Colored Post Cards for You

I will also send you a package of ten of the finest colored post cards you ever saw. You will laugh until your sides ache when you see them. So will your friends when they see them. Funny is no name for these cards. They are included in the big box of presents I want to send you.

# How to Get the Big Box of Presents

Any little girl can work for this big box of presents containing the TEDDY BEAR, the BEAUTIFUL DOLL the COMPLETE KITCHEN SET and TEN COLORED POST CARDS. There is not a penny to pay. SEND NO MONEY. All you have to do is to send me your name and address on the coupon. I will send you at once twelve FAMOUS PICTURES by great ARTISTS to distribute among your friends and neighbors on my special liberal offer.

## THIS BIG BOX OF PRESENTS IS EASY TO EARN

Simply distribute the premium pictures on my liberal offer. They are such beautiful works of art that every one who sees them wants them. The originals would cost probably more than a thousand dollars a piece. These premium pictures are reproduced in the most beautiful colors known to the artist's palette and you will find it very easy to dispose of them, on my special 25-cent offer. Send me the money, and the very day I receive it I will send you the big box of presents free. It will take you only a little while to distribute the pictures and there is no reason why you cannot have the cute Teddy Bear, the big Beautiful Doll, the Complete Kitchen Set and the Colored Post Cards to play with very soon.

Thousands of girls everywhere are taking advantage of this offer and are being made happy with these big boxes of presents. Do not wait, but send me the coupon today, and before you know it you will have your big box of presents. Write your name and address plainly on the coupon, put it in an envelope and address it to me. Remember I will send you, all charges prepaid, this big, fine Teddy Bear, the Beautiful Doll, the 25 Piece Kitchen Set and the package of 10 Souvenir Post Cards. All securely packed in a big box; so everything will arrive safely and then your heart will jump with joy. Address,

P. J. ALLEN, 627 W. 43d St., Dept. 726, New York City



**THE RISKS IN ALFALFA SEED**

I CAN render alfalfa growers no better service in one brief communication than urge upon them with emphasis the utmost caution and pains in securing and sowing none but the highest quality of seed. This quality means not only seed demonstrated as ninety or more per cent germinable, but free from the adulterations and impurities likely to be found present, most frequently from carelessness or shiftlessness, but often from design, and sometimes from both. Alfalfa seed is expensive at best, and doubly or trebly so if it will not grow or carries with it trash and quantities of other seeds which stock a field, a farm or a neighborhood with weed pests that interfere with or crowd out the alfalfa, displace expected profit with positive loss, and provoke profanity.

Recognizing the fact that much of the seed on sale is entirely unreliable, the Agricultural Department at Washington and some of the more wide-awake experiment stations have been making tests to discover the defects and values of seed ordinarily found in the market, and some startling revelations are the result. The Washington investigators, for example, found in one pound of so-called alfalfa seed on sale, 32,420 noxious weed seeds; in another, 23,082, and in still another, 21,848. Of the first-named pound less than fifty-nine per cent was alfalfa, less than twenty-nine per cent was germinable, and among its impurities were 5,490 seeds of dodder—surely the devil's own invention. One pound of another lot contained only a fraction over five per cent that would grow, and of a third lot but slightly over six per cent.

The Ohio station bought for testing, fifteen different samples—a dollar's worth each. A pound from one of these carried 18,144 lamb's-quarter or pigweed seeds, and another 6,420 seeds of crab grass and 3,325 of foxtail. Seed supposedly costing \$7.80 a bushel was found to have cost actually \$12.74 a bushel when cleaned.

The Oklahoma station, among many samples, tested one having sixty per cent pure seed and forty per cent of impurities. Only sixty-five per cent was germinable. Another sample "which at first sight would be classified as good" was found to contain per pound 453 witch-grass seeds, 90 plantain seeds, 151 crab-grass seeds, 90 wild-carrot seeds, 453 foxtail seeds and 155 Russian thistle seeds. As the official who made this test says, if twenty pounds of alfalfa seed of this grade were used to sow an acre, one would have approximately two seeds of witch-grass and two foxtail seeds for every ten square feet; four seeds of plantain, seven Russian thistle, and six seeds of crab grass for each hundred square feet. These would doubtless grow, and the mischief they might lead to nobody can estimate.

Among samples of "alfalfa" seed offered for sale Professor Roberts of the Kansas Experiment Station found one with more than eighty-eight per cent of impurities and thirty-four different kinds of foreign seeds, and these constituted 31.5 per cent of the whole. In this lot were also 3.8 per cent of trash and dirt, and fifty-three per cent of the seeds true to name were incapable of germination. Another sample was 79.3 per cent impurities, and 53.3 of the remainder valueless. Twenty-six lots tested by Professor Roberts contained an average of 44.1 per cent of impurities, including eight different kinds of foreign seeds amounting to 4.5 per cent, trash and dirt four per cent, and 35.8 per cent of what was really alfalfa seed was not germinable.

One of the samples was 95.2 per cent impurities, and 43.4 per cent of the rest was not germinable. But 20.2 per cent of the seed was true to name and capable of germinating. Using this sample as an example Professor Roberts says that "computed on the basis of the cost of standard alfalfa seed it would have taken 73.9 pounds of this seed to the acre to give as much of a stand as could have been secured with fifteen pounds of standard seed. To secure such a stand from the seed in question it would have necessitated the purchase of so much seed as to bring the actual cost up to \$11.92 an acre, making the actual cost \$49.26 a bushel. But this is not all. There would have been sown on the land over four million weed seeds of various species, or 105 to the square foot." Of another sample, he says, "the low germination per cent would have raised the cost an acre to \$5.75, besides sowing the land with 95,000 plantain seeds, 19,000 dodder seeds and 25,000 seeds of foxtail—or in all 167,000 weeds of various sorts."

Of course, as a matter of fact, where bad seed is sown, the actual result is a weak, poor stand of alfalfa and a dense growth of weeds. The land has to be plowed up and reseeded, the use of the land for a year is lost, and it has become foul with weeds, many of which will be newly introduced and noxious in character.

These findings pointedly suggest that

it is safe to buy seed of only a thoroughly reputable dealer or grower whose name and guarantee stand for something. Get samples early and test them. Learn positively that it is alfalfa seed, and not something else, and that it will grow. If more than ten per cent fails to grow, don't buy it, for something is wrong. Choice seed, the only kind worth sowing always commands a good price, and is worth it. The Agricultural Department at Washington or your state experiment station will test samples of seeds sent, and report on them without charge.—F. D. Coburn to the Shawnee County, Kansas Alfalfa Club.

**VALUE OF CLOVER**

Clover is one of the most valuable of farm crops. It is generally recognized by farmers to be a heavy yielder of hay, which furnishes a large amount of valuable food constituents. Its beneficial effects upon the soil, however, do not seem to be so clearly understood. Scientists who have made a careful study of the influence of clover on the soil tell us that after large crops have been removed from the land, the soil is actually richer in nitrogen after growing clover than it was before, owing to the large amount of nitrogen which the clover roots have obtained from the air. As a rule farmers grow clover and timothy together, and are therefore unable to ascertain the comparative influence of these crops on the soil.

The following returns are from experiments carried on in Canada, in order to ascertain the comparative value of clover and grass sod for crop production. Clovers and grasses were first grown upon separate plots, and the crops removed, after which the land was plowed, and other crops sown. The results therefore show the influence of the roots remaining in the soil upon the productiveness of crops following the clovers and grasses. First barley was sown after each of four varieties of clover and three varieties of grasses in four different places on the experimental grounds. The average results of the four tests in pounds of barley to the acre were as follows: Red clover, 1,516; alfalfa, 1,450; alsike clover, 1,427; mammoth red clover, 1,408; meadow fescue grass, 1,086; orchard grass, 1,015; timothy, 946. It will therefore be seen that the red clover sod gave an increase over the timothy sod of 570, or nearly twelve bushels to the acre.

In another experiment, in which winter wheat was sown on both clover and on grass sods, it was found that an average of 3,194 pounds of wheat to the acre was obtained from the clover sod and only 2,300 pounds from the grass sod. Again, a mixture of oats and barley was sown on clover sod and also on grass sod. The results were very marked, as an average of 2,256 pounds of mixed grains to the acre was obtained from the clover sod and only 1,078 pounds from the grass sod. By averaging the results of these three grains, we find that the crop grown on the clover sod gave an increase over the crop grown on the grass sod by fully fifty-six per cent.

Now, the reason I have given these results is to help my readers to appreciate the beneficial influence on the soil from growing clover. It also indicates the suitability of a properly cultivated clover sod as a preparation for winter wheat or for spring grains.

Those who have not been able to grow clover should find the cause of their failure and apply the necessary remedy. It is only a question of time until the soil will become depleted of its nitrogen if no legumes are grown or nitrogen added in some form of fertilizer. Besides adding nitrogen to the soil, the legumes very greatly improve the mechanical condition of soils, especially where the latter are heavy clays. W. R. GILBERT.

**THE PARAGON CHESTNUT**

The Paragon chestnut is said to have originated from a cross of the Japan and the native chestnut. This new variety originated in Pennsylvania, and is propagated by grafting the Paragon on native sprouts. The nut borne by this new variety is large and well flavored. It is said to be larger than that of the Japan chestnut.

I secured a few scions last spring, and grafted them on native roots. On account of the unfavorable season a few of them started to grow, but later died. Three grew and made a healthy and rapid growth. The shoots sent out are larger and stronger than the native sprouts, and the leaf is larger.

It seems probable that a great improvement might be made in the native varieties by grafting to this new variety. A. J. LEGG.

Do not hesitate about buying direct from an advertiser when his advertisement is guaranteed by a reliable paper. Many a dollar has been saved by this kind of buying.

# A Christmas Gift To You

This Magnificent \$750 Harrington piano is to be given away to the Farm and Fireside pony contestant who sends us the most subscriptions by Christmas Day. You can get it just as well as any one else. It will be sent right to the door of the winner absolutely free of all charge, and is offered entirely in addition to the ten ponies, the other five pianos and the hundreds of beautiful grand prizes.

## If You Are a Contestant

you not only have a fine opportunity to win this piano Christmas, but it will mean a great deal more to you also. I have just organized the Farm and Fireside Pony Club to be composed of those who become enrolled contestants with twelve "points" or more and if you will send me twelve "points" by Christmas I will make you a full member of the Pony Club and send you a fine Pony Club badge as a special Christmas gift. Then if you get some more "points" besides the twelve you may win this fine \$750 piano. Every subscription counts at least one point.



\$750 Harrington Piano to be Given Away Christmas

## More Prizes Too

There are more prizes, too, that you can get right away without waiting to the end of the contest, which I will tell you about just as soon as I hear from you. These prizes, as well as the Christmas Piano above, are all offered in addition to the ten ponies, the five pianos, the five hundred grand prizes and all the other prizes that will be given away at the end of the contest.



"Prince" the First Prize Pony

## How to Get Them

It is easy to become a pony contestant and a member of the Pony Club. And it is almost as easy to win a pony or a piano—there are so many to be given away. All you have to do is to get twelve subscriptions to FARM AND FIRESIDE at 25 cents each and then you are a prize winner. Fill in and cut out the coupon below and send it to me to-day, or a postal card will do. I'll tell you all about everything by return mail, but don't wait to hear from me. Get the twelve subscriptions right away before Christmas if you can. Then you'll be a prize winner sure!

PONY MAN, Dept. 5  
FARM AND FIRESIDE  
Springfield, Ohio.

Date.....

DEAR SIR:—Please tell me all about the Pony Contest and all the special extra prizes. I will send my twelve subscriptions just as soon as I can. Please save a place for me in the contest.

Name..... Town.....

St. or R. R..... State.....



**THE INSTITUTE SPEAKER**

A SHORT time ago I heard an institute speaker deliver a flowery address but one of really little practical value. It was devoted chiefly to praises of the farmer, how he is asserting himself, taking his rightful place in the world, and what he will do within the next decade—how he will dictate prices of food, etc. He made it appear that the farmer will soon be the king pin of the universe, and everything else will be revolving around him and asking for small favors.

After he was done I overheard three men discussing the "effort." Two of them were very much elated over the high place they are soon to occupy in the world, and were stating what they proposed to do in the good time the speaker had said was surely coming like a comet. The other took no stock in the highly colored predictions. He said, "If the orator had shown us how to make a sure thing of a good crop of corn every year his speech would be worth a thousand dollars to us. Or if he had told us how to save ten cents a month on every hog we raise, his talk would have been worth a good deal."

We can hear all the tommy-rot he gave us at any political meeting. We have been stuffed with it for years by men who want us to elect them to a soft job. What we want here is something practical, something that will help us to farm better, feed better, live better, get more good out of life, and leave our farms better than we found them.

FRED GRUNDY.

**POTATO COVERER**

Seeing your diagram of a potato coverer in FARM AND FIRESIDE, I made one similar to it. I found that it jumped and jerked about and was very unsteady. Now, I have one, made according to the accompanying illustration, which works much better.

Two horses should be used, one on either side of the row. By using the tongue the potatoes are not pushed out of place, and they can be rowed both ways.

Make the top tight, and if it is not heavy enough, pile on stones to make sufficient weight.

It needs two men to handle it—one to drive, and one to keep the rear end in the proper place by means of the tail piece.

The runners should be made of hard



POTATO COVERER AND RIDGER

wood, sharpened, or with iron plates bolted on the bottom; they should be five or six feet long, with a three-foot spread in front and a one-foot spread in the rear.

With this coverer two men can cover about four acres a day.

EARL J. NYE.

**FARMING IN MINNESOTA**

Since settling in southwestern Minnesota in 1872, when it was an unbroken prairie, I have traveled over the Dakotas, northern Wisconsin and Minnesota, and find that the early settlers are nearly all alike in their manner of farming. They move into a new country, take up homesteads and buy cheap land, work hard clearing up a few acres, then sell out to more thrifty and practical farmers coming from older and more up-to-date farming districts, and move on west to plant the banner of civilization.

The thrifty, up-to-date farmers who buy their farms here build new buildings, clean up the farms, and in a few years the farms they bought for a song are worth one hundred dollars an acre.

This (Cass County) is one of the cut-over counties, and less than twenty years ago was considered worthless for farming purposes. It has since developed that it is one of the best districts in the West for general farming and stock raising. Clover yields from three to six bushels of seed an acre, and all kinds of vegetables grow to perfection. The corn equals that of southern Wisconsin, and winter wheat this season went as high as thirty-eight bushels to the acre and took first premium at Minnesota State Fair. So much for the productiveness of the country.

Now as to the way many of our farmers farm it. They cut the clover for seed, and feed their stock on wild hay, which is mostly wire grass. They plant a few acres of corn, and in many

fields the corn can't be seen for the weeds. They plant potatoes, and may go through them once with the cultivator. They plant onions four feet apart in the rows, and sow rutabagoes broadcast. Nearly all cultivation is done with the horse, and the hoe is seldom used. The farm I am on did not have a hoe on it when I came here. All tools and machinery stand outdoors, the mowing machine with the sickle left in it.

The young men and many of the old men go off to Dakota during harvest and thrashing time, leaving the women and children to do the work. Boys who have worked hard helping clear the farm, in addition to working out and going to school, go to the cities and become barbers, telegraphers or railway mail clerks, and when the father dies the widow abandons the farm and moves to town. After the father and husband has worked all his life to make a home for his family, his labor is gone and the thrifty farmer comes in and gets the benefit of his toil.

THOS. H. PARSONS.

**RECKLESS SPEEDING ON THE HIGHWAYS**

Something drastic must be done to prevent the evil occasioned by these lawless and reckless usurpers of the highways—namely, the automobilists. Country life has lost almost half its charms, for the farmer's family never enter their carriage to drive leisurely and pleasantly over the country roads without fear of being suddenly dashed into by some reckless chauffeur.

Recently I chanced to overhear a conversation, in which the statement was made that any horse can be brought to docility and perfect safety by the expert horseman. Taking for granted that this is true in part, yet all persons whose occupations or pleasures necessitate the use of horses cannot be expected to acquire the "artist's" skill in horse training, and their rights should be respected when they go upon the highway to drive behind horses reasonably gentle. No animal should be expected to stand unflinchingly before a real danger. Acts of this kind are deeds of heroism attributed alone to man.

It is his honesty of purpose, sagacity and sensible caution that make the horse the valuable servant of man. Imagine trying to drive the horse if he was endowed with the treacherous cunning of the fox or the stubborn indifference of the

boar. Remember, however, you are not safe in driving nowadays because your horse is gentle.

It is the speed of the automobile which makes it objectionable, not the size, shape, color, nor even smell. There are many places along country roads where two ordinary buggies cannot pass conveniently at a moderate rate of speed. Of course there are laws touching this—the width of the road bed and the use and abuse of the highways. Are they effective?

The comparison of the auto with the traction engine is illy chosen. What a difference between the two! How cautiously this iron monster, who has taken much of the burden of the horse upon his own back, creeps over the road, looking constantly ahead for the approach of some vehicle. There it comes. And here comes Old Dobbin and the children. Of course Old Dobbin knows what the big thing is that now stands quietly by the roadside holding its breath. On comes the old family horse, with no thought of fear, but two men have already come forward to take him by the bridle. Of course the old fellow must arch his neck and shy a little as he passes, just out of respect for his great benefactor.

I have observed that the automobile has been discussed heretofore from the danger standpoint only; but there is another not inconsiderable objection to the speed at which these machines are usually run in the country, and that is the damage they do to the roads as they rush along, sweeping the pulverized stone from the surface and leaving exposed the sharp and uneven edges of the crushed rock that composes the road bed.

HENRY T. HERR.

Now is the time of the year when your machinery needs protection most of all. Keep the harvester under good shelter and you will save enough to buy those new plows in the spring.

Fertile soil, good climate, abundant water and cheap land—

these are the things that make the big opportunity for energetic farmers in the Heart of Texas.

If you are looking for such an opportunity you should make a trip to the fertile

**Trinity and Brazos Valley**

which lies in the midst of the most prosperous and thickly settled portion of Texas, between the Trinity and Brazos Rivers, which flow only about 70 miles apart for over 300 miles through the very Heart of Texas.

The Trinity & Brazos Valley Railway has just been built through this valley connecting Ft. Worth and Dallas on the North with Houston and Galveston on the South, and has placed this productive region in better communication with the four big markets of Texas than it ever has been, thus giving it the only thing needed to develop its wonderful resources.

The soil in this valley is varied in character. The Northern part of it has fine, black waxy land suitable for the production of big crops of such staples as cotton, corn, wheat, etc. The Central and Southern portions have a light, sandy soil adapted to growing great crops of fruits and vegetables.

New settlers are going into this valley by the hundreds and are securing good land for from \$5 to \$40 an acre.

Now is the time to investigate this opening.

Take advantage of one of the low-rate excursions on the Rock Island-Frisco Lines, only \$20 from St. Louis or Kansas City, \$25 from Chicago to any point in the Trinity and Brazos Valley and return.

If you would like to read something about the opportunities open to you in the Trinity and Brazos Valley write for my book on Texas. You will find it full of good, reliable information. I will send you one, without cost, if you will give me your name and address.

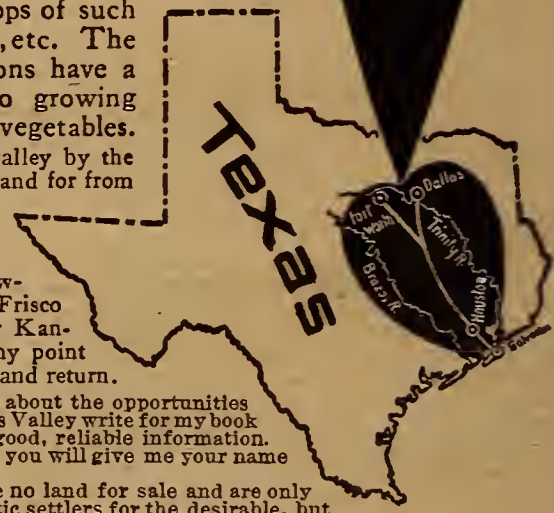
The Rock Island-Frisco Lines have no land for sale and are only interested in getting good, energetic settlers for the desirable, but unoccupied, lands along their roads.

I have chosen several specific sections, where conditions are especially favorable for new settlers, and am advertising their advantages. If you would prefer some other section than the Trinity and Brazos Valley, look for my advertisements in other issues of this paper, or write me for specific literature about the section you are most interested in.



JOHN SEBASTIAN, Passenger Traffic Manager, Rock Island-Frisco Lines, 1222 La Salle Station, Chicago, or 1222 Frisco Bldg., St. Louis

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opening  
for  
You  
in the  
Heart  
of  
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**CORNISH CO.,** Washington, N. J.



## A MERRY CHRISTMAS

# FARM AND FIRESIDE



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## Wheat Culture

By Prof. C. P. Bull of the Minnesota Agricultural Experiment Station

There is probably not a section of land anywhere in the world that has been used for farming purposes on which wheat was not at some time the chief crop grown. History tells us that the ancient Egyptians, Romans, English and all used wheat for a portion of their daily ration. In America it at once formed the chief breadstuff of all classes, and was produced on every farm. In fact, we may safely and accurately say that wheat is the pioneer crop. From the Atlantic to the Pacific the wheat crop has followed the breaking plow as religiously as the farmer sought new lands to subdue.

The methods of producing a crop of wheat have very much changed since the virgin forests and prairie lands were first made to produce immense crops. At first it was but necessary to sow the seed, and harvest, a few months later, the matured grain. Now the fertility of the soil is somewhat depleted, and the twenty-bushel yields are exceptional and not the rule, as formerly. The modern wheat grower, then, has a new problem to contend with, and this new problem is possessed with several features: (1) The soil fertility; (2) a deteriorated class of seed, occasioned by slack methods of culture and selection of seed stocks; (3) disease; (4) weeds. These the pioneers needed to give but little thought. The farmer of to-day however, must give each one especial attention, must be a student (a thinker), and be alert to the markets, if he will realize the greatest returns for the efforts expended. In short, he must understand modern cultural methods to make wheat raising profitable. It is here recognized that winter-wheat growing is somewhat different from the growing of spring wheat, but the general principles of production are practically the same. The former requires planting in the fall, thus eliminating some crops as "preparers of the soil" for wheat conditions. In some instances this is not literally true, for the seed wheat is often sown before the preceding crop is harvested—an example of which may be found in the practise of sowing the wheat in corn. Where this is in vogue the corn must be kept thoroughly clean (as it should be) and cut. A little more seed is also necessary to ensure a good stand.

It is a well-recognized fact that improved

yields of wheat or any other crop may be secured in four ways: (1) By increasing the soil fertility; (2) by bettering the tillage methods used; (3) by better seed selection; (4) by breeding, and thus improving the plant itself.

### INCREASING THE SOIL FERTILITY

This is not an altogether easy problem, nor can it be accomplished in one season. The most direct way to increase fertility is through the application of commercial fertilizers; but this incurs a considerable outlay of money, and is, from the standpoint of the soil itself, a detriment to it. It hastens the decomposition and dissipation of the humus and lowers the physical condition of the soil. Commercial fertilizers of any kind must be used intelligently, and never to the exclusion of humus-giving agencies, such as barn-yard manure, crop rotation in which

the fertility. Crops treated in this way serve to build up soil fertility by "holding" temporarily the available fertility, which otherwise would be lost.

Rotation of crops builds up soil fertility by leaving a large crop residue in the heavy sod of the meadows and pastures; also, by changing the crops each year, the soil is differently treated and the roots of the crops feed in relatively different areas. This, together with barn-yard manure applied systematically, has worked wonders with bettering yields and fertility on many an up-to-date farm. At the Minnesota Experiment Station the yield of corn in rotation has exceeded that of corn grown continuously by nearly two hundred per cent. Wheat under similar conditions, on an average of twelve years' trials, yielded in rotation nearly double that on plots where wheat was grown continuously.

Thus it is possible to lay out a rotation upon a farm and grow as much grain upon a smaller area as was grown on a larger area when but one or two crops were produced upon the same area annually.

The rotation which has recommended itself strongest in the West is a five-course (year) system, consisting of corn, grain, grass, grass, grain. If the actual crops be specified in this system for an average farm, they would probably be as follows:

First year, corn; second year, wheat (eight pounds of clover seed); third year, clover and timothy hay; fourth year, timothy and clover pasture; fifth year, oats.

With such a system a farmer's fields and his work are practically prearranged. For example, for the corn the land is manured and fall plowed, the seed bed in the spring is prepared with the disk and harrow. For the wheat, the corn land is disked and harrowed fine, preparatory to drilling the wheat and sowing the grass seed. The following year clover and timothy furnish a quantity of hay for the first cut. A second cut of clover can be made or the stock can be given the field for pasture. The next year the timothy and clover may be cut for hay or pastured, or both, as before. The land is then fall plowed and a crop of oats grown the next season. It will be noticed that in addition to giving the best possible soil condition for the wheat and other crops, the rotation



A MODERN WHEAT FIELD IN ROTATION WITH CORN AND GRASS CROPS

some meadow and pasture grasses are included one or more years, or a green manure crop.

There is nothing a farmer can use that will give him as big returns for a series of years or that will give as much permanency to the improvement of the soil as will barn-yard manure. It is not an exceptionally "rich" fertilizer, but it contains the elements necessary for plant growth, and adds to the soil the humus which is so very important in soil of any kind. A discussion of humus is too gross a subject to permit of exploitation here, but suffice it to say that it enhances the water-holding power, the warmth, the tillage operation and other minor factors, in addition to supplying a limited quantity of fertilizing elements.

Green manure crops (crops planted and allowed to produce heavy foliage, then plowed under) furnish a supply of readily decomposed vegetable matter, and are often used to conserve



demands only a small amount of plowing each fall. The work is also more evenly divided than where wheat or all grain crops are grown.

#### THE SEED BED

For a crop of wheat the seed bed is next in importance to the seed itself. The seed must be in contact with moisture to germinate with good vigor. The young plantlet for a time feeds upon the stored-up material in the seed, but must eventually rely upon its roots to reach out into the soil and obtain the food. It is therefore important that the roots be in close touch with the soil particles which give up the necessary food supply. The finer and more compact the seed bed, the better will the root be enabled to get the essential food elements. If the soil is loose and ill prepared the roots become dried and use too much growth energy in quest of moisture and food.

The best-prepared soil for wheat is early fall-plowed land, or if for winter wheat, early summer-plowed land. Disk just before seeding, and harrow before or immediately after seeding. This will be sufficient for most soils, but some of the heaviest clay soils should be disked or harrowed twice before seeding. When the grain is up about one or two inches a light harrowing with a slant-toothed harrow will be a great benefit and greatly reduce the percentage of weeds as well as increase the yield.

#### BETTER SEED SELECTION

By this is meant the saving each year of the very best seed wheat for planting purposes. The farmer too often sells his wheat without a thought of seed grain until there remains only about enough to plant for next year's crop. This wheat is then saved (sometimes cleaned of dirt, but seldom graded) and used as planned. Such a method is slack and slovenly and will cause loss sooner or later. A man must select and grade up his wheat just as he would live stock if he expects the greatest returns from the seed point of view. Any good fanning mill or grain grader, when properly used, will add from one to five bushels an acre to his wheat crop.

Breeding in an intensive way is not to be recommended, but a general "grading up," a saving of the best seed from the best parts of the field, a selection of superior heads and in general a better tillage and care are to be highly commended and recommended to every farmer. A man can and should grow each year a small seed patch of wheat, from which sufficient seed may be had to plant the large fields. The seed for this seed patch may be saved out by grading the bulk grain closely, or by picking out the best heads from the field from which the best grain is secured, or by saving a few superior plants. Any one of these methods will give upward to twenty-five per cent increase in yield over the parent variety or field. Such work has been done and satisfactory results obtained. In fact, our best varieties have been formed in this way.

There is no such thing as seed "running out" if care is taken to use only the best for planting, especially if the grain has been bred up as here indicated. It must be remembered, however, that highly bred or improved wheat or other grain must not have "scrub" care. It cannot hold up under it. The better the care, the better the quality and yield.

#### SUMMARY

To sum up, let it be known that a farmer can double his yield by (1) better tillage, (2) increased soil fertility, (3) better seed selection and (4) better care of the crop at harvest. Any one of these alone will give from one to twenty-five per cent increased yield. The four combined will double the yield.

Wheat culture, like the culture of the rose, the garden crop or the human plant, must be of a superior quality in order to get a high-grade, superior product. Strenuous effort must attend every operation from seeding to seed selection. The seed bed, the seeding, the harvesting, shocking, stacking, thrashing, storing and selecting the seed must all be done at the proper time, in the proper way, and be accompanied with serious thought. Really, when we stop to consider, we find our wheat yields almost directly proportional to the amount and quality expended in securing them. Thirty and forty bushel yields an acre are as possible to-day as they were twenty-five years ago.

### POSTAL SAVINGS BANKS AND PARCELS POST

Postmaster-General Meyer favors postal savings banks. That means making every post office a savings bank. Other civilized countries have had these for many years, and thoroughly demonstrated their usefulness, but, as in all other postal matters, our government is years behind others. Mr. Meyer is aiming to arrange the system in such a way that it will not in the least interfere with the banks. Probably this is about the best way to get at it. "Vested interests" are very touchy about government interference with their business, and probably the banks will not put up much opposition to the scheme of Mr. Meyer if the rate of interest paid for deposits is made low enough.

But Mr. Meyer also favors a parcels post, and here he will meet with the most strenuous opposition. He also comes at this proposition very delicately, making the domestic rate the same as the foreign rate, twelve cents a pound, instead of sixteen cents as now, and allowing larger packages to be sent through the mails. If the express companies allow congress to give the people a parcels post at about double the rate charged in other countries it will be because they feel satisfied they can meet the rate and still make money.

I have to send a five-pound package to Australia by parcels post this week, and it will cost me sixty cents. If I wanted to send it to the next post office, four miles away, I would be informed that it is over the weight.

It is now up to the people who would be most benefited by parcels post—the farmers—to go after their congressmen and senators and make them give it to us. Go for them right now. Shower them with letters and postal cards asking them to give this matter their immediate attention. A postal card will cost only a cent. Write to them at once. It will pay.

#### HOLDING HAY IN THE MANGER

A woman farmer writes me from Indiana that her two milch cows throw much of their hay feed out of their mangers, trample it down and waste it. She says she has plenty of straw for bedding, and objects to their using expensive clover hay for that purpose, and she is thinking of buying a feed cutter and cutting their hay short, so that it will be more difficult to throw out, but the cutting will be a job she does not fancy, and it will take up time she can scarcely spare. She asks what I think about it.

I once owned a horse that just as soon as he got into the stable would put his nose under the hay in it and toss it out. I nailed two strips of wood across the manger, but he would work the hay to

most convenient arrangement I ever saw, and absolutely prevents animals from wasting hay by throwing it out of the manger. When turned up it is out of the way of the hay going in, and I rarely find it necessary to fasten it down, simply dropping it down securing the hay.

#### ADVICE TO THE BEGINNER

A miner writes that he is going to try farming in the sage-brush country of southern Idaho, and he says he knows very little about the soil and climate, but he has a fair supply of cash and lots of grit, and he thinks he can make a success of it.

The very first thing he should do is to pick out two or three of his nearest neighbors who are successful farmers, and from them get all the information he possibly can. He should find out the best time to plow the land, the proper depth to plow, what to sow and plant, and the best time to do it—in short, everything he needs to know to be successful. Any live farmer will take pleasure in giving him all the information along these lines that he can, and it is well to follow his advice.

After one has mastered the principal problems and is doing reasonably well he may branch out a little and make some experiments along lines that appear to lead toward still greater success. But in the beginning one should be very careful about striving to do things a little better than a successful neighbor. He should first aim to get himself safely anchored, and his finances into good shape. "Do as your most successful neighbors do," said a good old farmer I worked for in my young days, "and you are reasonably sure to make a go of it. After you have thoroughly caught on you can then try to do a little better—improve on their methods wherever you see a chance for improvement."

In every community there are men in every line of business who are very successful. They conduct their business in a manner that carries them right up to affluence. These are the men whose methods are worthy of the closest study. One may not be able to do exactly as they do, but he can follow closely along the same lines. One thing he will learn is that they do everything thoroughly and just at the right time. They may sometimes sit down and look lazy and careless, and talk about fishing and shooting rabbits, but if one looks closely he will find everything about their farms or places of business in perfect shape and right up to the minute. When it is time to do anything they will be found doing it, and doing it right. If they are farming, they will not be found rushing in a crop just to get ahead of their neighbors, or to have it said that they have accomplished this or that mighty work in a day. But

The beginner should be careful about following their advice or being led into schemes that are new and strange and promise great things. Stick to the advice of men who do things.

#### RENEWING AN OLD PASTURE

A farmer in Pennsylvania has an old pasture that is overrun with some kind of worthless grass, probably the so-called wire grass, and he desires to make a good pasture of it without plowing it up. He should have tackled this job early in last September. He should have thoroughly disked it and seeded thickly with mixed grasses, and then harrowed it smooth, having the teeth of the harrow turned well backward. Had he done this the pasture would now be a mat of young grass, which would have made good pasturage by probably the middle of May.

As it is, probably the best thing he can do is to thoroughly disk it as early in the spring as a good job can be done, seed, and harrow smooth. As to the kinds of grass with which to seed it, it will be a good idea to make some inquiries among neighbors whose soil is similar, and learn what kinds have done best with them. For pasture a mixture is always best, and one should not be afraid of putting in too much seed. What is wanted is a good stand—enough to smother out the wild grass and weeds. It should not be pastured until the grass is thoroughly established—until the roots have secured such a firm hold in the soil that stock will not pull them out in grazing. Then it is certain that there will be a good crop of weeds spring up, and these must be clipped off with a mowing machine set to run high. By keeping stock off and weeds down a good mat of grass can be secured, and if it is not pastured too closely it will be good for several years.

FRED GRUNDY.

#### STAYING AROUND HOME

A reader has asked me to tell him something that will be of interest to one who wishes to change and try another section. There is but one piece of advice I care to give in the matter, and that is to stay where you are if it be possible. There is hardly anything that will supplant the things we know from the time when the land was young to us, and no matter how bright the sunshine of other climes, how beautiful the flowers of other soils, nor how bounteous the crops on other farms, there's nothing that can quite fulfil the ideals woven around the first days of our existence.

But there are times and occasions that justify one in moving away from the old familiar scenes. Nearly every day I see a place where I would not stay, no matter how sacred be the tie that binds. I think there are instances when duty calls a man to another home where better things can be achieved. Speaking from this standpoint, I want to say that opportunities are open in Georgia and the South that will admit of most any man's getting a home. This is the era of home getting, and the times will not remain many years as favorable as they are now for securing a place one can call home.

It will, of course, be impossible to fall into line in farming just as it is done here now, but there is a chance even to improve upon it. It is easy to try some of the small things that unite to make a success of farming in every section. Small fruits that will come to market in a few months' growth a small lot of poultry, a truck patch, and various other similar plans, can be pursued in this section until one is fully acquainted and ready to branch out as he becomes acquainted with the local situation. These opportunities, however, are not confined to any particular section, but, on the contrary, are to be observed in most parts of the undeveloped Southland.

The man who is honestly seeking a home can probably come South with a certainty that he will succeed, but in the meantime it must be borne in mind that there are as many men, comparatively speaking, in the South that do not own their homes as there are anywhere else in the country; still this is no barrier, for many here simply do not want a home, and consequently do not try to obtain one.

J. C. McAULIFFE.

"God made a million spears of grass where he made one tree. The earth is fringed and carpeted, not with forests, but with grasses."—H. W. Beecher.



PLANTING THE CROP NURSERY

In systematic plant breeding it is necessary to have each plant apart from each other plant. This machine was devised at the Minnesota Experiment Station to plant the seeds four inches apart. A fair comparison and selection of plants can thus be made

one end, then push it up and out. I found the strips were in the way of putting hay into the manger, so I made a frame of boards four inches wide to rest on the top of the manger, nailing strips two inches wide across it eighteen inches apart. This frame I fastened to the back of the manger with hinges, so it could be raised up like a lid. When the hay was put in the manger this frame was dropped down over it and fastened down with a hook, and that ended the wasting of hay.

I had a cow that would throw her hay out, as the horse did, and I put a hinged frame over her manger, with two cross strips a foot apart at each end, and a good strong one in the center, sixteen inches from the others, and she has thrown out no hay since. This is the

when the conditions are just at their best for planting or harvesting they will be found into it with their sleeves rolled up, and there's no stop until the job is done. These are the sort of men this miner, and all others situated as he is, should look to for guidance.

There are also men in every community who are number one farmers with their mouths, but no good with their hands. They are fairly overflowing with brilliant ideas and theories and money-making schemes, but usually are in a state of chronic bankruptcy themselves. They can evolve astonishing plans and sure-thing tactics in their minds, but somehow they don't work out right in practice. They are the fellows who say things, and the others are those who actually do them.



### THE FARM BOY AT HOME

"Come on, ma, let's have a game to-night! No more school till Monday, and no books to study." "All right, Laddie! What shall it be—chess, checkers or backgammon?"

"Let's have a twist at chess. You'll beat me, but we'll have some fun at it, anyway."

And out comes the board, and soon the two are deep in the game. There are times of complete silence, as the mother and her boy feel their way about through the intricacies of the game. Then, too, there are moments of laughter when some good play is made. But the thing that interests us is that here is a farm mother who thinks it worth her while to sit down, away from all the cares of the household, and help to pass away an hour or two of the long winter evenings in this way. This is no fancy picture. Laddie is a real boy and his mother a real woman. And let me tell you that this seems to me almost an ideal farm home, so far as this particular feature of its life is concerned.

One day I had a chance to talk with that mother about the matter of the home life of the farm boy. Shall we sit here and listen as she speaks? It may be some farmer's wife who has boys and girls will look at the matter in a new light when we are through with our little chat.

"It is not wasted time," she tells us. "It helps me and it helps the boys. They must have something to do. Boys are live creatures, at least those that are good for anything. When a boy has no fun-loving element in his nature there is something wrong with him. He is either sick or below par intellectually. And there is always the question what the something shall be that interests them. If they do not find something that attracts them at home, you need not expect that they will stay there very long. The first you know they will be away at some neighbor's or down town playing games that pull them down. So we have our little play spell right at home."

"What kind of games do you play?" "Never cards. I know all about the criticism that this may bring me. I know most people say there is nothing in a quiet game of cards in one's own parlor. But, I tell you, too many young men have gotten their first start in gambling and worse things in their own homes. I never want a boy, my own or somebody else's, to say, 'I took my first lesson of my mother.' That would break my heart. So we take games that have no tendency to bad things, no wrong associations, like chess, checkers or backgammon. There are many innocent games like these now to be had. No one ever will be sorry he let cards alone. Ask any man that has lost his place in life through cards about that, and he will tell you that if he had let them alone it would have been the making of him."

"And then it is not just the pleasure of the game that we are to think about. While we are working at the game we are keeping close to each other. I cannot bear the thought that my boys shall get away from me. I want them to be my friends. They tell me all about their hopes and ambitions; all the little things that have come in the day to trouble or make them happy. The closer a mother can keep her boy to her, the better it will be for her and for him. If you see that your boy is hiding something away from you, you may well begin to tremble."

"Another thing: Mothers may hold their boys by taking an interest in their school work. I know many do not. Some cannot, on account of lack of educational advantages in their own youth. But if you can, take time to help them through with the arithmetic or the other studies. That will keep your own mind bright and be a great help to the boys. They like to feel that father and mother are able to give them a lift. They take pride in it and like to tell the other fellows about it. I know this means work for the farm mother, and she has many things to look after. But what in all the world can compare with the happiness of bringing the children safely through these trying places of early life? It is worth more to help make a life than it is to make beautiful clothes or to read popular novels. Clothes wear out and go out of style, books are forgotten, but good men go on to all eternity."

"But there are other things a farm mother may do to keep a good hold on her boys. Give them a nice room, for one thing. Boys like pretty things. They may not like to say much about it; but you can tell by watching them that they do. Pretty pictures, a good, comfortable bed, a few good books, a case to keep them in, a dresser of their own and a carpet on the floor, with a few easy chairs, all these are worth their weight in gold to the boy. He likes to talk about 'my room,' and enjoys taking his chums up to it. If you can add a violin or a flute, for them to pick away on, so much the better."

"The boy that has a good room is bound by a good strong chain to the old home."

And then we sat back and thought about it. It is a good thing to think about in the days while the boys are with you. The time will come when things will change. Time brings all those things in spite of us. We have to let our boys go altogether too soon. But who can estimate the joy and peace of being able to say when that time comes, "I know my boys will always look back with pleasure to their life in the home nest."

An old-fashioned mother, do you say? Thank God for her! Would that there were a million more like her on the farms of this country! If there were it would not be long before we would hear less about the awful things that are done by



In the preparation of a seed bed upon spring plowing or otherwise a loose soil an implement of this sort has proved extremely valuable. It packs the sub-surface and crushes the lumps.

men to-day in every line of life. For we would have a new crop of men, men anchored so securely to the right that they would not be swept away by every wind of temptation or carried down by the habits that mar and stain and cripple manhood.

Preaching? Not a bit of it. The editor would not let me do that. This is only a bit of talk right from the heart—from my heart to that of the mothers and the fathers of this beautiful land of ours.

EDGAR L. VINCENT.

### MORE MEADOW AND PASTURE LAND NEEDED

Now that farm help is becoming so difficult to obtain, more land should be seeded down to grass, for meadow and pasture. The price of good hay makes its culture profitable when the cost of cutting, curing and baling it for market is considered. For this purpose the timothy and redtop grasses are yet the main reliance. But for pasture several varieties are needed, as no one alone makes really good pasture, because each variety has its season of blooming, after which the pasture is not so good.

For the most profitable production of meat and milk a good pasture is indispensable. The young grasses are perfect food for all domestic animals. It is to be regretted that pasture lands containing the desired succession of grasses are so lightly esteemed by even the best farmers, and that so much reliance is placed upon commercial fertilizers to increase yields at the expense of the organic matter in the soil.

Humus can of course be replaced by using barn-yard manure, but the supply is invariably too limited. Hence, pasturage should be made the main reliance in returning organic matter to the soil. Decaying vegetable matter enables the soil to resist drought, and supplies plant food in the best form and in the greatest abundance. The more pasturage, the greater the profit, as less hand labor is required.

### RIDDING THE PLACE OF RATS

I noticed an article in a recent issue of FARM AND FIRESIDE entitled "Ridding the Farm of Rats." I will give you my experience. In 1871 I moved to a farm and found it infested with rats. There were so many and they were so bold that they would come and play around us. One evening they caught a chicken right at our feet, and we fought it off by kicking it. I had heard that rats would not stay where there was a goat. I bought a billy goat, and in a week's time there was not a rat on the place.

I have kept a hotel nearly ten years, and have been troubled (as is every other hotel) with rats. Last spring a boy who is working for me bought a nanny goat to work to a little wagon. We are obliged to keep her tied, to save the

shrubby around the place, and I have not seen a rat around the barn since he brought her here. At the house we attend to them as did the writer of the article referred to, and there is but one at present on the premises, and we will get him soon.

ED. J. FEATHERSTONE.

### STRETCHING WIRE FOR FENCE

In building a wire fence, where the wire is on spools, the easiest and quickest way to unroll it is to put a strong stick or iron bar through the roll or spool and fasten it to the back end of a wagon, then fasten one end of the wire, put the team to the wagon, and drive. Lay the end of a board on the spool of wire, to act as a brake.

To stretch the wire, have a wagon jack and raise one of the hind wheels from the ground, tie the wire to one of the spokes near the hub of the wheel, then turn the wheel, winding the wire onto the hub. In this way you can tighten one hundred and sixty rods of wire with one stretch.

LEONARD GRAPER.

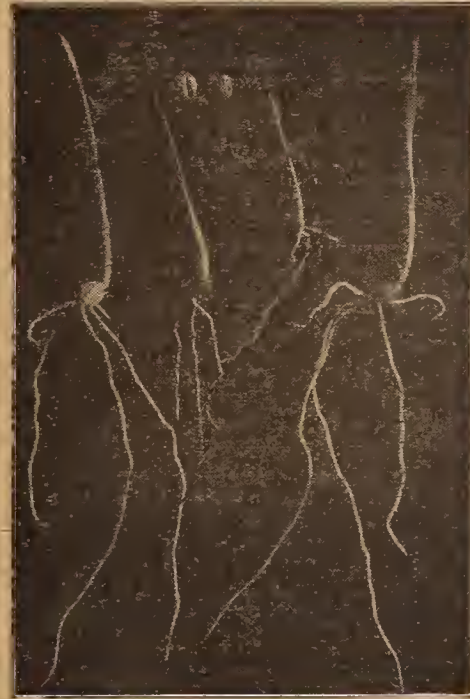
### POTATO EXPERIENCE

In reading my FARM AND FIRESIDE I noticed the article on potato culture. Being very much interested, I would like to give my opinion on this subject.

In England my father raised one hundred acres of potatoes a year averaging fifteen tons to the acre. When possible we plowed under the second crop of clover from eight to twelve inches deep in the fall, and plowed a second time in the spring; then with the same plow it was sowed seven inches deep and twenty-seven to thirty inches apart. Good stable manure was spread in the rows at the rate of twenty loads to the acre, and the potatoes planted by machine or by hand twelve to fourteen inches apart. They were covered with the same plow, the horses walking on top of the rows, so that they did not injure the potatoes by trampling on them. After that they were harrowed with a pair of drag harrows.

As soon as the potatoes were through we started to cultivate. The last time of cultivating was done with two horses and quite deep. This made plenty of loose mold for hilling, which is a very important part in potato culture, because if not properly hilled the potatoes are liable to grow out at the top and become green by coming in contact with the air, and therefore will be unsalable.

Potatoes grow better planted this way than when planted on the flat, because the ground does not bake after a rain, and it can drain better. Potatoes expand a great deal, but when planted on the flat



A germination test of good and poor seed. The outside plants come from large, plump, heavy seed. The inside plants come from small, shrunken, light-weight seed. In the center at the top are representative types of the seed used.

and baked with the sun it is impossible for them to get their full growth. I have raised two and one half acres this year, Rural New-Yorker, and had a splendid yield. I prefer late potatoes, because I have no trouble with bugs. Next year I am going to plant a potato called the Bruce; it was a splendid potato in England, and I do not see why it should not do well here.

J. E. JEWITT.

### MORE LAND OR NOT

A farmer in Michigan bought forty acres of land, without buildings, for two thousand dollars, paying one thousand dollars cash and going in debt one thousand dollars; then he expended three thousand one hundred dollars for buildings, and at the end of nine years he still owes two thousand dollars, on which he is paying six per cent interest. Now he

has a chance to buy forty acres adjoining at eighty dollars an acre. He does the work himself on the forty acres, and if he buys the other forty he would expect to do most of the work on the larger farm. The eighty acres is all under the plow. Would it be advisable to buy the other forty and assume a debt of five thousand dollars?

There may be circumstances under which it would be wise for him to add the second forty and assume such a debt. If he is a young man, with good health, and a growing family of boys who can help him out on the work as they grow older, then I think it might be a safe investment for him to make. On the other hand, if he has no children to provide for, why should he add more land to increase his cares and his toil?

If he thinks it will be as easy to work eighty acres as it is to work half that amount, he is going to be unpleasantly surprised when he tries it. It will not only make more work for him, but it will also make more work in the house. His cash sales last year were nearly eight hundred dollars, and he expects to do better this year, hence in three more years, if all went well, he would be all clear of debt and able to enjoy the results of his labors, instead of being held down to the grind for an indefinite number of years to come.

According to his showing, the forty he now has will furnish him a comfortable living and probably about five hundred dollars a year, that he could put by for a "rainy day" or to make him comfortable when old age comes creeping on and toil becomes a burden.

Of what use the larger farm? It seems to me that any man can find plenty to do on a forty-acre farm and not find time for any harmful amount of recreation. A man should not work all the time unless he has to, and if a man makes forty acres of good land produce anything like what it ought to be he is going to be kept pretty busy from the start to the finish. The chief object in life is not to get as many acres as we can in our own name. We will not need much at the end. Why should men toil and save for those who come after them when it would no doubt be better for the men of the future to toil for themselves? The parents who make slaves of themselves that their children may live in idleness are doing the worst possible thing for their children.

Eighty acres is too much for any man to work. One may farm that much, after a fashion, but it will be poor farming, and one can get more real satisfaction, and in most cases more net profits, out of half that amount. It is not so much the number of acres we cultivate as the amount which we make each acre produce which counts when the net results are figured. In my opinion it would be better to make the forty which he now owns produce twice as much as it does now, instead of working eighty acres of land to get the same results. The bane of farm life to-day is the greed for more land. There would be greater prosperity and more happiness if every farmer was content with forty acres or even less.

APOLLOS LONG.

### WINTER PLOWING

Whether it is best to do plowing during the winter season is a question that must be decided by the individual farmer.

Stubble lands and any land that has been cultivated for one or two years is put in better condition by plowing it in the spring, but for sod lands the freezing and thawing of the land after it is plowed helps to pulverize it and put it in better condition than where the plowing is done late in the spring; then, too, the freezing kills many insects that damage crops. This is a very important item to be considered. A few years ago I had a piece of sod land intended for corn. A part of it was plowed during the winter season, but on account of unfavorable weather I did not get it completed until well up in the spring. The worms did not do any damage to the part that was plowed during the winter, but it looked for a while as if the corn on the part that was plowed in the spring would be ruined by them. After the first cultivation it started to grow, and made a fair crop, but it was plain that the worms cut down the yield several bushels to the acre on the late-plowed part of the field.

The winter-plowed land will retain more moisture in the soil, which in a great measure will counteract the effects of a drought that frequently comes in the summer.

Often teams that would otherwise be idle can be profitably employed at plowing during the winter, and the work may be better done if performed before the rush of spring work sets in.

A. J. LEGG.

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THE USE OF STRAW

THE best use we can make of straw is to get it into the soil as quickly as possible. This fact is more fully realized each year, and yet we often notice considerable carelessness in this matter. There was a time when the value of straw was little appreciated and the main object seemed to be to get rid of it as easily as possible and with the least expenditure of labor. To accomplish this, oftentimes the torch was applied as soon as the machine was moved out. Where this course was not pursued, the old straw stack was often permitted to molder peacefully in the field, a mute witness to the plowing and harrowing, mowing and reaping that went on around it. There was not time to haul it out and plow it under, as it was considered the least important of the work, and for this reason it was deferred until there was little or nothing else to do.

Who of us has not seen the rank growth of grain or the rich green of the corn on the site of the old straw stack? These experiences demonstrate to us the wealth that is stored up in the straw and how best to utilize it that it may be turned to account. But in getting the straw back on the ground it should be done in the way that will bring the greatest return. To accomplish this it should be fed or used as bedding and should then be gotten out on the fields with the least possible delay. There are few of us any more who sell straw, and yet we do not all dispose of it in the most profitable way. If we have not enough stock to eat all the straw or require it for bedding, then we should have more, and when the straw is converted into manure it should not be permitted to leach out and lose half its value before being put where it will yield a return.

There is no time in the year when manure may not be hauled out, unless it is when there are deep snows. In the fall it should be spread on the plowed ground before it is sown to wheat; in the winter or summer it may be spread on the meadows, and in the spring on the wheat or oats. When the manure is put on a growing crop it is taken up at once by the growing plants, and an immediate return is realized. In our experience manure gives more satisfactory results when put on top than when plowed under.

A good many of us are inclined to be rather saving of the bedding. We believe this is a mistake. Use plenty of bedding. This not only makes the stock more comfortable and helps better to keep them clean, but at the same time we are manufacturing a valuable product—we are converting straw into manure which is making the best use of it.—The Farmer's Guide.

FOOD VALUE OF CORN

The food value of corn and its products, as compared with each other and with other food materials, of course depends mainly on the amount of nutritive materials or nutrients which the digestive organs can extract for the use of the body. Besides the water found in all food materials, even those which are apparently perfectly dry, the actual nutrients are grouped in four classes: (1) Protein or nitrogenous material; (2) fat; (3) carbohydrates, including starches, sugars and the very indigestible constituents known as crude fiber or cellulose; (4) mineral matters or ash.

The two functions of the food are to furnish material for the building up and repair of body tissue and to supply energy for muscular work and body heat. Protein, fats and carbohydrates alike can yield energy, but since only protein can serve for the necessary tissue building, this is usually considered its main function, and the fats and carbohydrates are relied on to furnish most of the energy.

All the changes which corn or other food undergoes in being prepared for eating are intended mainly to add to its palatability and get it into a form in which the nutrients can be most easily and completely utilized by the body.

STRUCTURE AND COMPOSITION

Although the stalk and leaves are important cattle feeds, only the kernels of corn are ordinarily used for human food.

The kernel, or seed, it must be remembered, is not inert, but a living thing, which under favorable conditions will develop into a new plant, and each part of it is made up of cells especially fitted for a particular rôle in this process of reproduction. Roughly speaking, the seed consists of three main divisions: The skin, the germ, and the endosperm (see Fig. 1). The skin, which makes about six per cent of the weight of the seed, holds the whole together and protects the delicate interior parts. It is made up principally of tough cellulose or crude fiber with some mineral matters embedded in it. The germ is larger in corn than in most cereals, and forms in average corn about ten per cent by weight of the grain, whereas in wheat it is only

Review of the Farm Press

six or seven per cent. It contains the embryo from which the new plant will develop under favorable conditions. The endosperm constitutes about 84 per cent by weight of the grain, and represents the food which the parent plant has stored for the early growth of the new plant. In the germ and endosperm the cellulose walls of the cells are very much thinner than in the skin, and surround a network of nitrogenous material called protoplasm, in which the life of each cell seems to reside. The food materials which the plant has stored for future use lie in the meshes of this protoplasmic network, together with some moisture; in the germ much of the stored material is fat and mineral matters. In the outer lay-

cereals are much the same, the individual compounds making up these groups differ considerably. As shown by extended studies at the Connecticut State Station, zein is the typical proteid of maize, and it differs in its properties considerably from the gluten of wheat or the proteids of other cereal grains. The fat of corn has a different chemical composition from that of wheat or other grains, and the ash also is characteristic.

There is known to be some variation in the number and kind of starches, sugars, cellulose, and other bodies included under the heading "carbohydrates," which occur in corn and other cereals, but it is generally believed that the bodies like starch which occur in the different plants have the same percentage composition. In size, appearance, the distribution of the concentric layers making up the granule, the readiness with which the starch absorbs water and is acted upon by ferments, and in other properties, starch grains occurring in different cereals exhibit considerable variations. The starch granules of corn resemble those of oats somewhat in appearance, but are larger.

Fat, when burned in the body, gives off two and a fourth times as much heat as carbohydrates and protein, and corn, which contains relatively large proportions of both fat and carbohydrates, has a comparatively high fuel or energy value. The points in which the chemical composition of corn is superior to the other common cereals, then, are its richness in fat and starch and its small content of crude fiber. Its deficiencies lie in the small quantities of protein and mineral matters.—Farmers' Bulletin No. 298.

SELECTING A BREED

One of the great problems with most of our young men at the present day is what breed should he select. This is largely a matter of choice. There are good individuals in every one of the dairy breeds that have been bred for that purpose. It would indeed be one of the grandest things, if it were possible, to localize the breeding of animals to special sections and to make it compulsory to breed certain breeds for certain purposes. Some of the European countries furnish us an excellent example of this when we find that the most progressive people of this country draw their stock of cows

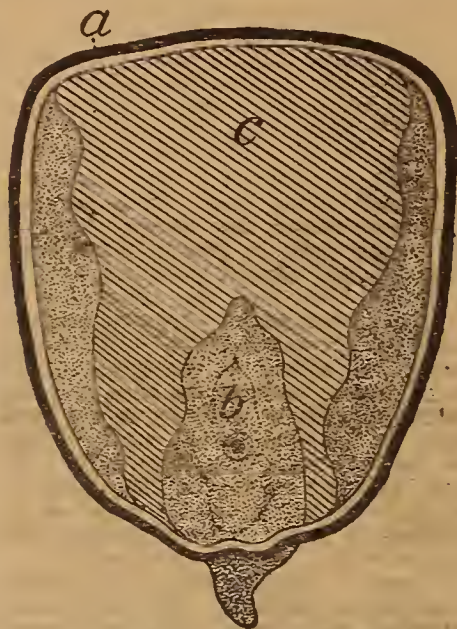


Fig. 1—Diagrammatic section of a grain of corn: a, skin; b, germ; c, endosperm

ers of the endosperm (see Fig. 2) there are stored grains of a protein substance known as aleurone, and in the inner portions are found quantities of tiny starch grains with small amounts of protein and mineral matter. The following table, taken from analyses made at the New Jersey Experiment Station, shows how these constituents are distributed throughout the grain, the data being expressed on water-free basis.

Portion of corn kernel	Proportion in original grain	COMPOSITION OF DIFFERENT PORTIONS OF A GRAIN OF CORN					
		Water	In water-free material				
			Protein	Fat	Total carbohydrates		Mineral matters
Per cent	Per cent	Per cent	Per cent	Starch, sugar, etc.	Crude fiber	Per cent	
Whole kernel.....	100.0	24.7	12.7	4.3	79.3	2.0	1.7
Skin.....	5.6	15.3	6.6	1.6	74.1	16.4	1.3
Germ.....	10.2	29.6	24.7	29.6	44.7	2.9	1.1
Endosperm.....	84.2	24.7	12.2	1.5	85.0	.6	.7

From these figures it may be calculated that fifty-one per cent of the cellulose of the grain is found in the skin, sixty-five per cent of the fat and about sixteen per cent of the protein in the germ, ninety per cent of the starch and eighty-four per cent of the protein in the endosperm.

Though the proportions of the several nutrients in corn and other common

from the countries of the Guernsey, Jersey and Ayrshire. This is simply because the people of these particular localities are making a specialty in some definite line and are aiming at a definite purpose.

If we are to gain a reputation as breeders of merit we are obliged to specialize for some definite aim and to combine all the intelligence and energy of a com-

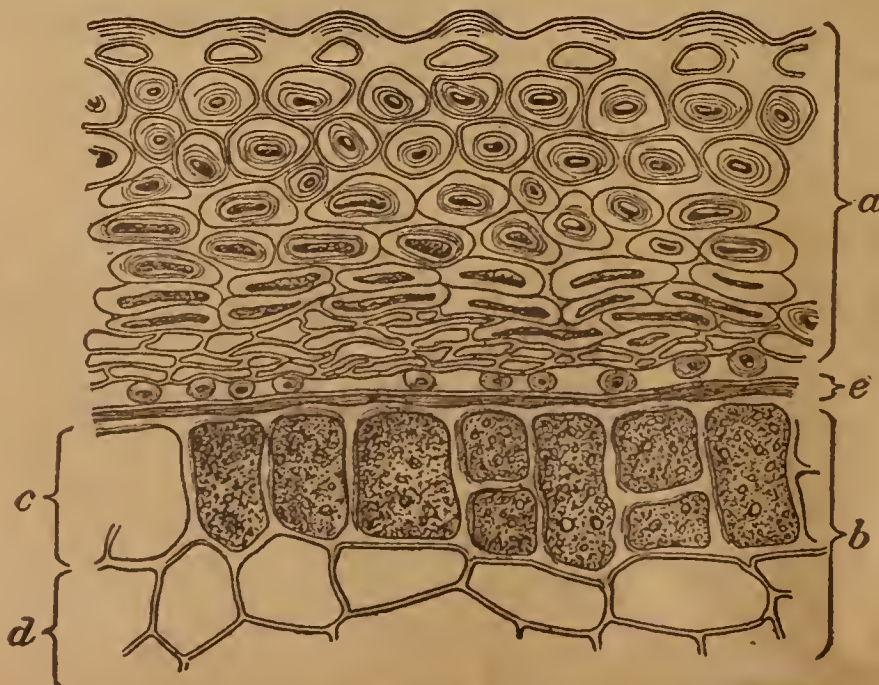


Fig. 2—Cellular structure of a grain of corn: a, skin; b, endosperm; c, aleurone cells and (d) starch cells; e, membrane

munity, county or state to one purpose. Even with the greatest care that can be used in selecting calves there will be disappointments. Occasionally the calf that you expect the great things from proves a disappointment. The best sires are often sacrificed before their real worth is known. Frequently the real worth of an animal is found out after he is sent to the block. We then mourn for the misfortune and would be willing to give many times what we realized for the animal. Of course, this is an unfortunate condition that only time and close observation on the part of the breeder can obviate.

We therefore say that while disappointments may come about in every breed, the best way to do is to stick to one breed, be it the Jersey, Guernsey, Holstein or Brown Swiss, it matters not which. Time will give you a reputation if you are a good, cautious breeder, and you will be repaid for your efforts. It is always desirable to practise the old proverb in this instance, to "stick to your text."—Prof. Oscar Erf in The Kansas Farmer.

HORSES WITH HEAVES

Broken wind is not curable, or it would not be such a common thing to see a good class of horse sold at ridiculously low price because of this infirmity; but it is quite possible, by judicious management, to keep the ordinary case going with tolerable comfort to the animal and a fair amount of satisfaction to the owner or driver who is not particularly horse proud.

The first thing is to appreciate or take into consideration the nature and cause of what is popularly called "broken wind." It is not a respiratory disease, in the proper acceptance of the term, but is due, in the majority of cases, to bad feeding. Feeding an inordinate quantity of bulky, innutritious fodder, particularly badly saved, moldy or dusty seed hay, is one of the most common causes of broken wind.

The class of horses most frequently found to be broken winded are farm horses and inferior ponies. Both are greedy feeders, and both belong to a class of owner notoriously niggardly in their provision of corn. Thus the broken-winded horse should be fed on the best of food, and of a less bulky or more concentrated character than is generally supplied to horses of this class. More corn and less hay should be given, and all the food should be free from dust and given slightly dampened, by sprinkling with salt and water. The broken-winded horse should be fed on the little-and-often principle and the daily allowance of food divided into a large number of small feeds. The hours of feeding should be adapted to the hours of work, so that the horse is not called upon to labor on a distended stomach. The largest meal should be given at night, after the work is over, and this is the time when the larger part of the moderate quantity of hay allowed should be fed. Linseed and bran should be given occasionally in the form of mash. Carrots and green meat are good for broken-winded horses, being digestible and slightly laxative, but too much green meat is incompatible with condition, and the thing to be aimed at in the case of the broken-winded horse is the maintenance of the animal in hard condition.

A cool, well-ventilated stable is a necessity. Water is best kept standing within reach of the animal, so that it can drink at will; or where this is not possible, water should be offered before each feed. It should be soft water, and the trough should be clean and the supply frequently changed. Regular, moderate work, without which the maintenance of condition is impracticable, is better for the broken-winded horse than irregular labor or long spells of idleness. At the start go slowly, until the bowels have been emptied. A distended stomach and bowels, by pressing on the diaphragm, increase the distress in breathing, and this is another reason for the food being more concentrated, or why it should contain the elements of nutrition in as small bulk as possible.

There is always a characteristic cough associated with broken wind, and on some occasions, where there has been some departure from the rules of feeding or good hygiene, or in certain states of the weather, there is an increase in the severity of the symptoms which may call for medicine to relieve them; but drugs are not of much use in ordinary cases of broken wind, and should not be persisted in when the acute symptoms have yielded. When recourse is had to medicine from time to time it seems more effective than when regularly given.

The bowels of the broken-winded horse should never be allowed to become constipated, and when judicious feeding with linseed, carrots or green stuff does not seem to keep them regular, a laxative should be given.—London Farm and Home.



**OBJECT OF FARMERS' INSTITUTES AND HOW TO ATTAIN IT**

**T**HE intelligent and experienced worker in this movement believes the rural population needs many things besides mere information. He also knows that the information may be largely gotten from periodicals and books by any one who so wills. But every man may also read and study his own Bible, yet nevertheless he desires the aid of the minister. Why? To encourage, enthuse, comfort and inspire him in his work. Man wants a leader, and he does his best physically, morally and spiritually under the encouragement of good leadership.

The rural sections being isolated and not united fell back because of the lethargy induced by such conditions. Information is needed, but there is a much greater need of inspiration for better, higher and nobler things of this life. Better homes, better schools, better roads, better everything, but let not any one think that the farmers as a whole are not cognizant of this, but they lack the co-operative spirit and determination to do the best they know.

The real object, therefore, is not to carry a piece of the agricultural college to the farmer's door nor to give him the advantages (?) of the vaudeville, but to give him that which but few men can give or even possess—an animated desire, a burning impulse, an inspiration for a higher, nobler and better life in all its aspects. Not only is it necessary to be the bearer and deliverer of a message, but with it must go earnestness, ardor and zeal that will convince the hearer that the teacher has actually lived it, and found, by living it, a nobler and better life. Swaying the multitude to higher things is a rare gift, but only the possessor thereof will make the future successful institute teacher.—L. W. Lighty in *The National Stockman and Farmer*.

**THE BUSINESS FARMER**

To keep up with the times the farmer must be a business man. He will unite method and system with farm training. He may or may not keep a formal account or practise a system of bookkeeping, but at least he will know just what he is doing, and how and why. If his business is or is not paying he will find out just where the results are coming from, or will discover where the leak is before the sheriff comes.

The way in which this is done will depend upon the training. Many successful farmers have never been accustomed to keeping accounts, and do not feel its necessity. They have worked their plan of farming into a system which is about the same year after year, and after having once figured out cost and profits in certain lines which are of chief importance they are able to tell very closely where they stand at any time. They know the cost of a quart of milk, a dozen of eggs or a bushel of potatoes under usual conditions, and are able to quickly figure out the changes brought about by new market conditions. Very likely such farmers would meet surprises should they actually keep a system of books, reckoning everything at the start, according to market value, including all charges for labor, taxes, living expenses, seeds, manure, fertilizers, tools and other incidentals, and balancing this account with the various itemized receipts from all sources, including an allowance for the farm improvements.

Whether the account system is complete or not, many hints and valuable items for reference may be obtained simply by keeping a pocket diary and jotting down the things most likely to be needed for reference.—*The American Cultivator*.

**UTILIZING THE CACTUS**

Men have but begun to find out the great value of some of the plants that have been classed as useless. The many varieties of cactus are all of more or less value, but a few varieties are now coming into general notice as forage plants.

For about twenty years the United States government has been investigating the arid regions with the object of finding plants that will grow and produce a great deal of succulent forage. Plants have been imported from Australia and other parts of the world, notably the salt bushes. But the cacti grow in great abundance in the semi-arid regions and are already adapted to the country. Coming up out of a dry soil they are fleshy and filled with moisture. Stockmen have fed cacti to stock for many years in times of shortage of other forage. More would be fed, but the spines have to be singed off, which makes the labor problem a considerable factor.

Mr. Burbank, of California, is reported to have produced a spineless cactus that

can be grown anywhere. As to the commercial value of this new variety we are not informed. Its future usefulness remains to be demonstrated.

The United States government is investigating many varieties of cacti and is bringing out many things concerning them that people have not previously known. One fact is that the cactus does not thrive best in dry regions of high temperature. The cactus demands a fair amount of moisture and a temperate climate to do its best. The driest deserts do not produce cacti in economic quantities. They are not particularly adapted to regions of extreme drought and heat. There is no region in the world where these plants grow so profusely as in the great plateau of Mexico, but that is not a hot country, neither is it particularly dry. The average rainfall of a part of this region is in the neighborhood of thirty inches. June, July and August are the rainy months, and it is in these that the cactus grows luxuriantly. When the dry months come, the developed cactus is able to withstand the adverse conditions.

The government investigations develop the fact that the cactus plant can be grown in a large part of the semi-arid West, and it is certain that new and improved varieties will be produced that will have no thorns, but will provide a great amount of valuable forage to be used by the stock in the dry months.—*The Farmers' Review*.

**HOW THE SEED OF DODDER MAY BE DETECTED**

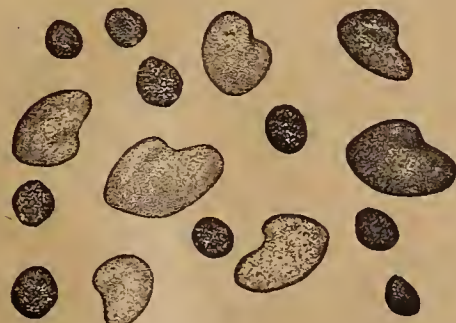
Detection of the presence in commercial seed of dodder, irrespective of its kind, demands first consideration, because its presence justifies refusal to purchase such seed. A magnifying glass is necessary, as it will enable one to readily distinguish any kind of dodder seed from clover, alfalfa or flax seed. Dodder seeds, are, as a rule, about the same size as red clover seeds, including the smallest and largest seeds. The surface is finely roughened and dull, and the general form varies from nearly spherical to strongly flattened and oval or nearly circular. The color is gray, yellowish, brown or reddish brown, depending largely on the kind. In contrast, clover and alfalfa seeds are smooth, often with a slight luster. Their triangular oval or kidney form aids in distinguishing them from the seeds of dodder.

The use of a sieve, with which a considerable quantity of the seed, if in bulk, or all of a sample can be sifted, affords the most practical means of detecting the presence of dodder. The sieve should be such that only the smallest or medium-sized crop seeds will pass its mesh. The smaller dodder seeds will readily be concentrated to smaller bulk by this means.

The seeds of the several kinds of dodder are distinguished by differences in size, form and surface texture, by the seed scar, and by color. Size and form are modified by the number of seeds developed in the seed vessel. The surface texture varies considerably with the different kinds. The seed scar consists of a more or less distinct circular area surrounding the hilum, or immediate point of attachment to the parent plant.

**CLOVER DODDER**

The seeds of clover dodder are not larger than the smallest red clover seeds, some of them being even smaller. They are nearly spherical when well devel-



Seeds of clover dodder and red clover, showing relative sizes. Enlarged

oped, but some seeds which are not well filled are flattened somewhat, even shriveled. The general color is brown, but some seeds are gray. The darker seeds at least appear as finely pitted when seen under a lens. The scar area appears as a minute rounded spot somewhat smooth-

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er and sometimes lighter colored than the rest of the surface.

The use of a sieve allowing only the smallest clover or alfalfa seeds to pass renders the detection of clover dodder very easy.

**SMALL-SEEDED ALFALFA DODDER**

Seeds of this alfalfa dodder are minute, much smaller than alfalfa seeds. They are therefore readily detected by using a sieve only sufficiently fine to hold practically all of the alfalfa seed. The seeds are oval or oval-oblong, rounded on one face, the other flattened in two planes which meet at a central ridge extending lengthwise of the seed. At one end of the ridge this face is beveled. The resulting area contains the hilum as a minute whitish point. The surface is comparatively rough as viewed under a lens. The color is variable. Some seeds are greenish; others are strongly tinged with purple. As a rule the seeds have a yellowish straw color.

**FIELD DODDER**

The seeds of field dodder are larger than those of either of the preceding kinds. Their size varies, as a rule, between that of the smaller and that of



Small-seeded alfalfa dodder and alfalfa seeds, showing relative sizes. Enlarged

average red clover seeds. These seeds are oval or nearly circular in outline, rounded on one face, and variously flattened and angled or deeply grooved on the other. The scar as a rounded area containing a short whitish hilum appears at one end of the flattened face. The color is lemon yellow, gray or light brown.

**BUYING SEED**

Every purchaser of clover or alfalfa seed in the open market is likely to receive dodder-infested seed unless it has



Seeds of field dodder and red clover, showing relative sizes. Enlarged

been found by thorough test to be free from dodder. If tested at a state agricultural experiment station or at the United States Department of Agriculture some delay is sure to result. The test is so simple and so quickly made that the farmer should himself make it, thus permitting an immediate order for the seed, if desired.—*Farmers' Bulletin No. 306*.

**THE FEEDING VALUE OF PUMPKINS**

An Iowa correspondent wishes to know whether raw pumpkins are injurious or beneficial to hogs; whether they have any tendency to start hog cholera in the herd, and whether it would pay to cook them.

Raw pumpkins are most excellent feed for any kind of young stock and are particularly relished by dairy cows. Hogs will never take cholera from eating them. On the other hand, if you happen to have cholera in your herd, and plenty of pumpkins, you will save the lives of a large per cent of your hogs, and of course considerable money, if you will stop all other feed and give them what pumpkins they care to eat on a blue-grass or clover pasture. Let it be borne in mind that the genuine hog cholera is a germ disease, and that it is not transmitted by any feed uncontaminated with the germs.

If we had a supply of pumpkins we would feed them to hogs freely. They

are particularly fond of the "innards," and the seeds of the pumpkins have considerable medicinal value. Do our older readers not remember how their mothers and grandmothers used to dry pumpkin seeds, keep them over winter, and make pumpkin-seed tea when they suspected that any of the children were affected with worms, or when the kidneys were not sufficiently active? This was on exactly the same principle that we would feed pumpkins very freely to all young hogs.

If the farmer has bought a breeding boar that has been rendered for show purposes too fat for use he can do nothing better than put him in the orchard with clover in it, or in a clover pasture, give him no feed except grass and pumpkins, letting him have all the pumpkins that he will eat. After a month of this kind of treatment, with corn and oats toward the last, he will find that he has a new boar.

It does not pay to cook pumpkins; experiments at the stations have shown that conclusively. Neither does it pay to feed pumpkins alone when the object is to make rapid gains. They are too watery, the hog cannot hold enough of them; but fed in connection with grain, such as corn, oats, barley or shorts, or with skim milk, they will make substantial and profitable gains.—*Wallaces' Farmer*.

**KEEP YOUR BEST STOCK**

Many farmers are in the habit of selling their best animals because they will bring the highest prices. A greater mistake cannot be made. A difference of ten or even twenty-five per cent in the price of a single animal is a small matter compared to this difference in a whole herd. By keeping the very best to propagate from, the whole may be made of equal excellence, and in the course of a few years numerous animals might be produced having the excellent properties that now distinguish some few of the best.

What would you say of a farmer who sold his valuable varieties of potatoes and planted other kinds that were inferior? In consequence of this imprudent measure, his next crop would fall short. Every one will condemn this course, and few, if any, are so wanting in discretion as to pursue it. Yet many take a similar course in selling their best animals and propagating from the poor. Not only is this true of animals for breeding purposes, but those for work as well. Who does not know in his own experience of farmers who sell their best work horses and keep the poorer ones? Well, the consequence is that the poorer one costs a great deal more to keep each year and do less work, and in the end is the most expensive animal. The policy should have been to keep the better one and to have sold the inferior.

And doubly so, we believe, when the farmer has animals for breeding purposes. There is a vast difference in our cattle in sections where much attention has been given to improvements by selecting the best, when contrasted with those where little or no attention has been paid to the subject, and, as a matter of course, the best have been sold, or eaten, because they were the fattest. Every man that raises stock has it in his power to make improvements, and he should avail himself of all the advantages around him to turn his power to the benefit of himself and posterity.—*C. W. Burkett in Journal of Agriculture*.

**LOCATION OF EARS ON STALK**

The results secured at the Illinois Experiment Station in breeding corn so that the ears will come at a certain position on the stalk will interest corn growers everywhere. Growers of corn on the rich bottom lands have complained for years that too much growth went to stalk, at the expense of the ear as well as of soil fertility. The Illinois station shows that every farmer has it within his own hands to determine the location of ears and reduce the height of the stalk. The way to go at it is selection—going through the fields and selecting, as foundation stock, seed ears growing at easy husking distance from the ground, and then repeating the process each year until the habit becomes fixed. I walked through a two-hundred-acre field of fine corn with the owner some time ago. The corn had made a marvelous growth, but, as the owner remarked, "You would have to roll it down before you could husk it." The ears were out of all proportion to the growth of stalk, and what a waste of soil fertility in producing these mammoth stalks! Select the low-down, heavy stalk, well rooted and with a good ear set within easy reaching distance. A stalk of that kind will resist wind, it ripens earlier, and it will produce a good-size ear of corn.—*L. C. Brown in The National Farmer*.



## THE STRAWBERRY PATCH IN WINTER

**T**IMES of repeated freezing and thawing are bad for the young strawberry patch unless the plants are protected. It does not require much to keep them from harm, either. The lightest covering or "mulching" with any material that may be available for the purpose will do it. About the best thing that can be used, of course, is marsh hay. It contains no weed seeds that will give trouble afterward. It is long and coarse and can easily be spread over the patch, and also is in little danger from being blown off by heavy winter winds.

The most troublesome weed pest that I have to contend with in my strawberry and winter onion patches is chickweed. It has the proverbial nine lives of the cat. Winters may be severe, yet it is only in rare cases that this weed fails to thrive right under snow and ice. In early spring it comes out smiling, fresh and green, and continues its growth at a rapid rate, and may soon cover the thrickest strawberry plants out of sight. But a good mulch will help to choke it out during winter. We take particular pains to put the marsh hay (or whatever mulch we use) close and heavy over the spots infested with chickweed. I know of no other way to kill it.

Of course, new chickweed seedlings spring up in abundance in spring, just as soon as the frost is out of the ground. We have to look after them sharply then. All that we must do now is to mulch. In the absence of marsh hay any long straw that is free from weed seeds, or pine needles gathered up in the woods, or other evergreen rubbish raked up along evergreen windbreaks, etc., will do very well. The main object is to protect the plants from repeated freezing and thawing and to prevent their heaving out. Our chances of a full crop of nice berries are largely improved by even a light mulch.

### OH, WHAT CELERY!

Yes, what celery we had and are having this year! Few people know how superlatively good and enjoyable it is possible for celery to be. Those who buy their supply in the stores never find it out. Neither do we, who grow it ourselves, have it in its highest state of perfection every year. It requires favorable climatic or atmospheric conditions (and freedom from blights, of course, goes with them) to make prime celery. Ordinary good celery we can have every year.

The forepart of the celery season was not favorable, it being quite dry, although not excessively warm, but the latter part (September, October and November) made up for it, giving us plenty of rain and generally good "growing weather." Not a plant of the four or five hundred went to seed, and there was not a speck of blight.

Highest quality in any fruit or vegetable can be secured only when the leaf is kept in perfect health. Any injury to the foliage has also an injurious effect on quality. In some seasons we have had to spray our celery quite frequently with Bordeaux mixture (early) or with a weak, simple solution of copper sulphate in later stages of growth. Even with this precaution the plants have often been seriously damaged by blights. Disease also seems to hasten seed production, and sometimes a large portion of the plants have "bolted," or gone to seed, thus being entirely spoiled for table use. This year I have not sprayed my celery at all. It was not necessary. So much for favorable weather and soil conditions.

### CELERY VARIETIES

Most of the celery found in our markets is of the self-blanching class. White Plume is much in evidence. Of all celery varieties, its culture probably offers the least difficulties to the unskilled grower. It is the thrickest grower of this class of celeries, and is easily blanched by means of boards. But I don't like it for my own use. It is not good enough. Golden Self-Blanching, although more nearly dwarf in growth, is much better in quality. If kept free from blights it is quite good even if blanched under boards, and very good later in the season when blanched by earthing up. The stalks being shorter than White Plume even, although often more compact, extremely high banking is not required.

My celery of this class was not early this year. Plants were set in the permanent row only late in June or early in July, but did not take a good start until the rainy season set in in August or early September. Consequently they were banked late, and with earth. Then they made an extremely rapid and compact growth, and gave us fine stalks for the table and for neighbors lasting to nearly the beginning of November.

For later use I had planted our old favorite, Giant Pascal, and the newer

Winter Queen. The plants were grown and set at the same time as the early celery. They made a wonderful growth during September and October, and were well earthed up in October. The two varieties seem to be so near alike that I am unable to tell which is which, both being planted in the same rows, only in different sections of the rows, but without being labeled. I thought I knew the Pascal when I saw it. In short, it is the only type of late celery that I had in the lot, and unless the seed got mixed or my seed plots mislabeled, Winter Queen and Pascal are very much alike. They are extremely wide-ribbed. The outer leaf stalks where joined to the root stock are two inches wide, more or less, and the blanched parts of the stalk are the sweetest and brittlest that I ever had. The earth-blanching Golden Self-Blanching was very good; this Pascal, or Winter Queen, is unsurpassably good. There is not the least strong flavor in it, and an apple or radish could not be more brittle and more stringless.

### SOIL AND MANURE FOR CELERY

This superlatively good celery cannot be grown on poor soil. The soil cannot really be made too rich. It especially needs a full supply of mineral plant foods, and the soil should not be lacking in humus (decaying vegetable or organic matter).

I used for my celery (home supply) an old strawberry row, about two hundred feet long, which had received very heavy dressings of rich stable manure repeatedly during two or three years. The plants and weeds were plowed under, and good strong plants set in a slight depression. As the soil was extremely dry, and rain failed to come for some weeks, many plants died and had to be replaced. I kept on planting, however, until I had the full stand that I wanted, and rains set in to help them along. During all this time, however, all the ashes from the cook stove, part from coal and part from wood, were carefully saved and spread along the row on each side of the plants a distance of about a foot.

I believe the extreme brittleness, sweetness and tenderness of my celery to be due mostly to this fact. Lack of mineral plant foods in the soil has always seemed to me the main cause of hollow stalks in celery. We need an abundance of such plant foods in the soil, and in no better form can they be given than in wood ashes, with the addition of plain superphosphate where the supply of phosphorus in the soil seems to be especially short. I always save my ashes from the cook or other stoves, while wood is burned, to some extent, both summer and winter. In the form of sweet celery or other good things from the garden, this "waste" from the stoves tickles our palates and helps us to enjoy our meals and life.

### FERTILIZER PROBLEMS

The selection and use of fertilizers by the average farmer used to be a complicated problem. We found on the markets special grain manures, special potato manures, special onion, celery, cabbage and a lot of other special manures, and these made by different fertilizer manufacturers, each of which claimed his brand to be the best.

Fertilizers made for the same crop by different manufacturers often varied materially in the percentages of the different plant-food elements. The "doctors" had not come to a full agreement about what is really best for each kind of vegetable and grain. But really, what a lot of "guessing" has been indulged in in this respect! Each kind of soil, each individual field, even, whether of the same or a different kind of soil, has its own particular chemical and physical conditions.

When so much depends on the soil and these particular conditions, who but the Almighty Himself could tell what exact percentage of each element of plant foods will be needed or most effective for each particular vegetable, grain or fruit. All that we can do is to be guided by general principles, try to be "good guessers," and then await results. We may hit it. We are more liable to miss it to some extent. In most cases, to be sure, we apply some plant foods in excess of the real needs of the crop. We do that even when we apply farm manures.

Such farm manures also vary in composition, often materially. There is some difference between horse and sheep manure, and a big difference between horse, sheep, hog and cattle manure on one side,

and poultry manure on the other. We use them all, on general principles. We know that their free use will make any soil more productive. Whether our stable manure has four pounds of phosphoric acid or six pounds to the ton, or whether the ton contains eight or twelve pounds of potash, we can use it just the same, and this for almost anything that grows in field, garden or orchard.

I know that the use of farm manure also improves the mechanical conditions of any soil, which cannot be said for the exclusive use of chemical fertilizers. So if we make and apply mostly farm manures, the problem of feeding plants is very simple, and no extra "guessing" is needed.

Nevertheless, when we aim at full crops, especially in cereals, relying on farm manures alone, we may have to waste certain food elements in order to furnish a sufficiency of other food elements. Stable manure is notoriously deficient in phosphoric acid, which is especially needed for any crop that is grown for its seed, like corn, oats, wheat, barley, etc.

Phosphoric acid, either in the soluble form, as superphosphate, or insoluble, as simple phosphate or floats, is the cheapest of all commercial fertilizers. Its free use on manure heaps or as absorbent in stables, etc., makes up for the shortage, and besides prevents the waste of ammonia or nitrogen. With twenty-five or fifty pounds of acid phosphate or perhaps a little more of floats (raw phosphate) mixed into a wagonload of stable manure, the load will do twice the work or go over double the area that it would without.

If we have soil that is deficient in potash, also, as many of our lighter soils are, especially on farms where cabbage, potatoes or fruit crops are habitually grown, a little muriate of potash may also be added, and will give us a chance to stretch our manure supply over a greater area or to make the best possible use of it.

In these days we must try to utilize all our resources to the utmost. No farmer who knows what he is about should fail to lay in at least a good supply of superphosphate, or of floats if near at hand, for the improvement of his stable manure, and possibly also of some potash. We thus easily and cheaply double our manure supply. This means doubling the crops and the profits.

### HOW TO CONSTRUCT THE HOTBED

To make a hotbed for starting early plants, select a well-drained and protected spot, having a southeast exposure. Decide how large a bed you wish to make. As a rule these beds are made about six feet wide and as long as necessary. Excavate this about one foot deep, throwing the top soil to one side, and the subsoil also to one side, so that it will not be mixed with the other. Then haul out your manure—fresh manure preferred—and pile it up in a pile on one side of the bed. If you are short of manure, you can use some oak leaves and such litter to mix with it. After the manure becomes hot shovel it into the bed, distributing it over the bottom about ten inches to a foot deep, which will nearly fill your excavation. Then pack it down by treading over it with your feet. In the meantime you should have some well-rotted old compost to mix with the top soil you shoveled out—about half and half. This soil and manure can then be spread over the fresh manure which has been packed in the bed, putting on about four inches, and raking over smoothly.

When this has been done, put up stakes at the sides of the bed and nail boards to them, so that the upper board will be about one foot high above the level of the bed, and the lower board about eight inches. Then put in your end boards, making close joints. Over this bed place glass sash, three by six, but in warmer localities a covering of canvas or ordinary domestic cloth may be used. It is a good idea to make frames and tack the cloth to them, and it can then be more easily handled and is less likely to tear than when a large piece is used to roll down over a bed.

In hedding sweet potatoes the soil over the bed need not be over two inches deep. In this you can place your potatoes closely together, but do not let them touch, and after placing, sprinkle well with water, and then cover to a depth of six inches with rich soil. On the part of the bed where you wish to start plants it is well to let it stand a couple of days for the heat to subside slightly before planting the seed. The seed may be sown broadcast or in rows, and a little fine soil sifted over them. It is advised

to wet the bed well before sowing the seed. Then sift soil enough over to cover the seed. Then firm with a board or box. After firming cover with newspapers or sacks until the seeds begin to come up. Also see that the whole bed is covered nights to keep it warm. Be careful that the heat does not dry out your bed and kill your seed, as after the seeds begin coming up they will need water nearly every day. With close attention to these details you should be able to grow fine plants in a bed of this description. It will be advisable to prepare another bed, into which the plants may be transplanted when about three inches high. This bed, or cold frame, as it is called, will not need any bottom heat; only rich soil and compost similar to that placed on top of your manure.—Southern Ruralist.

### A CHRISTMAS PLANT

About Christmas the mistletoe asserts its claim for recognition in the plant world; indeed, it may be said that it reigns supreme at this season. The custom that brings it into prominence and its manner of propagation are both interesting.

The mistletoe belongs to the material order of evergreen shrubs, with forked branched stems, parasitically implanting themselves in the woody portions of various trees, sometimes insinuating themselves by creeping roots under the bark, and seldom growing in the ground.

The common mistletoe is found in England, and is familiarly known there on account of various customs, traditions and superstitions connected with it. It is an evergreen bush attached to the branches and trunks of trees; its yellow flowers are succeeded by fruit, which is almost always white, but there is said to be a variety with red fruit. The plant is seldom more than three or four feet in diameter, and is thickly crowded with leaves and branches. Its growth is very slow; the durability is proportionately great, for when once established on a tree it is seldom known to cease growing while the tree lives.

The method of propagation is described as follows: "The scientific inoculation of trees with mistletoe is practised with excellent results in the north of England. The gardener takes between his thumb and forefinger one of the little berries of the mistletoe, crushes it so that its sticky juice oozes out, and sticks it upon the surface of the branch of a tree. Usually he selects a young branch, on which the bark is soft and easily penetrable. If an older branch be chosen, the bark is slightly scraped on the surface. The berry is mashed flat against the bark. The seed which it contains is thus held in place by its own gum.

Late April or May is the proper season for inoculating. The seed sends through the bark a little feeler or root, and a small twig, bending toward the branch of the tree, appears. After a considerable period this twig falls off. The uninitiated thinks it is all over, but the experienced gardener knows better. He knows that after a time the branch will begin to swell at the point of inoculation, gradually rising to a little peak. This tip gets green and shiny, a bud pushes out, and in a few weeks an unmistakable twig of mistletoe is visible, with a stem and a long leaf or two."

It is generally admitted that the mistletoe robs the branch of its ascending and descending sap, and thus is injurious in its presence; hence in orchards it is customary to remove it as soon as it appears.

Several kinds of birds eat the berries; they are the favorite food of the missel thrush.

The representative of the mistletoe in the United States grows chiefly upon the branches of the elms and hickories, and is found in the western and southern portions.

In the feudal ages the mistletoe was gathered with great solemnity on Christmas Eve and hung up in the great hall with loud shouts and rejoicings. Among the Druids the mistletoe was considered sacred if found growing upon an oak. They cut it from the oak with great ceremonies on the first day of the new year, and consecrated it to their chief deity on account of its extraordinary virtues.

Christmas decorations are not considered complete without a spray of mistletoe!—Alonzo Rice in the Indiana Farmer.

### HERB CULTURE

Sage, thyme and marjoram are perennials, and they are raised either from division of the clumps or from seed, commonly from seeds, and the second year ought to give good strong clumps. They are hardy, but all such perennials usually thrive better if they have a slight covering of litter in the fall. They tend to become weak after two or three years, so that it is well either to divide up the clump or to renew from seed. Summer sowing is an annual, and therefore needs to be raised from seeds each year.—Country Gentleman.



## Fruit Growing

BY SAMUEL B. GREEN

### LAND FOR FRUIT

E. H., Girard, Pennsylvania—You state you have fifty acres of clay land that is level and wet and that you wish to use for some kind of fruit. Such land is not adapted to any of our cultivated fruits, and it would be far better to sell it, even at a low figure, and purchase a smaller amount of land that is well adapted to fruit raising, than attempt to raise fruit on such soil.

It might be possible to drain a portion of it and make it fit for fruit growing, but I would not advise it even if the draining could be done at small expense. Such land is far better adapted for general farming purposes after it is drained, but until the water has been taken off it is of little account even for farm crops.

### PLUM TREE NOT BEARING

T. R., Patchogue, New York—I am inclined to think that the reason your plum tree does not bear is because there is no other tree near it to produce the pollen that is so necessary and without which you will not get much fruit. If you will give me a description of the tree, including the form of the leaves, or, better yet, send a sample of the leaves and a twig, I think I can recommend some variety of plum that will be in flower at the proper time to pollinize the flowers of this tree to best advantage.

A number of years ago I had in an orchard two trees of Wild Goose plum. This is a very handsome, red, meaty plum of good quality. These trees spread perhaps thirty feet and were very thrifty and bloomed each year, but they did not produce any fruit until we planted a variety near them that flowered at the same time, after which they fruited abundantly.

### MAKING VINEGAR

J. P. F., Central Lake, Michigan—Assuming that you have good apple cider, the question of making good vinegar is one that even then calls for some considerable attention. The old-fashioned way of putting the vinegar into casks and then putting in a little mother of vinegar from the old barrel will work just as well now as it has always done, and will ensure good vinegar, providing the cider is of good quality; but it takes at least a year and sometimes longer to do this, hence some of the cider makers have adopted the method of using beech-wood shav-

plan to follow the method of packing them in damp sand in a box and bury the box out of doors, where the nuts will be kept cold all winter and be frozen. This holds true in regard to all of our autumn-ripening nuts except white-oak acorns. These generally start a root in autumn, and often it is six inches long before the ground freezes up. With this class of nuts it is very desirable to plant in autumn where they are to grow.

In planting acorns, chestnuts and hickory nuts I generally cover about three inches deep. In the case of black walnuts and butternuts I prefer to cover a little deeper, but they will do well even when only pushed into the moist ground by stepping on them and then covering with leaves. I take it, however, that you desire to grow these in a garden, in which case they should be planted just about the same as beans. They grow very easily.

### MANURE FOR FRUIT CROPS

D. A. McG., Andrews, Indiana—It is probable that the best fertilizer you can use for your berry crop is stable manure; but if you cannot get this, then it might be supplemented by commercial fertilizer and cover crops.

For a commercial fertilizer I would suggest that you use four hundred pounds of ground bone and one hundred pounds of high-grade muriate of potash to the acre. This fertilizer had best be applied early in the spring as soon as the ground can be worked. In addition to this it would be desirable for you to plow in an occasional cover crop of clover, as this can easily be managed in a rotation with strawberries. This will tend to keep up the physical condition of your soil. It is out of the question to keep up any of our agricultural soils by the application of commercial fertilizers unless humus is supplied in the form of cover crops or otherwise.

In the case of crops like our small-fruit crops and nursery crops, where the humus in the soil is soon worn out, it is necessary to use a cover crop occasionally that will loosen up the soil and bind it together.

### A LAND OF ROMANCE AND APPLES

The land of Evangeline, the beautiful valley of Annapolis in Nova Scotia, has gained another distinction by becoming one of the greatest apple-producing sec-



APPLE PICKING IN NOVA SCOTIA

ings, through which the cider is allowed to drip slowly. This exposes the cider to the air, and it changes to vinegar very quickly.

The cider barrel for this purpose should be raised high enough to allow room for a barrel with beech-wood shavings and another cask under it; as the cider comes out of the spigot it should run over a fine strainer that will spread it thinly through the barrel containing the shavings. Treated in this way a few times the cider forms vinegar very quickly.

### GATHERING AND PLANTING NUTS

H. W. G., Methuen, Massachusetts—Acorns and other nuts should be gathered this autumn soon after they fall, and it is generally best to plant them in autumn where they are to grow. Where this cannot be done to advantage it is a good

tions on the continent. Indeed, the claim is made that the Annapolis Valley and the country contiguous is now the greatest apple-producing region in the world, and this season's yield goes far to substantiate this claim. It is estimated that nearly seven hundred thousand barrels have been gathered this year; certain it is that all previous records have been broken, probably by one hundred thousand barrels. Twice as many apples have been picked this year as were harvested last season, and dealers from the United States are buying in much larger quantities than usual, while shipments to Europe are very heavy.

The apple region of Nova Scotia is an exceedingly interesting and picturesque country. It is reached by a railroad which runs between Yarmouth and Halifax, and is a fine farming section. There are no large cities, but towns and hamlets are numerous, and many of them team with

# 6

## FREE

# 6

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historic associations. The people make their money in the summer, and have two important sources of revenue—the orchards and the tourists from the "States." It is an ideal country for summer homes, as the climate is delightful, and expenses are much less than in many parts of the United States. The sea penetrates Nova Scotia in many places, and Digby, called the Naples of America, is a little seashore town with many fascinating features to delight the traveler.

The town of Kentville (perhaps I should call it a city—I am not sure) is the center of the apple-growing industry. I engaged a carriage there, and drove out over the hills to the farm of Ralph S. Eaton, who is one of the most famous apple growers in the world. Hillcrest Farms is a fitting name. Mr. Eaton practises intensive methods in a section where there is an abundance of land and where such methods could not be comprehended by the farmers as a class a few years ago. Clean culture is the watchword on Mr. Eaton's place, and cherries, dwarf pears and plums are used as fillers while the apple trees are maturing. The prevailing practise in the province has been to grow hay, grain and potatoes in the orchards, and Mr. Eaton's pioneer methods were observed with great interest. The plan has been justified, and Mr. Eaton claims that no orchards in the valley give larger returns than his, which was started and grown, forty trees to the acre, with fillers between them. And the fillers have given good returns while the apple trees have been maturing.

Mr. Eaton has been successful in transplanting fillers at ten and twelve years of age to new ground when the room was needed by the apple trees. When this practise has been followed, the transplanted fillers have borne the second or third year. A correspondent who visited the orchard last summer saw three hundred plum trees which bore a heavy crop the preceding fall and were transplanted in the spring. Many of the trees had grown from six to twelve inches, and fruit buds had formed. Only one per cent of the trees died. A number of cherry trees twelve years old were moved three years ago, and have borne well since.

Capt. Charles O. Allen, who is another of the leading apple growers of the province, lives not much over a mile from Kentville. Some of his trees have yielded twelve barrels this season. In his oldest orchard the crop has averaged three hundred barrels to the acre.

These Nova Scotia apple growers are thoroughly up to date. They have learned the necessity of spraying, the value of tile draining, the advantage of persistent cultivation and the need of careful sorting and packing. The apples which they produce are of the finest quality.

The growth of the apple industry has been marked of late years. The crop in 1885 was forty-one thousand barrels, and nearly every year since has seen an increase. The present enormous production brings a great deal of money into the province, as a matter of course. From two dollars and fifty cents to three dollars a barrel is being paid, so that the total will run up into the millions.

Unless some serious setback comes to check the enthusiasm of the farmers, the number of orchards will be rapidly increased during the next few years. Now, as one passes up the valley, he sees new orchards all along on the sides of the hills, clean culture being practised in many cases.

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## Poultry Raising

### RAVAGES OF VERMIN

**M**ORE chickens are killed by vermin than anything else or by all the diseases put together. The birds are so weakened by these pests that they are very susceptible to many ailments. Where chickens have been killed by lice, in many cases the gall duct of the liver is very full, and in some instances overflows, so that the liver cannot properly perform its functions. When chickens have vermin upon them their feathers usually look a little rough, the eyes are pale all around and sunken, and there is a line underneath the eye, which gives the bird a strange appearance, as if its beak were too long for its head, and the wings too long for the body. The wing flights and horn of the beak grow, but the body seems to lose weight in proportion.

Even when the youngsters appear strong and healthy it is well to catch one or two occasionally and examine them very closely. If there are the least signs of lice the birds should be well dusted with insect powder, so as to destroy what few lice may exist. The fowls that have a large number of vermin upon them should be well dusted with insect powder twice, the second time from five to seven days after the first dusting.

When dusting the chickens, lay a large sheet of paper on a table, and lay the bird on its back, then part the feathers and shake the powder well in, so that the whole of the skin is covered with it; next turn the bird over and lay the preparation well into the flights among the quills. After they have been well dusted the powder should be knocked off the surface of the feathers with one hand onto the paper, so that none is lost. The advertised lice killers are excellent.

### POULTRY FEED TROUGH

The accompanying illustration is of a feed trough for young poultry. It is easily made and prevents much waste of feed.

The feeding space is five inches wide, one inch deep and four feet ten inches long. Over this space a two-by-two-inch pine strip extends longitudinally, with thirty-six seven-inch lengths of telegraph wire stapled on the under side crosswise one and one half inches apart. This cover prevents the young fowls from scratching the feed out. When placing in the feed the two-by-two-inch strip with wires attached can be taken off.

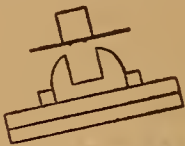
The material needed is one board five feet by twelve inches by one inch; two

more than an abundance of lime; even the clover, which contains thirty times as much lime as corn, is ample. Bran, which is also rich in mineral matter, and linseed meal supply lime. The cow that gives an abundance of milk daily requires a great deal of lime, and she secures it from the food. No one would ever suggest feeding her on lime or ground shells. But should the cow be supplied only with corn, she could not produce her normal quantity of milk; she would become very fat; her digestion would become impaired, and she would be unprofitable because she requires something more than the concentrated grain. The same conditions apply to hens. They must have a variety, but must not be made excessively fat, and will prove profitable only according to the treatment given them.

### PRACTICAL FEEDING

One of the reasons why careful and judicious feeding should be practised in winter is that the poultryman must produce the proper conditions for laying. In the summer hens have plenty of exercise, green food, animal food and a variety. It is the work of securing their food that keeps them in health. Their digestion is better, they have keener appetites and can dust their bodies whenever they so desire. When the winter comes, and they have no exercise, they become addicted to the vices that originate from idleness. Feather pulling, egg eating and quarreling become habits. They will eat frequently, because there is nothing else to do. They not only become fat and clumsy, but also diseased, because of their inactivity. The first thing for the poultryman to provide in winter is a place for exercise, and all the food allowed should make the hens seek it in some manner. The harder they have to work and scratch for it, the better. A mass of leaves or any kind of litter will answer.

The next point is how much food to give to a flock, say of a dozen hens. The old rule is that five pecks of corn will support a hen for a year, and that one quart a day for twelve hens is a fair allowance; but it is well known that one hen may consume even six pecks, and another only four pecks, hence any attempt



POULTRY FEED TROUGH

under strips twelve inches by six inches by one inch, to prevent warping; two inch-square strips five feet long; one two-by-two-inch strip five feet two inches long; two rounded end sockets five inches by three inches by one inch; two feet telegraph wire; seventy-two poultry-netting staples, and a few sixpenny nails.

This trough may be set inside a small enclosure of poultry netting about four feet by eight feet, with an entrance gate. Then ten or twelve coops with broods may be set around it, and one hundred to one hundred and fifty young fowls fed at once.

R. MILLER.

### NECESSITY OF VARIETY

When eggs are high is the time when hens seem to cease laying. It is then that hens become costly luxuries, because they are producing nothing and require a great deal more care. It is vexatious to own a large flock of beautiful birds that do not lay when eggs are scarce and the prices high, but much of the disappointment is due to the improper food, a lack of variety, and not to an insufficiency. They should have certain food, in order that they may have the material for producing eggs. "Cheap corn" is the dearest kind of food when it does not promote egg laying, but when corn, meat and cut clover are given, so as to provide a variety, the combination may be cheap, because it makes the hens lay, though every one must carefully guard against feeding too much corn or even feeding too much of anything or too often.

Much attention is called to the fact that fowls must be provided with lime in its crude form, in order to supply shells for eggs. If the food is of a varied character, including bone and clover, there will be

to feed hens by fixing upon a certain portion of food will fail in securing expected results. They differ also in preference of food, and in their condition—a laying hen requiring different food and more of it than a non-layer.

It is very difficult to measure a mixed diet, but there is one safe rule to follow, which is to give them half as much as they will eat in the morning, nothing at noon and a full meal at night. For a dozen hens put three or four pounds of wheat in a trough, let them eat until the last hen walks away, then weigh the quantity left over, which will show exactly how much was eaten. The next morning give them half as much as they ate before, but scatter the food in litter and let them work for it. Keep them hungry rather than otherwise. At night fill the trough full of all sorts of food that you wish to give them, and let them eat until they walk away from it, then remove the remainder. In thus feeding the hens it requires but two or three days for one to fully understand the requirements of the flock.

Feeding in winter is more puzzling and perplexing than any other duty. To feed enough and not too much requires judgment, and though the experienced poultryman may have but very little difficulty, yet the novice makes a great many mistakes. Anybody can feed chickens—that is, throw down the food and allow the fowls to eat as much as they wish—but such a system is very harmful and results in the hens ceasing to lay and the poultryman becoming dissatisfied. He attributes the lack of profit to the hens, and looks around inquiringly for the "best breed," hoping to secure some strain that will lay more eggs than others, while the scarcity of eggs is due to injudicious feeding.

## Good for One Free Book, "POULTRY PROFITS"

SURE HATCH INCUBATOR CO., Box 66, Fremont, Neb., or Dept. 66, Indianapolis, Ind.  
Please send Poultry Profits Book that tells all about Raising Poultry for Market and Making More Egg Money—all about the famous Sure Hatch Incubator and how it is sold on unlimited trial, freight paid, under 5 years' guarantee. I am sincerely interested and not writing merely out of curiosity. I want you to tell me how to make the most money out of chickens, ducks and turkeys.

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### WINTER SHELTER

Every farm has corn stalks that can be put to no use but in the barn yard. As has been stated many times before, fowls are very fond of a low, open shed facing the southeast. The cheapest thing of the kind can be made of corn stalks, by simply standing them up against a few rails and laying some of them on the top for a roof. If laid on thickly and the roof made steep they will turn water, especially if a few inches of straw are put on and the stalks laid on the straw to hold it in place. A corn-stalk shed will not only be warm and comfortable, but plenty of room can be given the hens, so as to really have a covered yard instead of a shed; and if the fowls are liberally fed, they will lay in cold weather enough eggs to not only pay for the stalks and labor, but give a profit as well.

Early in the spring, when the shed will not be of further use, it can be knocked down and added to the material of the barn yard, which will enable the farmer to utilize the stalks again before converting them into manure. The matter of erecting a corn-stalk shed is one that should not be overlooked. The work of so doing requires but a few hours, the material really costs nothing, and the convenience to the hens will be such as to make the use of them profitable during the coldest weather.

### EXERCISE LABOR AND JUDGMENT

It is not claimed that there is a fortune in poultry, or that one can go to sleep over his work, nor should any one at all believe that he can "keep chickens." It is true, however, that the poultry business will pay better, in proportion to labor and capital invested, than any other pursuit, but the proper amount of time and labor must be expended or the poultryman will fail entirely.

### VALUE OF CARE IN SHIPPING

There should be no difficulty in shipping dressed poultry to market in the cold season, and some attention given the matter of properly dressing and preparing the fowls will not only add to the price but will save the annoyance of having some of them sold at a figure below that called for by the quotations. Too much carelessness is exercised in packing. Neatness is something that sells as well as the article offered, and consumers are willing to pay for it.

### AN ORNAMENTAL FOWL

Peafowls are simply ornamental and not readily salable. They are not profitable on a farm, as the male is vindictive and destroys chicks and ducklings that may come in his way. The hen seldom begins to lay until at least two years old, and often not until three years of age, laying from five to sixteen eggs, which hatch in about thirty days.

The young peafowl feathers very rapidly, and should be fed every two hours the first month, then four times a day until three months old, when it should be given three meals containing a large share of animal food, such as meat and bone. Otherwise they require the same care as young turkeys. Only the peafowl mother can raise them, as common hens wean them too soon.

### BOARD PARTITIONS

When the poultry house is divided into two or more apartments the partitions should be of boards instead of wire or lath, as the warmth of the bodies of the fowls will induce cold currents of air to flow from one end of the house to the other. If any one doubts this, let him enter a long poultry house on a cold day where the partitions are of wire, and he will be convinced. In a continuous, or long, poultry house each apartment should be boarded up, just as though it were a separate building.

### VALUE OF WINTER CABBAGE

Cabbages are very easily raised, and are exceedingly beneficial as green food in winter. Take a head of cabbage, strip off the large outside leaves, tie a string around the stump, and hang it up high enough so that the hens can just reach it by jumping a little. It furnishes green food and exercise at the same time. Any one with a small village lot can raise quite a number of cabbages after the early vegetables, that will head up enough for poultry, and if kept in the cellar they make quite a nice addition to the supply of food for winter.

**Victor**  
Profits from poultry—hints and helps that will mean dollars to you—all about Victor Incubators and Brooders—our guarantee—our payment of freight—why our machines produce 90 per cent hatches or better—all told in our new book "Incubator Whys." Write for free copy and let us know whether interested in large or small machines.  
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and Almanac for 1908 contains 220 pages, with many fine colored plates of fowls true to life. It tells all about chickens, their care, diseases and remedies. All about incubators and how to operate them. All about poultry houses and how to build them. It's really an encyclopedia of chickendom. You need it. Price only 15c. C.C. SHOENAKER, Box 1246 FREEPORT, ILL.

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**THE RELATIVE PROFIT OF DAIRY-ING AND GENERAL STOCK FARMING**

**I**N DECIDING what method of farming to pursue, it is best to be governed by location, proximity to markets, amount of capital to invest, and to a certain extent the natural liking for one or another kind of stock.

The dairy business probably represents the surest and quickest returns of any of the different methods of farming. The feed delivered to a dairy cow in the evening is paid for the next morning in a product which can always be turned. The price may vary, but I can always get a remunerative price for a first-class article. Any one who prefers to run a private dairy will find no difficulty in disposing of his butter and milk to private customers, provided he makes a first-class article, as the demand in this line is always greater than the supply.

Let me repeat, I think no branch of agriculture promises such quick and sure returns as dairying. The capital invested in the hog and feed necessary to fatten him must lie idle for at least eight or ten months, with the danger of cholera always hanging over him, ready at any moment to destroy both investment and profit. It is my opinion and has been my experience that the profit is small in feeding hogs where they are penned up and fed grain alone. The hog is the necessary adjunct of every farm to utilize the waste from the house and in the barn yard, and in this manner I have been able to make the greatest profit from him.

In raising and fattening the steer still more time is required before any return can be realized from the outlay. A large proportion of the cattle when finished for market are from two to three years old, and every day of that time something representing a cash value is consumed by said animal, with no return, except the fertility of the land, so it requires careful and prudent management on the part of the feeder to work out a good profit.

I believe that for the average farmer the general-purpose cow, the one which will give a reasonable amount of milk and raise a good calf, and when she has finished her work in the dairy will return her first cost to the owner, is the most profitable.

Of all domestic animals, the horse requires the longest time to mature. At three years of age he should be able to commence to work and pay for his keep, but five years is the minimum age at which we may expect to market him and realize our first return in cash. My experience is that a horse cannot be raised to the age of five years and sold for less than one hundred dollars, without entailing a loss. Therefore, only the best can be profitably raised.

There is another return in stock raising beside that which is represented by dollars and cents. Is there not a profit in the pleasure experienced in raising and owning good stock? Would not any farmer be proud to own the best cow or the best horse or the best hog in his country, even though that animal has cost fully as much as it would sell for?

I think I can see another profit in stock raising, as compared with exclusive dairying, in the influence upon the boys. The tedious routine which is associated with the dairy business is naturally distasteful to a restless and ambitious boy, and tends to drive him away from the farm unless something is provided to relieve the monotony, and I know of nothing that will interest him more than the raising of good stock, especially if he has some share in it.

R. B. RUSHING.

**FEEDING CATTLE IN STALLS OR IN SHEDS**

A few years ago it was thought that cattle could be fattened better if they were tied in the stalls and kept perfectly still during the fattening process. I remember discussions at public meetings as to whether cattle tied in the stalls should be allowed any exercise. Some claimed that they would finish better if tied up when the feeding period began, if furnished with water in the stall, and taken out only when the feeding was completed. Others claimed that they should be allowed to take exercise in a yard for an hour or so, two or three times a week, while still others seemed to think it was necessary to house them all the while and tie them in the stable.

There is one thing in favor of feeding in stalls that cannot be gainsaid. It provides for feeding the animals just the amount of food that they should receive. Some can take more food without injury than others. When they are tied in separate stalls the food can be distributed to each just in exact proportion to its needs. In this way each animal may be kept on feed, and it may be fed without any waste of food. It is not possible, or at least it is not easy, to apportion to each the exact amount of food that it ought to have, as some animals eat more

**Live Stock and Dairy**

quickly than others, and therefore get a larger share proportionately. The only way to avoid this is to tie the animal while it is taking its food.

There are some things against keeping the animals tied which hold good: They lose to such an extent the ability to move about or to stand any jostling that they do not bear up well in going to market. The difference in this respect is very marked between them and cattle finished in the open shed and yard. More time is called for in feeding and watering the animals and also in removing the litter. In these days of expensive labor this item is of very great importance. One man may care for many more animals when fed in boxes and not tied than when the animals are tied in stalls. The cost of housing is also less. The stable with stalls and floors is more costly than the shed without floors; hence, though the animals should make equal gains, those fed in the shed will be fed the more cheaply, because of the saving in the various items referred to.

It may be asked, How can more profit be made from animals that are fed loose when they consume more food? They take more food because they take more exercise and are exposed to lower temperatures. The effects of both exercise and cold are to sharpen the appetite. Some exercise tends to secure a more thorough digestion of the food, which is partly responsible for the greater profits obtained from feeding in the open shed. While the consumption of food is greater out of doors, the relative in-

uncomfortably warm. This explains in part, at least, why the animals will prefer lying out of doors on a bed of straw in many instances to seeking the shelter of a shed.

W. M. H. UNDERWOOD.

**EXPENSIVE DAIRY FOODS**

Peanuts, according to one of the experts of the Department of Agriculture in Washington, make the finest of all dairy foods. I can well believe this, but the suggestion has not induced me as yet to buy peanuts and feed them to my cows, nor even to think seriously of doing so. Grains and meals are expensive foods just now, but feeding peanuts would not help us in this emergency. I could probably not produce milk, by feeding peanuts, at less than one dollar a quart. Yet in some places the residue left after the oil is expressed from the peanuts may be utilized for feeding.

This (peanut cake) is about as rich as linseed cake or meal in nitrogen and mineral plant foods, but too highly nutritious for stock to be used for feeding plants. There may also be localities where it would do to plant peanuts, artichokes, ground nuts, etc., to be harvested by pigs, but I do not know of any place where it would pay to raise and harvest peanuts or any others of those nuts or tubers for cow feed.

Pumpkins and winter squashes also make excellent food for cows. Squashes are even better than the pumpkins for that purpose, and I do feed all my immature or frosted specimens to cattle,



FOX'S BARONELIA—JERSEY HEIFER IN MILK. FIRST PRIZE CHICAGO NATIONAL DAIRY SHOW

crease will more than keep pace with the consumption of food.

When feeding the animals loose in sheds it will be greatly advantageous to give attention to the following facts: The animals should be dehorned, if possessed of horns, when the feeding process begins, otherwise they are likely to injure each other, which might prove fatal in some cases. They should have access to a yard protected from cold winds and kept well bedded. They could be fed more correctly if they had access to stanchions in the shed or feed lot, so that each could be kept in place while eating the grain ration. Care should be taken to keep them sheltered from storms of rain or snow, and they should not be allowed to wade through deep mud in yards.

The comfort of the animals should be most carefully studied. An animal is not really exposed until want of shelter makes it uncomfortable, and it is not really protected until protection adds to its comfort. Viewed from this standpoint, housing in the stall does not necessarily protect, and feeding in a shed and yard does not necessarily expose. The animals will make the greatest gains when they are kept comfortable, other things being equal.

Now, while in stormy weather it would be easy to expose animals so much that they would be uncomfortable, in mild weather it is easy to house them to the extent of being uncomfortable. When they are fed heavily on heat-producing food, as corn, it is easy to keep them

pigs or poultry. But when we can get from one and one half to three cents a pound for good sound winter squashes in our markets or groceries, and nearly that much for ripe or "pie" pumpkins, we are not likely to give them to the cows, pigs or poultry. Even at present prices of mill products or rough forage we can find cheaper stock foods than good squashes, etc.

At times we have been discussing the merits of apples as food for cattle and horses. We have now no occasion to do that. Apples at a cent a pound for the run of the orchard (the poorest cider apples even bringing thirty or thirty-five cents a hundred pounds) have passed out of consideration as suitable food for stock.

As usual, I have raised a good patch of beets to be used as succulent food for cattle during the winter, and for poultry likewise. It was late in the season when the beet seed was sowed, and for fear that the mangels might not have time to come to good size, I mixed a quantity of early table-beet seed with the Yellow Globe mangel seed. We now have a large quantity of medium-sized red or table beets. There is some call for them by customers who did not have a chance to do up their usual amount of pickles, and who want to can beets as a cucumber-pickle substitute. When I can sell such beets at fifty cents a bushel I think I shall not care to feed them to cattle or poultry. Small yellow mangels are sometimes in demand for the same purpose. At such a price they are too expensive for stock food.

T. G.

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WINTER CARE OF HORSES

A SUBSCRIBER in Missouri says he had to sell more of everything he grew this year than he could really spare, to raise money to pay off a note that came due. He has five horses, and wants to carry them through the winter as cheaply as possible. He has quite a lot of good wheat straw, and for grain will have only corn.

I have carried horses over winter on good straw and three ears of corn to each animal once a day, and spring found them in excellent order. They were turned out every fine day, and I noticed they picked up quite a good deal of stuff about the yards and fields. In cold weather they were kept in a warm stable.

The Missouri man says the fields get so soft during mild or wet weather that he cannot let his animals run at large on the farm. Whenever the soil becomes too soft to let them run on it they should be turned into a yard, for it is absolutely necessary that they have exercise. Another thing: They must be salted about twice a week, and have all the water they want at all times. Straw is a dry feed, and requires lots of water in its digestion. Almost all cases of impaction of the bowels is caused by lack of sufficient water. If this man properly houses these horses during cold and wet weather, supplies them with plenty of water, salts regularly, and gives them room for exercise, he can bring them through the winter in good shape.

In feeding grain, the condition of the animal is a far better guide than any set rule. One animal can sometimes get more nutriment out of a peck of oats or an ear of corn than another, owing to better digestive organs. In bringing the animals through the winter, as well as when they are at work, one must be guided in his feeding by their condition more than by their actions. FRED GRUNDY.

HOW THE MILK SUPPLY IS HANDLED IN GERMANY

A paper read at the recent meeting of the German Association of Scientists and Physicians, held at Dresden, on the "Treatment of Milk," by Professor Hempel, gives some very interesting information as to the methods employed in Germany to protect the milk-consuming public. According to our American consul at Chemnitz (Mr. T. H. Norton), the annual production of milk in the German empire is 5,020,000,000 gallons of cows' milk, valued at \$405,000,000, and 15,850,000 gallons of goats' milk. Summarizing Professor Hempel's paper, Mr. Norton says:

"Doctor Hempel concludes that the only satisfactory solution of the milk problem in Germany is to be reached by governmental requirements and inspection at each stage along the following lines:

"First. Dairy cows must be absolutely free from tuberculosis and be subject to frequent examination and tests by competent inspectors.

"Second. They must pass the day, when the weather permits, in the open air and in pastures.

"Third. They must have an abundance of good fodder, be under good care and be cleaned each day.

"Fourth. Milking should take place in a special milking room, kept scrupulously clean. A milker careless about personal cleanliness would respond to the stimulus of such an environment.

"Fifth. Udders should be carefully and thoroughly washed with pure water immediately before milking, and dried with clean towels.

"Sixth. Milk, as soon as collected from a cow, should be rapidly cooled to a point but little above that of freezing water. In summer ice or refrigerating apparatus must be used. In winter running cold water, in pipes or the like, can be employed for the purpose.

"Seventh. Milk must be kept at this low temperature during transportation and until delivered to consumers, who then become responsible for the continuance of the conditions described until the liquid is required as an article of food.

"The address closed with a forcible plea for the installation on all railways of refrigerator cars, first, to meet the needs of the milk traffic, and, second, to facilitate the transportation of fresh meats, fish, fruits, flowers, etc.

"In connection with this brief summary of Doctor Hempel's strong presentation of the present status of the milk problem in Germany," the consul continues, "a few comments may be made.

"The question of the satisfactory transportation of milk by rail for long distances has been fairly well solved in the United States, wherever milk cars, constructed after the model of those used by the well-known Walker-Gordon Company, have been introduced. Greater distances have necessarily stimulated American ingenuity to a more prompt solution of existing problems in all the

Live Stock and Dairy

phases of transportation than has been the case in Europe.

"From a personal examination of urban dairy management in Germany I am convinced that but little remains to be done there in the matter of cleanliness, although probably the Danish practise in this respect could serve even still better as a model. It is undeniable, however, that much missionary work must be done in the United States to bring about adequate recognition on the part of the public and its representatives of the tremendous importance of carrying out fully the new fundamental rules so clearly and succinctly enunciated by the famous German chemist.

"Legislative action in the United States can probably not go beyond prescribing regulations for the manner in which milk shall be collected, transported and delivered. There still remains a serious question as to the conditions under which milk is kept before being used in households too poor to buy ice or too ignorant to use it intelligently. Especially is it important in cities and during the heated term. Philanthropic effort has endeavored to lessen dangers in this connection by furnishing sterilized milk at cost price. It is now generally recognized that other and more serious dangers may be incurred in resorting to sterilization by heat."

THE DAIRY SIRE

In selecting a bull for use in his herd the dairyman must not lose sight of the fact that good qualities may be bred out more rapidly by the use of an inferior

Good breeding bulls must have a masculine appearance. A bull with a light jaw and narrow face and forehead, slim neck and horns, thin neck and shoulders, is seldom an excellent sire of good milkers. This does not imply that he must be coarse; on the contrary, he must be fine. Coarseness may be defined as unevenness, while fineness is the result of uniformity. Each part should fit smoothly and evenly to the part adjoining it.

Before selecting a bull, study the type of your cows and determine what you want and why you want it, and buy the best bull that you can afford, to assist in carrying out your ideas of improvement. Remember, one cross will not bring the desired results, but that continued use of good sires of the same breed will in the course of three or four generations so improve the common or grade cattle that for all practical purposes they will be as good as the pure breeds of the cross from which they originated. In this manner you are grading up your herd, and not cross breeding, which, as practised by many farmers and dairymen, consists of leaving a well-established road and driving off into the dark.

Like begets like only when those qualities have been perpetuated for a number of generations, and when the qualities have become fixed by the use of pure-bred sires they will be pretty certainly developed in the offspring. Do not be afraid to do a little inbreeding until the characteristics of the breed have become fixed. When you feel that a fresh cross is essential, select a bull of the same breed and one possessing the same in-



FIRST PRIZE TWO-YEAR-OLD AYRSHIRE BULL AT NATIONAL DAIRY SHOW

bull than they can be improved by the use of an improved sire. For some unknown reason it seems almost impossible to impress upon the minds of farmers and dairymen the fact that the only practical and economical manner of improving their herds of common cattle is by the use of superior sires.

The ill-favored, chance-bred, mongrel bulls that are being used in the common herds of the country testify to the fact that the improvement of our dairy cattle is the most neglected phase of our farm economy.

Whether we undertake the work of improvement by the use of the best of our common cows or whether we purchase high grades or pure breeds we should have an excellent sire at the head of our herd. By the use of a good sire we have a reasonable assurance of achieving success in our work of improvement. With a poor sire we are sure of failure. By all means select a good individual, one of well-ascertained purity of breeding and a true type of the breed that he represents.

Individual merit is of the first consideration; and this should be backed up by a strong and hardy constitution and a lineage of heavy-milking dams, and sires that came from a line of heavy-milking dams. He should be uniform in quality—not excellent in one respect and weak in another, or the progeny will be more apt to inherit the weaknesses than the good points.

The class of cows in the herd should to a certain extent govern the choice of bulls. If the cows are loose, rangy, overgrown natives or common cattle, select a compact bull, an early maturing animal. If the cows are small and of proper form, select a rangy or larger bull of good form.

herent qualities as the discarded one, in order that the good qualities of the breed will be perpetuated. By rigidly adhering to this rule of breeding like unto like you will in the course of time be successful in your efforts and have a herd of high-producing dairy cattle.

The owner many times condemns pure-bred stock, when the fault was with him, and not with the bull or stock. We should plan to care for the bull, and feed him in a manner that will keep him in a good, healthy and thriving condition, and not overload him with an excess of fat. Feed him regularly with good, substantial foods. We have found that a breeding bull will do well when fed the same foods that are required by a cow giving milk, the amount to be regulated by the condition of the animal and the amount of service required of him. Fed and watered at the same time as the cows, and given good shelter from heat and cold, and plenty of exercise, it is a very easy matter to keep the bull in good condition and ensure his usefulness for eight or ten years. W. MILTON KELLY.

We have become familiar with the name of that most valuable of all dairy appliances, the "cream separator." The latest but equally appropriate one is the "cream harvester."

Colorado lovers of really fine horses are to be congratulated, as Col. W. M. Springer has recently arrived with a lot of fourteen Belgian prize horses which are said to be the best ever shipped from Antwerp. Five of the number were Oldenberg coach horses and nine were Belgian drafters. There is a boom in the breeding of fine horses in Colorado. It will pay

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## Live Stock and Dairy

### HORSE FEEDING

I HAVE often been asked, "How do you keep your horse so fat? I can't keep mine so, and I feed twice as much as you feed."

My mare gets a quart of oats or corn and one of bran—either dry or scalded (not hot)—three times a day, all the year round, regularly to the minute. This is supplemented by half a bundle of fodder or an armful of timothy hay—also three times a day, and nothing between times—with plenty of pure water.

Constant nibbling, irregular feeding and no currycomb and brush will make any horse look ill fed. CLIFFORD E. DAVIS.

### USING COTTON-SEED PRODUCTS

The combination of farmers in the South will be beneficial in the development of the uses for cotton-seed products, if in no other way. The growth of the live-stock industry in the cotton belt has been very rapid during the last few years, and the number of dairies have multiplied remarkably in this period. This has given a market for a large quantity of feed, and cotton-seed meal and hulls will have to fill the bill to a large measure. The pure-food law in Georgia, which state is leading now in live stock and dairying, is doing much to enhance the value of cotton-seed meal. The same restrictions were placed on it as on other mixed feeds, and consequently dairymen can rest assured they are getting high-class, pure feed when they buy the product properly labeled.

The mixed feeds have suffered considerably on account of the analysis clause of the law, and they are now very expensive as compared with cotton-seed meal. The high price of hay is another factor that is helping along cotton-seed products, and there is a good demand for hulls. At the recent gathering of the cotton growers and the oil-mill people in Atlanta the fact of co-operation being beneficial was stressed, as farmers, by using cotton-seed products for feeding and for fertilizers, would be patronizing home industry, and placing a premium on their own products, and finally obtaining better results than by buying chemical fertilizers, which would not give as lasting results as cotton-seed meal.

While it is necessary that a large number of farmers use cotton-seed meal and kindred mixtures for fertilizers, still

ever, has not been directed so much toward understanding the inherent properties of the various feed constituents as toward a more accurate application of the proportions and figures that the chemist and the scientific feeder have compiled. Just as a man takes the greater pleasure in operating a machine, in proportion to his knowledge of the working of its intricate parts, so the feeder often desires to know the "whys and wherefores" of the balanced ration.

Probably no term used in discussing rations is less clearly understood than is the term "protein," or "proteid." Carbohydrate is approximately synonymous with starch, and has usually been the more clearly comprehended.

Carbohydrate foods contain carbon, hydrogen and oxygen; in addition to these three, protein contains nitrogen.

Chemists apply the term crude protein to all feed stuffs that contain nitrogen in any form; the principal subdivisions in this classification are "protein" ("proteid") albumin and amid. Of these the first is the most plentiful in feeds, and is the only one that promotes and supports muscular and vital growth when present to the exclusion of the other two. The latter nitrogenous compounds tend merely to conserve the proteids of the body to some extent when an insufficient amount of protein is present in the feed at any time.

From this it may be seen that all compounds containing the element nitrogen are not proteids; for example, strychnine is composed of the same four essential elements as protein, but is not a food. The decidedly different properties of these two nitrogenous compounds is due entirely to the relative proportion of the constituent elements and to the manner in which they are combined.

Protein is the most common food constituent containing nitrogen, but its great value depends upon the fact that it is the only form in which nitrogen can promote growth and support the vital and nervous processes of the animal body.

GEO. P. WILLIAMS.

### TWIN AND TRIPLET CALVES

Two cows owned by Sidney A. Keyes, a Michigan farmer, brought to his dairy herd five calves in almost as many weeks.

First a gentle-faced bossie presented her master with a pair of twins. Within the next six weeks another animal of the



TWIN AND TRIPLET CALVES

wherever it is possible the material should be fed, as the cattle will fatten, and careful saving of the manure will preserve the entire value of the stuff as a fertilizer. By using plenty of straw or other bedding it will be put in such shape that vegetable matter will be put on the land at the same time, and this is much needed. The work of co-operation in this respect has put cotton seed at the highest price in history, and a few years more with increase in the use of oil and lard made from the seed, its value will be much greater, and the whole South will profit by the method—the farmers by the sale of seed, and the consumers by the use of the products. J. C. McAULIFFE.

### WHAT IS PROTEIN?

Intelligent listeners at farmers' institutes and readers of the agricultural press have nearly always evinced more than an ordinary interest in the subject of the balanced ration. This interest, how-

same herd was discovered with a set of triplets. All of these animals are living and doing well, and it is safe to say that it was the most interesting double event that has come to the farm for many a long day, and is highly appreciated by Mr. Keyes, who owns a pretty little place that he calls The Clovers.

In the accompanying picture the two mother cows and their five calves are shown. The triplets were but four days old when the picture was taken.

After this quintet of calves have had their breakfast, there is great sport in the pasture lot. The little creatures all seem to be cutting the cutest antics at the same time, and it is an undertaking to keep your eye on the five all at the same instant.

During the summer there was quite a company of summer people at The Clovers, and the whole crowd, particularly the children, voted the innovation one of the greatest that ever came to a summer resort. J. L. GRAFF.

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### WINTER CARE OF SHEEP

Sheep do not require much care in the summer season. The more liberty they can have, the better, but in the winter season they may be kept in a shed, open on the sunny side if necessary. It is usually better to arrange so that it can be closed in case of storm. If possible, they should have the liberty to range on dry and firmly sodded pastures in the winter when these are not covered so deeply with snow as to make it impossible for them to get food by scraping for it with their feet.

It is not necessary that they should be kept on anything else than an earth floor, provided the same is dry and kept well bedded. Fresh bedding should be added every two or three days. Confining the sheep in a small and ill-ventilated building would soon prove fatal.

Sheep are fond of a change in diet; consequently, the greater the variety of feed, fine in character, the better the results. While they are in winter quarters they should be given a small quantity of grain, in the absence of roots. Usually one pound per head before the season for lambs will be enough. No grain is better adapted for such feed than oats. A little bran added will make an improvement. After the lambing season the flock may be safely given about all the grain that will be eaten up clean. No kind of hay is better for sheep than clover or alfalfa.

The sheep has the most delicate sense of smell of any domestic animal, and any rack or trough will offend more or less. They take their feed better on the snow or clean grass and do not waste any. This method is economical, so far as expense goes, and rears a better flock than any system of racks or troughs.

WM. H. UNDERWOOD.

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Farming is a business proposition just as surely as any other occupation. The farmer must endeavor to cheapen production and to increase the quality of the product at every possible point.

Before entering upon a wholesale slaughter of any of the so-called agricultural pests, be sure to make a careful study of the habits of the pest in question. It may indeed be a blessing in disguise.

Every farm cannot grow every commodity equally well. Every farm ought to be able to produce some one thing better than most other farms can produce it. The wise farmer ascertains what this one crop is and produces it.

The farmer who is aware of his possibilities is the man who is doing the most for agriculture to-day. It is he who sees in his strain of corn a possibility of making it better, and succeeds in producing a variety that surpasses all others in production, that is raising farming and those connected with it to higher levels.

The employer who can assure the workman a steady place throughout the year is sure to attract the better class of men, other things being equal. Few single lines for farm work furnish a uniform, continuous demand for labor. It is therefore advantageous to choose a combination of specialties that will round out the work for the year.

It is not necessary that we learn everything by experience, nor is this desirable. It is often more profitable to learn from others. There are experts in the various lines of farm industries who have spent years in learning all that it is possible to acquire in their special lines of work. We must have confidence in these leaders, for by so doing we can often gain knowledge from them that otherwise would take years of toil to gain.

Have you ever had any trouble with the farm-labor problem? If you own a farm, you have probably had trouble many times in securing sufficient help. By using improved machinery and implements, one or two men can often do the work of several using old methods. The money saved in employing fewer laborers will generally pay the increased cost of machinery. Try it, and help solve one of the hardest problems on the farm—the labor question.

**"PEACE ON EARTH, GOOD WILL TOWARD MEN"**

That word "peace" should mean much to us this Christmas time.

Peace as a chronic condition is apt to get grass grown; it hasn't, furthermore, half as much attraction for the striving, ambitious American as peace which has been earned—yes, even fought for. The Authorities, the Law—call it by whatever name you choose; it is nothing more nor less than the opinion of the majority of the people—have been fighting for right and fighting for peace, for peaceful business conditions, for tranquillity, for confidence.

Is it disheartening to think of all the rottenness, the brazen-faced effrontery, that has recently been disclosed? Is it a fair sign the world is growing evil? Not for the fraction of a second! It is the best sign in the world of righteous indignation too long nodding, of a stern courage which wants the infection stamped out, no matter how great the upheaval—

not sprinkled over with lime and kept hushed up from the county paper.

Men will never do again in this country what they have been doing with impunity for a long period of years. All the reforms won't be permanent, all the violations and evasions haven't disappeared for all time, but there has been glorious ground gained, and with that ground gaining the American people have gained in decent self-respect, in confidence in each other's right mindedness.

Therefore, we repeat, heads should be high this Christmas, and hearts full of tranquillity.

**ENCOURAGING FORESTRY**

It is conservatively estimated that the annual increase in the growth of timber in the forests of the United States is only one third of the annual consumption, and that our forests cannot last more than twenty-five years at the present rate of consumption. Rapidly advancing prices show that a timber famine is actually now at hand. But a famine in wood is only one result of the destruction of forests. In deforested hilly regions great changes take place; serious droughts follow destructive floods; soils are washed away, and eventually the land becomes sterile and uninhabitable.

In a recent issue of the Chicago "Record-Herald," Professor Hennig, an eminent German geologist, says:

"In nearly every country of Europe the supply of spring water and generally of subterranean moisture is rapidly decreasing. Our grandchildren will begin to feel the want of spring water in many places where now there is an abundant supply. One of the main reasons why hitherto the earth has retained its moisture has been that extensive forests covered its surface. But every year shows a startling diminution of forest area and hardly anything is being done for reforestation.

"The United States is a horrible example. There tracts as big as European states will be arid to all eternity, which might have been preserved for culture by wise economy of the forests. Countries which play fast and loose with their forests are simply hastening their downfall."

There is an increasing number of far-seeing and public-spirited men who appreciate the vast importance of conserving our great natural resources. The future welfare of the country depends on it. Let us give every aid and encouragement possible to their work whether it be in preserving existing forests, planting out new ones or in teaching forestry. FARM AND FIRESIDE, therefore, heartily endorses the following resolution which was passed recently by the National Grange, and at a conference of the Forestry Boards of Minnesota, Wisconsin, Michigan, Illinois and Ohio, held at Saginaw, Michigan, on November 12th-13th:

Whereas, We appreciate the great importance of forest wealth for best national development, and the great need of education in forestry, and

Whereas, The land-grant colleges and experiment stations have been a great uplifting force in the development of American agriculture and have fully justified the expenditure of national funds for their support, and

Whereas, These institutions are admirably adapted to teaching forestry, and will do so if provided with means, and

Whereas, The income from the National Forest Reserves has reached the sum of \$1,500,000 a year, which is now paid into the national treasury and is used for general expenses of government, and

Whereas, There is a certain fitness that appeals to us in using a portion of the income from the National Forest Reserves for teaching forestry, and thus aiding and perpetuating our forest wealth, now therefore be it

RESOLVED, That we recommend that a liberal portion of the income from the National Forest Reserves be appropriated by congress to the several states and territories for instruction and experimentation in forestry in the agricultural colleges and experiment stations.

It has been suggested that each state receiving a portion of the National Forest

Reserve income should put up an equal amount of money for the purpose of encouraging forestry. The idea is a thoroughly sound one. It is right in line with the plan now under consideration, or operation, in several states to supplement the National Forest Reserves with state forest tracts. In Wisconsin, for instance, when lands are sold for taxes, the Forestry Commission has the first opportunity, and may use all suitable land for tree planting. In Pennsylvania, where only one fourth of the original forests remain, storm floods, soil denudation, droughts and increased aridity of farming lands have made it imperative on the state to take up the work of reforestation. Its present work, however, does not equal the waste of forests, and it is now urged that the state purchase all the deforested lands it can get at a nominal price and restore the forests.

**REVIEW OF CROP PRODUCTION**

In his eleventh annual report of the work of the Department of Agriculture, Secretary Wilson presents an optimistic array of figures that can mean nothing but continued prosperity for farmers, merchants, manufacturers—in fact, for the whole business world.

The year of 1907 has been a most erratic one for farmers—and financiers. A hard winter and a cold, late spring made things look blue for the farmer at the beginning of the crop season; and at the end, the black clouds of a money panic produced by flimflam financiering rolled up out of Wall Street. But a favorable change in weather conditions at the right time happily averted crop failures, and the efforts of monopoly magnates to bring about an industrial and commercial crash have fortunately been unavailing. The skies have cleared and business will be sounder and better than ever.

In his admirable review of production, Secretary Wilson brings out the following striking points:

No general crop failure afflicts the farmer this year, not even within small areas. The production of the farms, all things considered, is well up to the average of the previous five years in quantity, while its value to the farmer, as now appears at this annual day of reckoning, reaches a figure much above that of 1906, which by far exceeded any previous year's wealth production on farms.

Out of the farming operations of 1907 the railroads will get an average haul of freight, and foreign countries will take a heavy excess above home consumption. The farmer will have more to spend and more to invest than he ever had before out of his year's work.

Speaking of the chief crops, the Secretary says that corn ranks first in importance. Besides its large use as a human food, as a live-stock feed, "the starch of corn becomes the fat of the hog and the finish of the steer," thus becoming a great factor in the production of meats and meat products for export. While not as large as that of 1906, the value of the corn crop of 1907 is greater and is twenty-six per cent above the average value of the crops of the preceding five years.

In value the cotton crop of 1907, estimated to be from \$650,000,000 to \$675,000,000, takes third place, if in the final estimates it does not displace hay for second rank. The commercial expectations are that the crop will be found to be the third one in size ever raised, and perceptibly larger than the average crop of the previous five years. Though its farm value is probably a little below that of last year's crop, in other respects it will be the most valuable cotton crop ever raised in this country, and seven per cent above the average farm value of the crops of the previous five years.

The wheat crop of 1907 is 625,576,000 bushels, five per cent less than the average quantity for the five preceding years. But the value is about \$500,000,000, or five and one half per cent more than the aver-

age, although the crops of 1901, 1902 and 1905 had each a slightly higher value than that of this year.

The farm value of sugar beets, sugar cane, sorghum cane, and molasses and sirup made on the farm is \$64,000,000. Sugar made in sugar mills (including raw cane sugar and refined beet sugar) amounts to 889,000 short tons, worth \$73,000,000. Other products of the sugar mills bring the value up to \$95,000,000; three fourths of this is farm value.

The oat crop—741,521,000 bushels—is nineteen per cent below the five-year average, but the value is twenty-six per cent above the average, or \$360,000,000.

Potatoes—292,427,000 bushels—are two per cent above the average; the value is \$190,000,000, or twenty-six per cent above the average.

Barley also is two per cent above the average in quantity, while the value is extraordinary, about eighty-five per cent above the average. The quantity is 147,192,000 bushels, the value \$115,000,000.

Tobacco declined to 645,213,000 pounds, eleven per cent below the average in quantity, with a value of \$67,000,000, or six per cent above the average. The crop is smaller than for many years.

The flaxseed crop is 25,420,000 bushels, worth \$26,000,000; the quantity is five per cent below and the value three per cent above the five-year average.

Rye produced 31,566,000 bushels, with a value of \$23,000,000; a quantity four per cent above the average and a value twenty-nine per cent above.

Rice produced a record crop of 963,540,000 pounds of rough rice, or ninety-eight per cent above the average for the three preceding years. The farm value is \$19,500,000, a gain of thirty-six per cent over the average. The country now exports more rice than it imports, owing to better varieties which the department has helped the grower to secure from the Orient.

Buckwheat produced 13,911,000 bushels, worth \$10,000,000; a quantity 4.7 per cent below and a value fourteen per cent above the five-year average.

Hops produced 48,330,000 pounds, worth \$5,000,000. The quantity is 4.6 per cent below the average, while the value is twenty-nine per cent below.

The seven cereal crops produced 4,135,000,000 bushels, showing a loss of 214,000,000 bushels, or five per cent below the five-year average, the loss being chiefly due to oats. The total value is \$2,378,000,000; this exceeds 1906 by \$296,000,000 and is twenty-three per cent above the average.

The value of the total farm productions in 1907 exceeded that of 1906, which was far above that of any preceding year. The total value for 1907 is \$7,412,000,000, an amount ten per cent greater than the total for 1906, seventeen per cent greater than that of 1905, twenty per cent above that of 1904, twenty-five per cent in excess of that for 1903, and fifty-seven per cent greater than the total value for 1899.

The farmer depends not alone on his field crops. He produces meat animals; he keeps dairy cows; he raises sheep for mutton and for wool; he raises horses and mules; he keeps poultry. The animals sold from farms and those slaughtered on them in 1907 were worth about \$1,270,000,000, or nearly twice as much as the cotton crop.

The dairy products of the country alone were worth nearly \$800,000,000 in 1907, or much more than any crop save corn. Prices of both butter and milk have advanced.

The poultry and egg products for 1907 should be estimated at more than \$600,000,000 in value. In fact, these products were worth more than the wheat crop. In 1899 the farm price of eggs averaged a trifle over eleven cents a dozen; in 1907 it was over eighteen cents. Dressed poultry sold in New York in 1899 for ten and three fourths cents a pound; in 1907 for nearly fifty



## The Problems of the Country School

BY MORRIS WADE

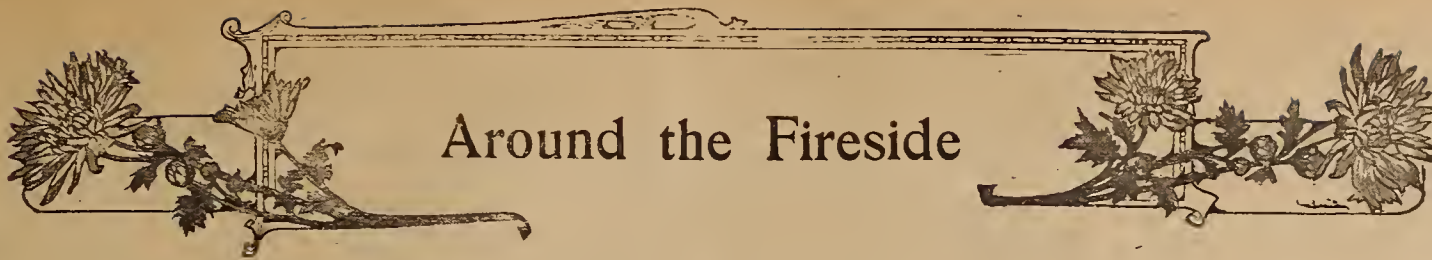
THE problem of the country school has become a good deal of a problem in many country neighborhoods, and just how to solve it has given great concern to those most interested in it. Country schools are as a general rule smaller than they were thirty or forty years ago. This is certainly true of the rural districts of New England. One will find schools of but six or ten scholars where there were once twenty to thirty, and it is common enough to find in a day's drive in the rural districts schoolhouses in which school has not been held for years. The few children there of school age are carried to the nearest village at the expense of the district, or they board in the village in the winter months.

One way of solving the problem of the country school has been solved in an admirable way by an alert young woman in Illinois, and the development of some of her ideas into practical results has occasioned a great deal of interest far beyond the county of Putnam, in which she has made such a marked success of the country school. Three years ago Mabel Carney graduated from a normal school and began teaching in a country school in Putnam County, Illinois. She seems to have brought with her something more than "book learning" from the normal school. She had ideas of her own. She had but a few pupils in her school, and the school house was a shabby, poorly equipped structure. There were two other schools in the neighborhood as small and as poorly equipped as was Miss Carney's school. A plan for bettering the condition of all the schools came to Miss Carney. She believed that if the three schools could be consolidated into one all of the schools would be benefited. She "talked up" the scheme so thoroughly that in the spring of 1905 the question was put to a vote, and voted down. The next spring it was voted to consolidate, whereupon a Mr. John Swaney, who had become greatly interested in the scheme, donated twenty-four acres of ground for a campus for the new school. Think of a country school with a campus of twenty-four acres! Often a quarter of an acre is thought to be something of a waste of ground for a country schoolhouse.

The people of the three united districts voted eighteen thousand dollars for a new schoolhouse. Here was progress in another direction. Who ever heard of eighteen thousand dollars for a country schoolhouse? The writer well remembers what a storm of protest there was and how the cry of sinful extravagance and wasting the money of the tax payers went up in a certain rural district when it was proposed to tear down an old ramshackle of a schoolhouse and erect a new one at a cost of about nine hundred dollars.

The country schoolhouse costing eighteen thousand dollars was built on the twenty-four acres of campus in Illinois, and wagons carry the children who live beyond walking distance. The principal of the new school receives a salary of one thousand dollars a year. Another forward step, for the average head of the country school sometimes receives about half this sum. On the campus of this country school is an agricultural experiment plot of six acres, carried forward in co-operation with the school of agriculture of the state university. A four years' high-school course may be taken at this school. The country boys and girls may here study agronomy, animal husbandry, horticulture, domestic science and art and all phases of work of special interest and value to those living in the country. And it is no doubt true that "an enlarged country neighborhood has been bound into a co-operative social unity, whose possibilities for higher culture are not inferior to those of cities of ten thousand inhabitants. So much for the spirit of progress that found expression in a clear-thinking country-school teacher who was able to induce others to come into sympathy with her.

Naturally enough the fame of this young teacher and of the school she brought into being went abroad throughout the length and breadth of the land, and other educators felt that they would like to secure her for the advancement of their own progressive ideas regarding the bettering of the condition of the country school. The principal of the Western Illinois Normal School sent for Miss Carney and induced her to accept the position of supervisor of a model country school, as an aid to solving the problems of the country schools in the state of Illinois. This model country school is two miles from the normal school. During one term seventy teachers came to study Miss Carney's methods, and these country-school teachers organized themselves into an association which is thought to be the only educational association of



## Around the Fireside

its kind in our country. This association devotes itself entirely to the problems common to country teachers and country schools. Its strong appeal, we are told, is to "make life large and lovely for the country child."

This is a fine and high purpose. It is because life does not seem "large and lovely" to the country boys and girls that so many of them grow weary of the country and seek what they think to be the larger and more delightful life of the city. This consolidation of schools has certainly been a marked success in Illinois. Why should it not be successful in other places? The Country Teachers' Association can be made an organization of the highest value and one that will contribute much to the general good of the country school.

### Inland Waterways

THE plan as outlined at the recent Philadelphia convention of delegates representing seventeen different states, to further the project for an inland waterway along the Atlantic Coast, from Massachusetts to North Carolina, at once becomes generally interesting.

Much of the route of the waterway already exists, and it is proposed that the channels of the canals, rivers, bays, etc., that are to be a part of the great watercourse be deepened and widened so as to permit the passage of the largest warships.

It is the idea of the projectors to run the waterway from Barnstable Bay on the north side of Cape Cod to Beaufort Inlet, North Carolina. This would require the cutting of a canal through Cape Cod from Barnstable Bay to Buzzard's Bay on the south, reducing the water distance from Boston to New York about seventy-five miles. The course of the route would then run through Long Island Sound and down to the Raritan Canal at Perth Amboy, New Jersey. The route then would be through the Raritan Canal, down the Delaware River, past Philadelphia and through the Chesapeake and Delaware Canal; down Chesapeake Bay to Norfolk; along the Elizabeth

River, and through a cut across Virginia to Currituck Sound. The route then would lie through Coanjock Bay, with a cut through into Albemarle Sound, then through Croatan Sound into Pamlico Sound, and into Neuse River. By deepening and widening Adams Creek and Core Creek the route would end in Beaufort Inlet and the ocean.

It is believed that this route would save many millions of dollars in freights to the business interests of the North and South, besides cutting down the water distance of coastwise steamships.

### The New and Old Gold Coins

WITH all the talk, pro and con, as to the omission of the motto "In God We Trust" from the new design of gold coins, a little of the history of the use of this motto might be interesting.

The first United States coin to bear the motto "In God We Trust," was a pattern two-cent piece struck at the Philadelphia mint in 1863, but pattern coins bearing a variation of the motto were struck as early as 1861. The first regular United States coins to bear the motto were issued for circulation in 1864.

The story goes that a Maryland clergyman suggested to a former director of the mint that a motto of this character be placed on the United States coins. The director, it is supposed, turned the suggestion over to the engravers, and they used it on certain patterns.

The first of the 1861 series of pattern coins bearing a pious motto was the half dollar, which was of the same design as the regular half dollar of the period, but showed on a scroll above the eagle on the reverse "God Our Trust." It was the first United States coin to bear a motto other than "E Pluribus Unum." This variety was struck in silver, copper and copper bronze.

One of the rare pattern five-cent pieces of 1866 showed the head of Lincoln on the obverse, and around the border "United States of America." Above the wreath on the reverse, which enclosed the value, "5 Cents," was the motto "In God We Trust." This coin was struck

in copper and nickel, the variety in the latter metal being now very rare.

The mint engravers evidently did not despair of having the motto adopted, for a pattern five-cent piece of 1866, the year of the first issue of the nickel, showed the

bust of Washington surrounded by the motto "God and Our Country."

In 1864 the new two-cent piece went into circulation and was the first and at the time the only coin in general circulation to bear the motto "In God We Trust."

The first dollar pattern coin struck in silver to bear the motto "In God We Trust" was issued in 1864. The dollar of regular issue did not show it until 1866. This is one of the rarest of the pattern pieces of the series, and a proof specimen brought thirty-one dollars this year at a coin sale.

The United States coins issued since 1866 which did not have the motto "In God We Trust" were the one-cent piece, the silver and nickel three-cent pieces and the dollar and three-dollar gold pieces, together with the fifty-cent piece struck at San Francisco in 1866, the reverse of which does not contain the motto, which fact makes the specimen worth twenty-four dollars.

### Sayings About Snow

BY ALONZO RICE

A SNOW year, a rich year.

The more snow, the more healthy the season.

Burning wood in winter pops more before snow.

It takes three cloudy days to bring a heavy snow.

If the snowflakes increase in size, a thaw will follow.

If there is no snow before January there will be the more snow in March and April.

When the snow falls dry it means to lie; but light and soft flakes often bring rain.

Snow is the poor man's fertilizer, and good crops will follow a winter of heavy snowfall.

When the first snow remains on the ground some time in places not exposed to the sun, expect a hard winter.

Snow is generally preceded by a general animation of man and beast, which continues until after the snowfall ends.

To ascertain how a snow will go off, make a small snowball and hold a lighted candle under it. If the flame makes a hole through the ball without the melted snow forming falling in drops of water, it will go off with the sun; should drops of water fall, it will go off with a rain.

### That Good Old Feather Bed

BY BERNARD AUBREY PITMAN

When a boy I climbed the stairway leading up into my room  
I would see hobgoblin faces peering at me through the gloom;  
And a sort of creepy feeling up and down my spine would go  
As I saw these ghostly figures swiftly wavering to and fro,  
And my teeth would fairly chatter with a nameless fear and dread,  
Till I snuggled 'neath the covers of that good old feather bed.

And the sweetest hopes were fashioned in those boyhood's happy days—  
How I'd climb the steeps of glory and fair honor's trail I'd blaze;  
All the world would fall before me and bow low the bended knee  
When they recognized my presence and its grand authority,  
Till at last kind sleep would woo me, and the raindrops overhead  
Would sing lullabies so tender to me on my feather bed.

Now I was a soldier, longing for the coming of the strife;  
Now a multimillionaire, who married a crown princess for his wife;  
And anon the scene swift changing, I would sail for ports afar,  
And would be served up for dinner by the blacks of Zanzibar;  
But the sun arose next morning, and these visions all had fled,  
And found me most sottily lying on that good old feather bed.

Years have passed, but still at seasons memory will backward stray  
To the happy times of childhood, when life's cares thronged not the way.  
Forms and faces come back clearly, and they will not let me be,  
But with outstretched hands they beckon, and their voices call to me.  
Times have changed, but I remember—all are scattered now and dead,  
But it all comes back when sleeping on that dear old feather bed.



Drawn by A. Forestier

THE REAL SANTA CLAUS

From The Illustrated London News



# The Impostor

By Frank E Channon

## Synopsis of Previous Chapters

Amos Jackson, rich American, athlete, and his lawyer and fellow countryman, Donnaly, were returning from the Stanford Bridge Athletic Grounds, England, where the former had won great honors, when they stop a runaway tandem, make some new acquaintances, and receive an invitation to dinner. The hosts prove to be the Queen, and her uncle and aunt, or the island kingdom of Mirtheium. While on a tour of the Continent the royal party had met with a terrible loss in the sudden death of the King, since which time return to the island had been repeatedly postponed, for it was feared that to return without a king meant the overthrow of the dynasty. Jackson in appearance proves to be a double of the late King, and the proposition is made that the American athlete return with the royal party as ruler of Mirtheium. During the interview a spy of the Cassell party of Mirtheium, is discovered behind the draperies. He is captured, branded as a lunatic, and turned over to a private sanatorium for safekeeping. The royal party, augmented by the "Impostor" and his "new American secretary," return to the island and are welcomed with great pomp and ceremony.

## CHAPTER V.—CONTINUED

THE route was lined with thousands of cheering people, and brilliant with hundreds of torches. Deafening shouts rang out. They gained the main street and proceeded down it at a smart trot. Small, two-storied houses flanked them on either side, the windows crowded with people with waving banners.

Evidently the King and Queen were popular. The Count had not been mistaken in his opinion of the feeling of His Majesty's subjects.

The procession crossed an open square; the Royal Palace, aglow from base to roof with light, stood before them; colored fire burst from the four corners of the square, and the cheering redoubled.

Then, like some foul fiend bursting from out a heaven of joy, a man broke from the crowd. For one brief moment he stood with uplifted hand, then hurled from him a missile, and turned and fled.

The anarchist was at work!

The bomb circled in the air. It fell in the royal carriage. The vehicle came to an abrupt halt, and its drawers scattered, with a shout of terror. The crowd broke in all directions. Pandemonium reigned; all was confusion and tumult.

But one man remained cool and calm amid all the hubbub. He was the King.

Without a word, with a quick movement, he sprang forward. He seized the deadly bomb in his hands, and leaping from the carriage, ran a few feet forward, then hurled it far from him into the open grass space in front. With a splutter and a roar the thing burst, and its fragments were dashed in all directions.

The coward's weapon had failed; not a soul was seriously hurt!

For a few moments all was confusion and excitement. Then order sprang out of chaos. The attendants came running back; every one was searching for the miscreant. The King resumed his seat.

"Forward!" he ordered, and the carriage moved on again, while officers hunted in all directions for the cowardly would be slayer.

The King of Mirtheium stood higher than ever in the estimation of his people. He was a hero as well as a monarch.

## CHAPTER VI.

### THE TAMING OF THE TIGER

THE great clock in the main façade of the royal palace struck the hour of midnight. A bugle rang out in the courtyard below, and the guard commenced to change. In an elegantly appointed room just over the grand saloon were gathered together the King and Queen, His Majesty's secretary and the Count Benedict. It was the night of the home coming. They were discussing it and the events which had accompanied it.

The Queen, pale and beautiful, sat beside her uncle. The King and his secretary paced thoughtfully arm in arm up and down the apartment.

"Nothing could have been more opportune," remarked the Count, referring to the escape of the royal couple. "It will endear you to the hearts of your people as nothing else could. It was splendidly dramatic; if it had been prearranged in all its details it could not have happened more happily."

"But this man, this anarchist, he has been captured, you say?" questioned Donnaly.

"He was apprehended within the hour," replied the Count triumphantly. "That speaks well for Your Majesty's police service, does it not?"

"Where is he now?" asked Amos.

"In one of the lower cells of the palace prison. He will be tried before the military authorities early tomorrow and shot before noon."

"That must not be," announced Amos quietly.

"Why not?" asked the Count, looking up in surprise.

"Count," said the new King. "I have determined that if possible, my reign shall be a bloodless one. I want the good that I shall do in it to atone for the wrong of this great fraud that I am perpetrating upon the people. Do I make myself clear?"

"Perfectly," remarked the Count crisply. "But I presume that it is not your intention to set free every rogue in the island in pursuance of that laudable resolution, is it?"

"Scarcely," replied the King with some sarcasm in his tones. "It is my wish, however, that this trial does not take place until I have seen and interviewed this man. Mr. Secretary, you will kindly give such instructions," he said, turning to Donnaly with a smile.

The Count bit his lip. This was a king with a vengeance. He had scarcely counted upon such a determined monarch. He concealed his annoyance, however, and said:

"Certainly, if that is your wish, it must be respected. Shall I send the captain of the guard to you?"

"Oh, Donnaly will attend to it," replied the King carelessly, and the subject was dropped.

"With your permission, I will retire; I feel tired and exhausted," said the Queen, and bowing to the three gentlemen, she withdrew.

They heard her speaking to one of her ladies in waiting, and the sound of their departing steps, and then all was quiet.

"We cannot do better than get some rest, too," remarked Donnaly. "Come along, Amos. Oh, by the way, Count, will you send the captain of the guard to me? It has just occurred to me that I don't know him or how to go about this business."

The Count smiled. "It would be better," he said, "if the King were to sign an order and have it delivered; it is a little more usual. Here is pen and ink and the seal."

The new King drew up to the table and issued his first order as the King of Mirtheium.

"Here is one of the late King's signatures," said the ever-thoughtful Count, producing a paper from a secretary.

"Donnaly, old man, you are better at that kind of work than I am," remarked the King. "Suppose you copy it."

"It's the first time I ever committed forgery," said Donnaly glumly, as he carefully traced the signature.

The order was folded and sealed, and given to the Count for delivery.

"Now," said Donnaly in a worried way, "how does a king go to bed? Hanged if I know, Amos. Do I have to put you, or can you manage the thing yourself?"

"I'll try," answered Amos with a grin. "Come to think of it, I believe I've done the trick before all by myself. Good-night to you, Count; come along, Donnaly, your room is next to mine, I believe. Say, do we

leave our shoes outside for the 'boots' to collect in the morning, as they do in the English hotels?"

The Count smiled broadly. "You will find your valet in waiting," he replied.

"Well, he'll soon get fired," said Amos firmly.

"Bon soir," said the Count, with a wave of his hand. "I see."

True to the Count's prophecy, the valet was in waiting for "the King."

"Illumia (lights)," commanded the King shortly, for the chamber was in utter darkness.

The servant was back in a moment with two ancient-looking candlesticks.

"No electric in the bedroom?" asked Amos in his best French, forgetful that he should know.

"Your Majesty has always ordered me not to light them," replied the man in surprise.

"That's right. Well, I've altered my mind since I've been traveling. You can swish 'em on."

The chamber was flooded with the electric light, and the valet busied himself fussing around the dressing table.

"That's all," said Amos shortly. "You can go. Call me at seven."

The man's eyes opened in wild surprise, and he did not move.

"You speak French, don't you?" asked the "King" crossly, for he was tired and wanted to rest.

"Oui, Your Majesty."

"Then why don't you get when you're told to?"

"I always—I wish—Your Majesty is not yet disrobed!" cried the servant in surprise.

"Well, think I don't know it?" shouted the King, lapsing back into his best American in his anger. "Guess I'm capable of undressing myself. I haven't gone back to my second childhood yet. Go away!"

The fellow backed out of the room, firmly convinced in his own mind that the King had returned crazy.

"Idiot!" muttered Amos, as he laid himself down to rest. "I'll stop those monkey tricks around here."

The next day was a busy one for the new King. There were many officials and friends to be interviewed and welcomed. And overshadowing it all was the great question and anxiety, Would the deception be discovered? Would the plot fail?

Promptly at seven His Majesty was aroused by his valet, and after a light breakfast, received, in company with the Queen, the Count and the King's secretary, many of the prominent officials of the state. The Queen, pale and handsome in a morning toilet of light gray, sat at the King's right hand; on his left, the Count Benedict, in his capacity of Lord in Waiting and Master of the King's household. The new American secretary was busy at a table at one side.

"I am absolutely sure that detection is impossible," the Count assured Amos. "You look the exact counterpart of the late King; your manner is his, save that you seem to have gained in experience and have more assurance. You are more positive than was Leopold. But those were the very qualities he was sent to gain, so it will be considered most happy that you have returned with them. Your French is as good as his, at least, and as he always most positively refused to speak our language, insisting that the French be always spoken, I see no difficulty in that direction. You will, of course, take the same ground. All will be well; fear not."

All passed well, as the Count had foretold. Many were the congratulations the King received on his escape of the previous night, and high were the compliments showered upon him for his behavior during that trying episode. The Queen, all graciousness and dignity, received with her lord the good wishes and congratulations of the officials. Rudolf, the Roumanian, and the supposed aspirant to the throne in the event of the King's death without heirs, was present, and was loudest and most profuse in his felicitations.

He was a tall, straight, well-built young fellow, dark and swarthy, with something of the gipsy cast of countenance, and with a gallantry of manner that brought him many friends. He bent low before the Queen, and touching her hand with his lips, offered his congratulations and good wishes. Amos watched him out of the corners of his eyes, while speaking with the Duke of Alons. There was something about the fellow he did not like—a catlike movement in his walk, and an insincere twinkle in his eyes, and why did he stay so confoundedly long talking to the Queen? Several other things suggested themselves to Amos as open to criticism regarding this Rudolf and his deportment, but other matters took up his attention, and he had no time to brood over them just then.

As soon as the early morning levee was over a curious order was issued by the King:

"Let the prisoner who attempted the life of the Queen and myself last night be placed without manacles in the large cell room alone."

There was some hesitation on the part of the guard in obeying this edict. Twice did a query come to know if the order had been received aright, and at last the captain of the guard himself appeared to take the order.



"The Queen, pale and beautiful, sat beside her uncle"



"Yes," said the King, "I wish him placed where and how I have said. I am about to try a novel treatment in regard to anarchists. Something I learned in the West," he added, with a twinkle in his eyes. "Mr. Secretary, will you kindly accompany me, and you, too, Count, if you wish. The guard will remain without."

"But, Your Majesty, is it safe? The man is powerfully built and is dangerous. He will most certainly attempt some harm to Your Majesty's person."

"Leave all that to me," replied the King.

The "large cell room" in which the prisoner had been placed was airy and light. It was, as the name implies, a big room. At one time it had been used as a drill hall for the palace guard, but had now been fitted up as a cell for the reception of prisoners who were awaiting trial. At present there were none, and the cell was empty, save for the burly anarchist. He was pacing up and down as the King and his two companions entered.

"Qui?" he snapped. "What now? When do you kill me?"

"You're going to get something worse than killing," said the King sharply.

As he spoke, the anarchist looked up and noticed the King.

"Curse you," he muttered, "you have come to taunt me that I did not kill you."

"No, I've come to do something else. You needn't jabber in that Italian; you can speak English quite well enough to be understood. Ever hear of Paterson, New Jersey, United States of America? Ever been there? Ever hear of Leghorn, Italy? Ever been there?"

The fellow did not answer.

"Now, then," said Donnaly, "you understand English. Answer the King."

Still no reply.

"Very well," said the King. "I'm going to lick you. Take your coat off. You've got to fight."

"You just wait," he bawled in very good English, "I'll show you!" His coat was whipped off in no time and he was boring in on the King.

It was evident from the first that the anarchist was no match for the King.

"Come," cried Amos, tauntingly, as he worked, in under his enemy's guard and planted a straight left on the point of his jaw, "come on! This is an excellent chance to kill me! no one will interfere, I assure you."

The man began to look as if he wished some one would. He was bleeding from the nose and one eye was nearly closed. He rushed the King wildly and endeavored to close with him.

"Oh, oh, want to wrestle now, eh. Well that's an interesting game, too. Come along, then," cried Amos, as he twined himself about his opponent, and throwing him heavily, obtained a half Nelson hold on him; then, quickly changing it to a strangle hold, he soon had the fellow gasping and begging for mercy.

"Mercy!" echoed the King. "What does an anarchist want with mercy! You showed none to me or mine last night, you villain!" and he tightened his grip.

It was a fearful sight, this fight of man and man, fighting as the beasts fight, without weapons.

"Amos! Amos!" cried Donnaly, "don't kill him!"

The anarchist's tongue was protruding from his mouth; his face was black; his head fell heavily back and his eyes closed. The deadly "strangle" hold had done its work; he was nearly gone.

Then the King rose and straightened himself.

"There!" he cried fiercely. "It may be wicked, it is wicked, but it gives me more satisfaction than having the beast shot."

The Count and Donnaly both stepped forward and gazed at the unconscious man. "Is he dead?" they asked in one voice.

"Amos," cried Donnaly, "you have killed him."

"I think not," replied the King carelessly, as he stirred the fellow with his foot. "Not but what he deserves it," he added.

Slowly the anarchist opened his eyes, then rolled over again, writhing with pain.

"Get up!" ordered the King.

Blindly the fellow tried to obey. He could not rise. Amos dragged him to his feet.

"Now," he said, "you have had what you richly deserved, a good licking, and I have taken great pleasure in administering it. Do you know what's going to happen now?"

The man was reeling and half unconscious; he looked as if he did not care what had happened, but the next words of the King brought him to his senses.

"You are going to be made to work. I am going to make a useful citizen of you."

The whipped man blinked stupidly at his conqueror; he failed to grasp the meaning of the words.

The King wasted no time over him.

"Where is the captain?" he asked.

The officer was by his side in a moment. He had never been far away for.

With a few soldiers and officers had



"A shaggy-looking dog . . . commenced barking savagely at the King's carriage"

been crowded around the door of the cell, watching the fearful struggle.

"Here, sire!" he said, saluting.

"Remove this—this thing," came the order. "Place a ball and chain upon him and teach him to work in the fields. Let him become of some use in the world. Let him work eight hours a day, and every seventh day report to me in person. Should he refuse to do his duty, bring him to me at once; I will induce him to. Treat him kindly; let there be no harshness; I will attend to all punishments. Give him good, wholesome food and such reading matter as you may have." Then to the whipped man: "Get out from here. Learn to work; learn to be a man, and when you are fit you shall be sent into the world again, not before."

CHAPTER VII.

"JESSOP" SEES SOMETHING WRONG

"AMOS," said Donnaly, when they were alone once more, "I did not know you could be so vindictive. You were a perfect fiend. That man had a pretty close call. If you had held on thirty seconds more you would have killed him."

"He might have killed her," retorted his friend hotly.

"Who?"

"Why, the Queen, of course."

"Oh," drawled Donnaly comprehensively, and then the King looked sharply at him.

"Of course the Queen. Who else could it be?" he repeated.

"Might have been you, old man."

"It might, but that wasn't why I licked him."

"Do you think you have made a convert?"

"Time will tell, as the Count says. At any rate, I've given myself some much-needed exercise," and the King linked his arm in his friend's and strolled into the adjoining room.

"Do you recollect, old man, what we were occupying ourselves with before we left New York to make that eastern trip?" inquired Amos.

"Why, that expensive little toy of yours, the air ship, seems to me," replied his chum.

"The sky clipper, you mean."

"Exactly, the sky clipper," echoed Donnaly with a faint smile.

"I would like," went on Amos, "to get the working parts on here. It would be something to while away the time with."

"Seems to me you won't want for something to do, as things are going at present."

"Well, I'd simply treat it as a recreation, you know," the King said.

"I guess we could have them sent on here, but it wouldn't be wise to have them sent direct. I should suggest that they were reshipped twice at least—say to Cherbourg first, then to Constantinople, and reshipped on here."

"It might be the wisest course," assented Amos. "Could you attend to that for me, Donnaly, old man?"

"Why, yes, if you really think you need them."

"I wish you would then."

"All right."

A servant tapped at the door.

"Your Majesty, the Queen is waiting; lunch is served," he announced.

At luncheon the talk was mostly of the review which was to take place that afternoon in honor of the King's return. The Queen was to attend, and the elite of Mirtheium's society was expected to be present.

The standing army of the island consisted of three thousand men, comprising horse, foot and artillery, but, like most military machines, it was capable of much elasticity, its war footing reaching the really formidable total of twenty-three thousand, and embracing every able-bodied man in the kingdom. This little model army was armed with weapons of the latest date, and on various occasions it had been mobilized in twelve hours, ready to take the field. The army was the pride and joy of the Island Kingdom of Mirtheium.

The navy consisted of two small thousand-ton gunboats, and three Yarrow torpedo boats. All these vessels were constantly in service as revenue cutters, policing the waters around the island and preventing smuggling. The Count Benedict was "Lord High Admiral" of this fleet. In past times the navy had achieved great fame and honor, notably in a brig action with a Turkish frigate in 1873, when the smaller Mirtheium vessel succeeded in lowering the Turk's colors, and bringing it into Doonroon a prize. Again during the Egyptian troubles of '81-'82, when by smart seamanship its gunboat "Draagoon" evaded the British fleet and took in a message to the rebellious pasha Arabi, afterward cutting its way out in brilliant fashion, in the teeth of the whole fleet. Passages of history like this made the Mirtheiums as proud of their infant navy as of their gallant army.

The King and Queen, as they sat at their private luncheon, were discussing the appointment of Rudolf, the Roumanian, as chief of the fighting machine. This appointment had been one of the first acts of Leopold X. upon his ascension of the throne, and was generally regarded in the nature of a sop to any feeling which the reputed aspirant to the throne might have; for had matters turned out differently, had Leopold been unsuccessful in his wooing of the Princess Edna, and had Rudolf succeeded, there was no doubt but that he would have made a strong bid for the throne. It was considered policy, therefore, to soothe his wounded feeling with the gift of commander in chief of the land forces of Mirtheium, subordinate, of course, to the King himself, who was chief of both army and navy.

Luncheon over, the Queen retired to dress, and the King to don his uniform. It was two-thirty when the royal carriage, drawn by four magnificent cream-colored horses, and attended by postillions and outriders, arrived upon the scene.

A magnificent popular ovation awaited the King and his consort. With a spon-

taneous movement the entire assemblage of people burst into cheering, followed instantly by that peculiar form of Mirtheium applause, known as "Firing," which consists of clapping the hands and shouting at the same time five times—the first two slow, the last three fast. It sounded to the King something like the familiar American college yell, as he listened to it, "Oh—ya. Oh—ya—ya."

Having inspected the troops, the King again proceeded to the saluting point, and from there witnessed the march past.

First came the King's Own Guards, a body of men whose individual height must be six feet or greater. Then the 1st, 2d and 3d Guards—all infantry. Then the six batteries of artillery and the brigade of heavy and light cavalry. Rudolf of Roumania with his staff rode at the head of the troops until the royal stand was passed, when he wheeled his charger around and took up his position at the King and Queen's side, pointing out to the King the different changes which had taken place in the army's detail since the latter's absence.

"Your Majesty will miss one old face," remarked Rudolf.

Amos waited for the Roumanian to lead, well knowing that a great many old faces might be missing and he not know it.

"Colonel Voltimmeir," resumed the commander in chief. "He was killed three weeks ago in a brush with some mountain bandits. Your Majesty lost a faithful servant there. Captain Noel is gone, too. He died in hospital soon after your departure."

"So I heard," observed the King truthfully. "They have but crossed in advance the river we all must ford some day, cousin. But what is amiss with that dog? He seems possessed."

The attention of both men was attracted by the antics of a shaggy-looking dog, who had for the moment stopped the advance of the troops. He had been solemnly marching in advance of the 3d Guards, when suddenly he stopped, and with every evidence of anger and annoyance commenced barking savagely at the King's carriage.

"Dans oddus, (that's odd)," exclaimed Duke Rudolf. "Does not old 'Jessop' know your Majesty any longer?"

The Queen smiled and whispered in the King's ear, who laughed heartily.

"Her Majesty suggests that the mascot does not know me now that I wear London-made clothes. Here Jessop, Jessop," he called aloud to the dog.

The animal remained stationary, barking angrily. He refused to come at the King's command. Never had such a thing occurred before. "Old Jessop," the famous mascot of the 3d Guards, had always sprung gladly at His Majesty's bidding. Now he was sullen and defiant; something was amiss!

"Come hither, you cur," cried the Duke Rudolf.

"Here, Jessop, Jessop," echoed the King, snapping his fingers.

The only response was a show of greater anger. The immediate spectators



## Life's Joyous Way

BY MARTHA SHEPARD LIPPINCOTT

Sweet love will make the world so bright  
And drive sad grief away;  
It will with sunshine fill the world,  
In its enchanting way,  
Until the heart is full of joy  
And lightly feels life's care,  
When there will be a loved one near  
To every labor share.

The soul finds sweetest joys of life  
Where love will lead the way,  
And it will be rejoicing in  
Each joyous, love-lit day;  
While life will seem a happy dream  
To lead the soul above  
And teach us that in all the world  
There is no joy like love.

## Common Sense and Common Remedies

BY HILDA RICHMOND

## GOOD FOOD

Do you know that many diseases can be fed out of the human system? It is a fact, whether you believe it or not. Along with the fresh-air treatment for consumptives nowadays there is always coupled the good food treatment, and the two together work wonders. Sufferers from tuberculosis are urged to eat fresh eggs, milk, cream, bread and butter, olive oil and many other fat-producing foods, on the ground that a well-nourished body resists and overcomes tendencies to disease. Little children fed on prepared foods or the doubtful milk of cities grow hearty when taken to the country, where pure milk abounds, or are supplied with the pure product from some healthy cow. The diseases that prey upon their tiny bodies are literally fed out by the nourishing milk, and their lives are saved. It is gratifying to note that in cities every effort is being made to supply the poor with pure milk to lower the terrible death rate among infants, but there is much to be done everywhere before men and women realize the importance of eating good food three times a day.

Thin, irritable, nervous women could do wonders for themselves by eating plenty of hot, nourishing food. Often the mother of the family waits upon the children, bakes hot cakes for the entire family and does innumerable chores before eating her breakfast. When she does sit down, the food is cold and unappetizing and she makes an indifferent meal. That she should ever make a piece of toast for herself or a cup of hot cocoa never occurs to her. Indeed, if it were suggested, she would think it a piece of rank foolishness to waste that much time. Yet the toast and good cocoa would help her through the hard mornings and give her strength and patience to throw off the feeling of irritability that takes possession of her simply because she is ill fed.

A little girl who was pale and delicate went from her own home to stay with her grandmother, and in less than six months was rosy and healthy. At her own home there were sausage, buckwheat cakes, ham, hot biscuits and coffee on the breakfast table, with slight variations all winter, while at her grandmother's an entirely different state of affairs prevailed. The sausage and cakes were excellent for the men who had to work out of doors, but the delicate child and her delicate mother could not assimilate such food. The grandmother provided soft-boiled eggs, well-cooked cereals, toast, bread and milk and fruits, and the child was soon well and strong. The mother hooted at the idea of preparing an extra breakfast for any one, but it would have done her a world of good had she been able to sit down to cereal and cream with good cocoa. There was plenty of cream on the farm, and the good food might easily have been provided, but the mother said what was good enough for one member of the family was good enough for all.

Good food is much cheaper in the end than poor articles. Well-cooked prunes, evaporated apricots, canned fruits, simple pudding to be eaten with milk, fresh fruits and good custards are much nicer than so many pies, and much less work to prepare. Pies are all right in their place, but should not be served three times a day year in and year out. Doughnuts occasionally are much relished, but there is no need to have them at every meal. Cake should be saved for a treat rather than served as a regular article of diet, and the frying pan should occasionally have a rest. Boiled and roast meats are much more healthful than fried foods, and are better liked by most people, but the busy housewives imagine that frying takes less time and trouble.

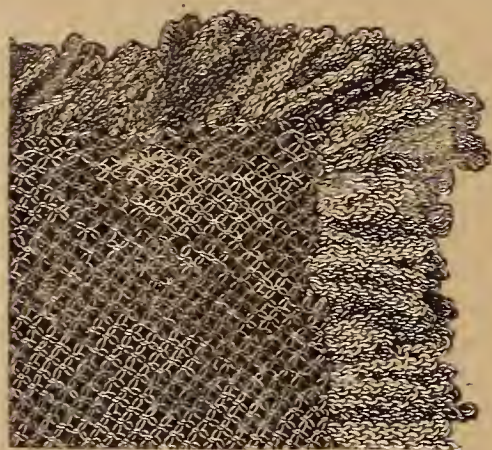
For rheumatism and other blood diseases spinach, celery, fruits, asparagus, lettuce and other vegetables should be freely indulged in, but little meat. There are few things that onions are not good for if eaten raw or cooked with cream dressing. You will need very little blood medicine if you eat freely of vegetables in early spring, and the doctor is almost



## The Housewife

a stranger in homes where fruits and vegetables form the chief articles of diet all the year. It has been noted time and again that children fed on highly spiced foods and heavy meats, who are irritable and peevish, become good tempered when put on a simple diet. We are all familiar with the scabby skins and foul breaths of the children whose misguided parents allow them to indulge too freely in pork, nuts, pies and rich foods. Such children when fed sensibly become clean skinned and healthy in a short time.

A safe rule for good cooking is to avoid all spices, excessive lard preparations, elaborate desserts and heavy meats. Use plenty of rich milk, cream, well-cooked cereals, eggs, poultry, soups, fruits of all kinds and very many vegetables. With green corn, peas, beans, carrots, onions, asparagus, tomatoes and all the other good things of the garden the family table should see little meat



SHAWL IN LOVERS-KNOT STITCH

from spring to fall except an occasional chicken. If every farmer and his family could live a few summer months in a large city they would soon appreciate the wealth at their command. The diseases that come from eating infected meats and tainted vegetables may all be avoided by the country resident, and many of the other complaints fed out by good cooking. Nervousness, lung trouble, dyspepsia, biliousness, skin diseases and other complaints will disappear under the right kind of treatment, together with intelligent care. More and more physicians are attaching great importance to the subject of eating, and the housewife will do well to avoid doctors' bills by feeding herself and her family nothing but good foods.

[SERIES TO BE CONTINUED NEXT ISSUE]

## Crochet Shawl

THE shawl herewith illustrated is made from the "lovers-knot" stitch, known to most every one, and which is very simple in design. For the body of the shawl use the "lovers-knot" stitch, making a chain of as many stitches as you wish the size of the shawl to be; the one here illustrated consists of eighty-five stitches. After you have decided on the size of the shawl, and have made as many stitches as you desire, always an uneven number, make three, one for the turn and two for the lovers-knot; go into every knot of the first row with your needle, making two "lovers-knot" stitches each time you have gone the length of the shawl, and then make three again to turn, and so on until the shawl is squared, or whatever shape you wish it.

The fringe is made of the common chain stitch. The one here illustrated has twenty chains worked very loosely and caught in every knot. Of course, for the corners it requires a little more, and therefore it is well to work two or three chains in the corner knots.

This makes a very beautiful shawl, and at the same time inexpensive, being made of shetland floss, and requiring only about ten skeins. C. O'B.

## Grandmothers'-Day Desserts

BY MAUD E. S. HYMERS

IN THE present craze for fancy desserts the good, old-fashioned, wholesome pudding of our grandmothers' day is practically unknown. The pie, of course, we have always with us, with all its old-time virtues and many of its faults retained; but whenever the modern cook essays the building of a pudding it is sure to be a sillibub variety, all fluff and

vanity. The least observing of housewives must see that these "fluffy ruffles" desserts are not so much relished by the men folk of the family as by the feminine members, which probably explains the masculine demand for pie. If a really attractive and relishable pudding were substituted, instead of the glued horrors seen too often on modern tables, doubtless they would be eaten with as much satisfaction as the more indigestible pie.

Many of the puddings of our grandmothers' day were wholesome enough, as well as dainty enough, for the most exacting of modern palates, and a knowledge of their compounding should be retained in cookery craft. Should the reformer fear too sudden a change from the complex modern dessert to the simple puddings of other days, let her test the fancy of the family with the old-time favorite, floating island, which, beside being most dainty in appearance, has also the advantage of being highly nourishing.

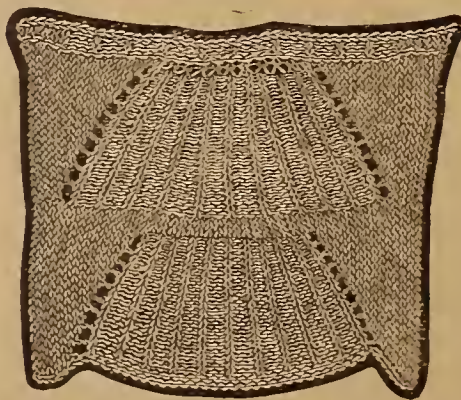
FLOATING ISLAND—One quart of milk heated to scalding; yolks of four eggs beaten with four tablespoonfuls of sugar, over which pour a cupful of the hot milk, mixing well. Return to sauce pan, and boil until it begins to thicken. When cool, flavor with vanilla or almond extract, and pour into a fancy dish. Make a meringue of the four egg whites and powdered sugar, into which beat one half cupful of any preferred jelly, a teaspoonful at a time. Serve cold.

Lest this be still too frothy for the masculine taste, try him with a more substantial old-time delicacy, know as

INDIAN PUDDING—To one cupful of cornmeal add one half pint of molasses, one quart of sweet apples pared and quartered, one quart of scalded milk, and salt and spices to taste. After stirring well pour into a buttered pudding dish. Over the top pour another quart of cold milk, but do not stir. Bake slowly four hours, when it should turn out a rich red mass of delicious jelly. Serve with cream.

Two variations of this pudding follow, either one excellent, and all of which were especial favorites with our grandmothers.

INDIAN CUSTARD PUDDING—One small cupful of cornmeal and one pint of milk mixed and cooked together until thick. Thin with cold milk to the consistency of cream. Add one half cupful of sugar (or



KNITTED STRIPE FOR PETTICOAT

suit taste), two beaten eggs, lump of butter the size of an egg, salt and seasoning. Raisins may be added when half done, if desired. Bake slowly two hours, stirring once or twice. Serve hot, with or without sauce.

BOILED INDIAN PUDDING—To one quart of boiling milk stir in one and one half pints of sifted cornmeal, one teaspoonful of salt, one cupful of molasses, one half cupful of chopped suet, and one teaspoonful of dissolved soda; add raisins, if desired. Dip a cloth in hot water, wring, flour a little, turn in the mixture, and tie up, leaving room to swell. Boil four hours, and serve hot with a sweet sauce.

Another pudding seen often on our grandmothers' tables and redolent of old-fashioned hospitality, is

BROWN BETTY—Sprinkle a layer of bread crumbs into a well-buttered pudding dish, and dot with small bits of butter; over this put a layer of apples (cored and sliced), with sugar, and spices to taste. Alternate the layers until the dish is full; add one half cupful of water, and bake slowly. Serve with hard sauce.

Another general favorite was fig pudding, which is as tasty to-day as originally.

FIG PUDDING—One fourth of a pound of figs chopped fine, two cupfuls of bread crumbs, one cupful of brown sugar, and one fourth of a pound of suet chopped fine. Mix all together, and add two beaten eggs, the grated rind and juice of one lemon, one dessertspoonful of molasses, half a nutmeg and one table-spoonful of flour. Steam three hours, and serve with sauce.

With the favorites was included the rice pudding, which was especially in evidence on ironing day, because of the long, slow fire required to perfect it.

RICE PUDDING—Two quarts of milk, two thirds of a cupful of rice, one cupful of sugar, a piece of butter the size of a walnut, and cinnamon or any preferred flavoring to taste, not forgetting the pinch of salt. Bake slowly until the consistency of cream, stirring once or twice until nearly done, when a thin crust should be allowed to form over the pudding. This may be eaten cold or warm.

The best of the bread-pudding family comes down to us from the time when the "taste and try" method was in vogue, hence is typical of old-time cookery, which was for the most part unhampered by rule of cup and spoon. Proportions being impossible to obtain, this pudding should be attempted only by the cook thoroughly in sympathy with the spirit of grandmothers' cookery, but once successfully accomplished, the pudding will remain a favorite in the most exacting family.

BREAD-AND-MILK PUDDING—The night before you wish to serve this pudding purchase a stale brick loaf of bread. Butter generously a heavy earthenware pudding dish or stone crock rather high and narrow. With a sharp knife slice the bread very thin, and put a layer in the bottom of the pudding dish. Add to first layer a "sprinkling" of sugar, "just a pinch" each of allspice and cinnamon, a "grating of nutmeg," and "a good handful" of Malaga raisins seeded and cut in halves. Continue in this order until the pudding mold is full, finishing with a layer of bread. Heat a quantity of fresh milk lukewarm; add a "savor" of salt, and enough molasses to color the milk perceptibly, and pour over the bread until by gently pressing the mass you can see the milk. Never stir it. Cover with a plate, and leave over night. In the morning, if it seems dry, add more prepared milk, and bake slowly for three or four hours, according to size. Keep covered with an inverted plate for half the time, then finish with a piece of brown paper. Eat hot or cold, and with or without sauce.

## Knitted Stripe for Petticoat

BY MRS. J. R. MACKINTOSH

USE woolen knitting yarn of the quality and color desired, in fast colors, and two wooden or ivory needles of a larger size than the coarse steel needles. Cast on 39 stitches. Slip the first stitch in each row and knit plain the last stitch of each row. This will not be mentioned again.

First row—Purl every stitch except the first and last one.

Second row—Purl 2, knit 1, \* \* over, purl 1, \* knit 2, purl 1, repeat from \* ten times, over, \* \* knit 1, purl 2.

Third row—Knit 5, \* purl 2, knit 1, repeat from \* ten times, \* knit 5.

Work the next seventeen rows this way. In every even row repeat what is written between the double stars in second row, as there is an increase of 2 stitches in the even rows—made by the overs—\* you must purl one more stitch before you make the first over, and purl one more after making second over, than in preceding even row \*, except in the fourth row, when you must purl 4 stitches before making first over and after making second over. Then repeat from \* to \* for the even rows.

In the twentieth row 12 stitches are purled on each side of pattern. In the uneven rows repeat from \* to \* in third row, and knit one more stitch plain in each of these rows in the part that is made before the first \* and after the second \*.

In the nineteenth row there are 13 stitches knit plain on each side of the pattern.

Twenty-first row—Knit 13, \* knit next stitch, then knit the next two purled stitches together; now draw the preceding stitch over the one just knit, repeat from \* nine times, knit 15. You will now have 39 stitches left.

Twenty-second row—Same as first row.

Twenty-third row—Knit plain.

Twenty-fourth row—Like twenty-second row.

Twenty-fifth row—Knit 4, repeat from \* to \* in third row, knit 4.

This completes the pattern. Repeat from second row to the length of stripe desired. If these directions are carefully followed, with an occasional reference to the illustrated model, no difficulty will be found in working this handsome design.



French Canvas-Work Borders

BY MAE Y. MAHAFFY

EMBROIDERY on canvas backgrounds is one of the modes of decorative-stitch work which has lived for centuries through all the changing fads and fancies. This fact alone is sufficient to prove its merit, but one must really see some of the wonderful specimens of this work to appreciate its beauty. Durable to a degree rarely found in fancy needlework, it is at the same time full of innumerable possibilities. Its forms are varied, but one of the most popular of modern times is known as French canvas work. It is quite readily mastered by the tyro, and abounds in countless opportunities for attractive, individual designs, and for the adornment of every household or toilet accessory which can be fashioned of canvas, scrim, coarse linen or other evenly meshed fabrics of open weave.

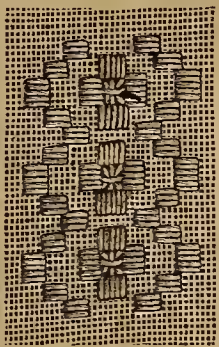


NO. 1

The materials necessary, aside from the background, are a blunt, long-eyed needle and working floss of silk, linen or cotton. The luster cottons are lovely for this work, and at the same time inexpensive, but for very elaborate effects the silks will be richer. Sometimes a bit of gold thread is also used to aid in this particular.

As in cross-stitch embroidery, it is necessary to count the threads of the canvas in order to ensure accuracy. However, after a row or two of the work is made, it is not difficult to gage the others by these stitches. The thread should be fastened to the work on the wrong side, and if care is exercised in this part of the work the wrong side will present almost as neat an appearance as the right. This does not matter especially on some articles, but in scarfs and similar pieces, where the wrong side is likely to be noticed, it is quite a feature.

The principal stitch employed is known in some kinds of canvas work as ivory stitch, and is almost identical with the satin stitch of ordinary embroidery. It is in reality the placing of stitches side by side in solid phalanx. Beside this the cross and star are frequently utilized, and sometimes the slant stitch and couching. Others may be used, but few stitches are needful to secure satisfactory results.



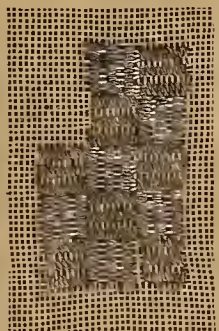
NO. 2

Among the many articles which are suitably embellished with French canvas work are sideboard and dresser scarfs, table runners, stand covers, center squares, bedspreads, curtains, portières, couch and pillow covers, bags of all descriptions, and the numerous fancy articles to which decorative needlework is applicable, and for effective band trimmings for wraps or dresses there can be nothing more charming for the same expenditure of time and money.

Resembling the exquisite imported band trimmings in every respect, they can be made by the home dressmaker at a small fraction of the cost, and are consequently a source of great delight to the woman who likes to produce good results at infinitesimal expense.

With but little trouble one can plan their own designs, it being necessary, of course, to keep them somewhat angular because of the mesh threads. Hardanger, Norwegian, cross-stitch or bead-work patterns can oftentimes be followed in canvas work. The illustrations show some pretty designs which may readily be copied by interested readers.

No. 1 is about two and one half inches wide, and is fitted for use as a trimming, or on some piece of fancy work where a rather wide border is desired, such as sideboard scarfs, stand covers, bags, etc. It is carried out in two shades of floss—



NO. 3

one in white canvas, but

other color schemes would be equally effective. On a deep ecru background rich, dark reds, blues, greens and browns are handsome. It is not necessary to confine oneself to two shades in a pattern of this magnitude.

The outer bands are worked solid over four threads and outlined on each edge. Four threads are likewise covered by the cross in the center of each star, the points beginning over two of these and gradually increasing until six threads are covered, then diminishing on the other side. The double crosses cover ten threads each way, and two rows of slant stitches outline the group. The double cross or star in the center of the small square is made over eight threads, as are the four outside the square, which is itself worked solid in graduating meshes. The seven slant stitches which make up each side of the points cover eight threads each also.

In No. 2 we have a simple design, also in two shades—pink and blue—on a cream-colored ground. Stars or double crosses over four threads each way form the centers of the little brick-like blocks. These are made over four threads also, five stitches being formed on each side of the star. The blocks of the zigzag border are over four threads, too, five stitches being used in the outer groups and three in each of the others. This pattern is dainty indeed for embellishing sash curtains and the like.

No. 3 is a compact pattern of solid-stitch work laid in rows, diamonds and points. It is more suitable for band effects without the outer row of points or vandykes. These may be placed on each side, and are always adapted to plain-edged borders. In rich colorings this pattern is particularly handsome for vest effects in coats, and shows but little of the background.

The basket-weave pattern, No. 4, is a slight departure from the others pictured, being more on the order of drawn-thread work. Three rows of eight stitches each over three threads are made side by side, the stitches being drawn so as to pull the rows apart a trifle. Three similar rows running at right angles follow, and so on, alternately through the entire design in every row. The work may be made as wide as one wishes, and finished along the edge in any preferred way, or left as it is in the cut. As shown only one color is used, but a splendid effect is obtained by using two colors—one for the groups where the stitches run up and down, and the other for those going from side to side. Variegated floss also affords an alluring prospect for the lover of the soft, changeable colorings of Oriental work.

Although colors have been mentioned throughout this article, the writer does not wish to infer that French canvas embroidery is not suitable for all white work. On the contrary, all-white effects are lovely in this method of embroidering, but colors just now seem pre-eminent among needlecrafters, despite the laundress' objections thereto. Nowadays the manufacturers understand the contents of their dye pots so well that with but an ordinary amount of caution these objections may readily be overcome.

Cottage Bread

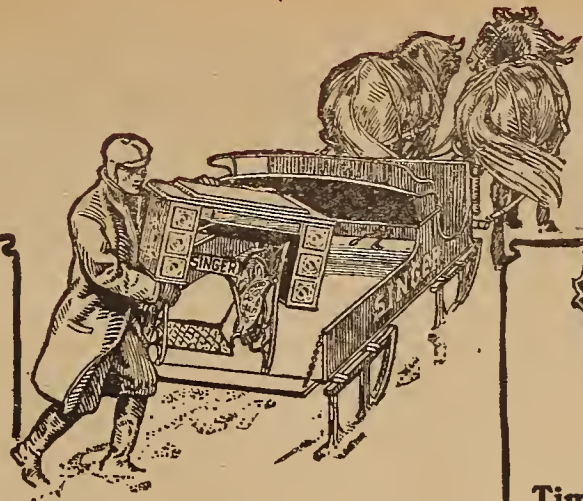
ONE quart of flour, one tablespoonful of sugar, one tablespoonful of butter, one well-beaten egg, one teaspoonful of salt and three tablespoonfuls of yeast. Make up with water like loaf bread. When risen, make in small round loaves the size of a tea plate, let them take a second to rise, and bake in a rather quick oven. Cut each in four triangular pieces, split, and butter while hot.

Lemon Fritters

THOROUGHLY blend together two ounces of finely shredded beef suet, one dessertspoonful of flour, three ounces of bread crumbs, the grated rind of a large lemon and two tablespoonfuls of caster sugar. Stir in two well-beaten eggs, one tablespoonful of milk and the same quantity of strained lemon juice. Put on the paste board, roll out to about an inch thick, divide into circles, drop into boiling fat, and fry until lightly browned on each side; drain, and serve on hot plates.

Perfect Waffles

ONE pint of sour cream or buttermilk, one half pint of sweet milk, two eggs, with yolks and whites beaten separately and very light, one large tablespoonful of melted butter, one saltspoonful of salt, and enough sifted flour to make a moderately stiff batter. Dissolve in the sour cream one half teaspoonful of soda. Mix in a deep bowl the flour and the sweet milk alternately until smooth, then add the beaten yolks of eggs, then the melted butter, and lastly stir in the well-beaten whites of eggs. In baking, fill the waffle irons only half full. These waffles are exquisitely light, and will rise in the irons to twice their size. The irons must be hot and well greased, the fire clear and strong.



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Pointers Worth While

TO MAKE baking tins smooth, scour them well with a piece of unprepared pumice stone, and wash well.

Gilt frames should never be rubbed with a cotton duster, as the roughness of the material will in time take off the gilding.

A sponge dropped in strong black coffee to which a few drops of ammonia have been added, is an excellent renovating agent for a soiled black coat. Dry by rubbing briskly with a clean woolen cloth.

To prepare a mustard plaster in haste, trim the crust from a thin slice of white bread, then sprinkle it thickly with ground mustard, spread a very thin cloth over the mustard, then dampen with vinegar or water.

It is sometimes rather a difficult matter to decide whether a boiled pudding is quite done or not. Watch the pudding cloth, and as soon as it begins to look wrinkled you may be quite sure that your pudding is ready to be removed from the pot.

An old-fashioned home-made furniture polish consists of one third spirits of turpentine and two thirds sweet oil. Apply with old flannel, and rub dry with another cloth. This removes all surface marks from polished furniture, and with repeated rubbings will give a high polish to unvarnished hard wood.

The hard work of washing comforts will be greatly lightened if the cotton be first covered with common mosquito netting, and lightly tacked, before covering with calico. When the calico becomes soiled, cut the tacks, remove the calico, and wash. Hang the cotton covered with the netting on a line in the sunshine to air, then return to covering, and tack as before.

Stains on silk caused by wax, resin, turpentine, pitch or other substance of a resinous nature can be removed by the application of pure alcohol. It frequently happens that when turpentine has been employed to remove a grease stain from silk, a stain nearly as objectionable as the original one remains. This is caused by the resin contained in the turpentine. The silk stains should first be moistened with a few drops of alcohol, and allowed to soak for a minute or two. Fresh alcohol should then be rubbed on lightly with a clean sponge. When the stain has vanished wipe perfectly dry and hang in the open air for several hours.



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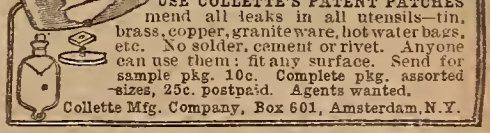
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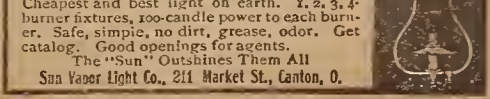
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Fashions That Are Practical

Smart Styles Designed Especially for the Home Dressmaker

By Grace Margaret Gould

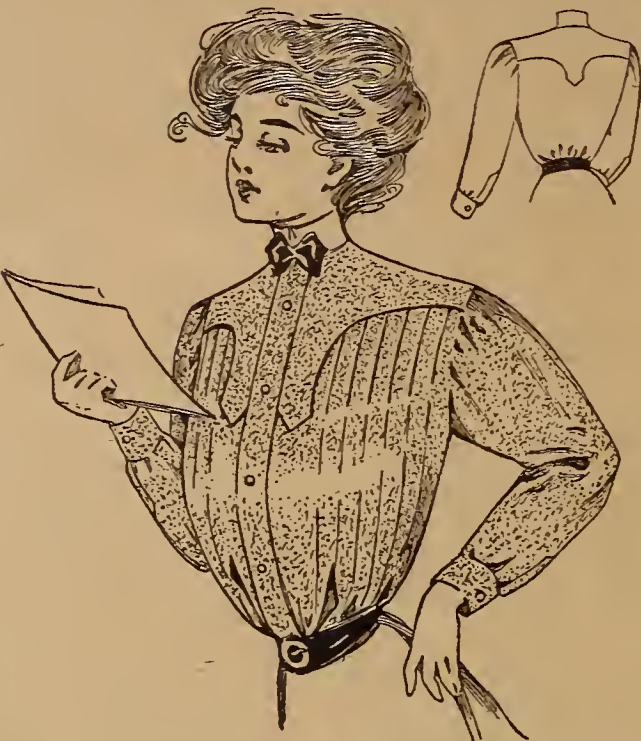


No. 1042—Semi-Fitted Coat, Seven-Eighths Length

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, seven and one half yards of thirty-six-inch material, or five and one half yards of fifty-four-inch material

No. 1047—Tucked Shirt Waist With Yoke

Pattern cut for 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one fourth yards of thirty-six-inch material or two and one half yards of forty-four-inch material.



No. 1047—Tucked Shirt Waist With Yoke

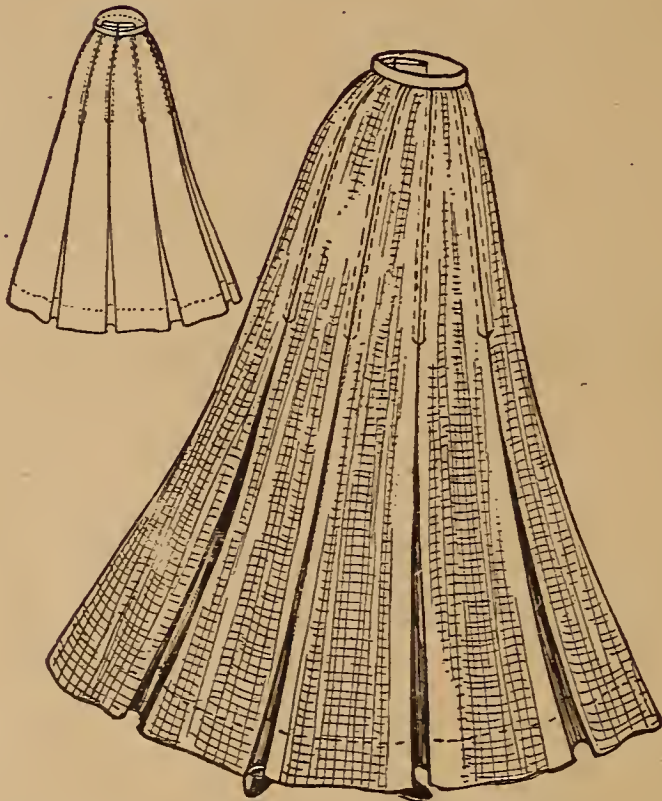


No. 1045—Shirt Waist in Broad-Shouldered Effect

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and three fourths yards of thirty-six-inch material, or two and one half yards of forty-four-inch material, with three eighths of a yard of velvet for collar and wrists

No. 1046—Plaited Skirt With Tucked Panels

Pattern cut for 22, 24, 26 and 28 inch waist measures. Length of skirt, 40 inches. Quantity of material required for medium size, or 26 inch waist, nine and one half yards of thirty-six-inch material, or seven and one half yards of forty-four-inch material



No. 1043—Nine-Gored Maternity Skirt

Pattern cut for 24, 26, 28, 30 and 32 inch waist measures. Length of skirt, 42 inches all around. Quantity of material required for medium size, or 28 inch waist, eight and three fourths yards of thirty-six-inch material, or six and three fourths yards of forty-four-inch material

The upper part of the skirt fits closely. Extensions added below the hip on the front and side gores are arranged in inverted plaits. The underlying plaits at the back are particularly deep. The belt is arranged on the top of the skirt before these plaits are put in. This makes it possible for the plaits to be let out gradually without taking the skirt off the band. Extra material is added above the regular waistline on the front and side gores, which may be let down.



No. 668—Rag Doll and Dress

Pattern cut in one size, for a doll 22 inches high. Quantity of material required for the doll, three fourths of a yard of thirty-six-inch material. Quantity of material required for shirt waist, five eighths of a yard of twenty-two-inch material. For the skirt, three eighths of a yard of thirty-six-inch material



No. 669—Girl Doll's Outfit

This outfit consists of dress, petticoat, chemise and drawers. Pattern cut in one size, for a doll 22 inches high. Quantity of material required for the dress, one and one fourth yards of twenty-seven-inch material. Quantity of material required for the underwear, one and one fourth yards of thirty-six-inch material



No. 1044—Skeleton Jumper Dress With Tucked Plaited Skirt

Pattern cut for 6, 8, 10 and 12 year sizes. Quantity of material required for medium size, or 8 years, five and three fourths yards of twenty-two-inch material, or four and one half yards of thirty-six-inch material, with two yards of contrasting material for guimpe



No. 1041—Norfolk Suit

Pattern cut for 6, 8 and 10 year sizes. Quantity of material required for medium size, or 8 years, three and one half yards of thirty-six-inch material, or two and three fourths yards of forty-four-inch material

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# Miss Gould's Dressmaking Lesson

## Describing Every Detail in the Making of a Nine-Gored Walking Skirt

THE fact that a skirt is a larger piece of work to handle than a waist is no real reason why the amateur dressmaker should look upon it as a more difficult garment to make. Indeed, it often happens that a skirt is very simple when the illustration would lead one to suppose that it was quite complicated. For the woman who does her own sewing and who wants a plaited skirt that is easy to make the pattern of the skirt shown on this page is especially recommended. The Nine-Gored Skirt With Side Plaits, No. 1030, may be ordered from the Pattern Department of FARM AND FIRESIDE, 11 East 24th Street, New York City. The price of the pattern is ten cents.

This skirt is cut in nine gores. It fits perfectly around the waist and hips and fastens at the back under two inverted plaits. Extensions added on the back edges of the front and side gores are arranged in backward-turning plaits which flare smartly at the lower edge.

The pattern pieces are all perforated with a letter and referred to on the pattern envelope by that letter. It is impossible, for this reason, to confuse the different pattern pieces; and the letters are especially useful in this pattern, because the side gores all look alike.

The pattern envelope contains six pieces. The front gore is lettered E, the first side gore M, the second side gore N, the third side gore L, the back gore H and the belt A.

Smooth the pieces of the pattern out carefully before placing them on the material. In cutting, lay the edges of the front gore and the belt marked by triple crosses on a lengthwise fold. Place the side gores and the back gores with the line of large round perforations in, each lengthwise of the goods.

One illustration shows the most economical way of placing the pattern pieces on material forty-four inches wide. This estimate is of course made for material in which the pieces must all be cut one way. If there is no nap or figure in the fabric the pattern pieces may be

reversed and fitted into each other, thereby saving quite a little material.

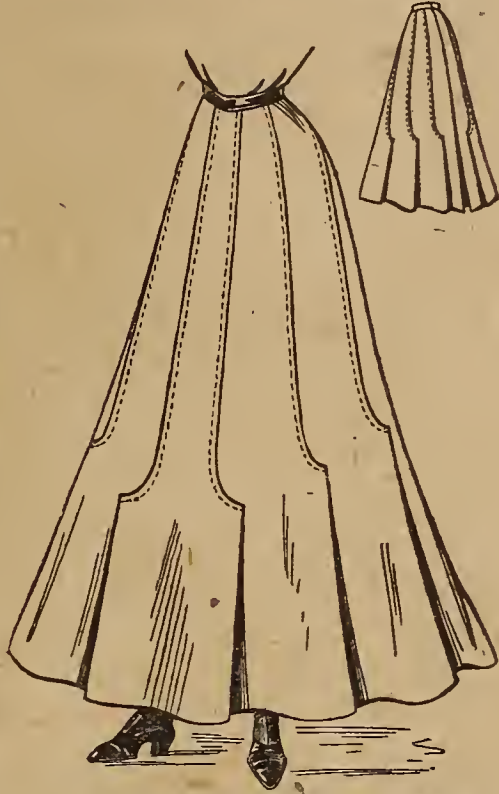
Mark every perforation and cut out each notch carefully before removing the pattern pieces from the material. Be sure to cut the slash on the back edge of the front and side gores, because these slashes will be very useful when the skirt is put together.

In making, join the pieces by corresponding notches. Pin the gores together, matching the notches in the upper part of the skirt, and baste down as far as the slash on each seam. Now match the notches in the lower part of the skirt, pin carefully, and baste from the slash down on each seam.

To form the side plaits, crease the gores on lines of triangle perforations. Bring the point of each plait to large round perforation on following gore. Baste the plaits firmly and press them flat. It is well to press the plaits in the skirt as soon as you form them and baste them flat, and leave the

basting in until the final pressing is done. Too much cannot be said about the pressing of skirts. It is because men tailors are so careful at this point that they usually excel dressmakers in giving their garments a good finish. Right here let me add that many fabrics are so soft that ordinary basting cotton will mark them when much pressing is done. Try pressing a small piece of the material, using basting cotton first. Then if the little piece marks, it is best to use silk in basting plaits flat. It seems rather extravagant at first, but large spools of slightly defective silk that could not be used for machine work may be purchased at small cost and used exclusively for basting on

Send all pattern orders to the Pattern Department, Farm and Fireside, 11 East 24th Street, New York City. In ordering, give number of pattern and bust and waist measures required. In ordering children's patterns, mention age. The price of each pattern is ten cents. Send four cents in stamps for our new winter catalogue.



No. 1030—Nine-Gored Skirt With Side Plaits  
Pattern cut for 22, 24, 26, 28 and 30 inch waist measures. Length of skirt, 39 inches. Quantity of material required for medium size, or 26 inch waist measure, five and one fourth yards of thirty-six-inch material, or four yards of forty-four-inch material

a braid will not be necessary. If, however, a skirt just clears the ground, it is well to finish it with a braid, because the edges of these skirts cut faster than the edges of the really long skirts.

Frequently women with large hips have small waists, and a pattern ordered by waist measure is too small around the hips. When ordering a skirt pattern it is a good idea to give the hip measure, too, when your waist is small. In fitting such a pattern and making it smaller at the waist, do not take off all the additional width at one seam. The pieces of this pattern are all perfectly proportioned and each of the seams should be taken in a little, in order to keep the gores a proper width at the waist.

Always take the measures for the skirt length and compare them with the pattern before cutting out your material. Measure from the belt to the floor back and front, also on each side, and deduct from this length the one, two or three inches you want the skirt to clear the ground. One side length is often a full inch longer than the other because the hip is more prominent. The material for this extra length must be added when the skirt is being cut out. All skirt patterns are cut for regular figures and any irregularities must have allowances made for them. It is not only the amateur dressmaker that makes mistakes in cutting skirts. Frequently a professional cutter will forget about the allowances, and the skirt cut out carelessly never hangs correctly. Special emphasis is placed upon the lengths in this skirt, because it is not made with the convenient hem that may be let down and taken up as occasion demands.

When any of the new striped materials are used for a skirt in this style the stripes may be manipulated in several very effective ways. The stripes in the front gore, second side gores and back gores may be vertical and those in the first and third side gores horizontal. Sometimes straight and bias gores alternate, and in other skirts the gores are all bias, the stripes being mitered at the seams.

Silk and velvet pipings are very attractive on the smart mixed chevots and worsteds. The most prominent color in the material is sometimes selected for the pipings, but often a very bright red or green silk is used, giving a sharp contrast to the dark blue, black or gray background. The color is usually repeated in the coat which accompanies the skirt.

fine fabrics. Never draw a long basting thread out of any plait or tuck. Cut the thread at every stitch, and draw out the short pieces one by one.

There are two ways of finishing the upper curved part of the plait. It may be slashed at the top (the slashes being very close together and three eighths of an inch deep) and turned in before it is stitched flat. Another and easier method is to finish the seams with braid, and bring the braid down, covering the raw edge of the plait. The braid may be looped in fancy shapes or finished with a large button at the point.

One illustration on this page shows how to slash the curved upper edge of the plait before turning it in.

Another illustration shows half the skirt after the plaits have been basted flat. In this picture the braid is applied as suggested in the lesson.

Finish a placket at the center back seam as far as the notch.

It is the poorly finished placket that often gives a "home-made" look to an otherwise perfect skirt. Do not slight the placket because it is hidden under the plaits.

Form an inverted plait at each side of the 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, but do not press them until you have tried on the skirt.

Sometimes the back plaits have to be adjusted to suit the individual figure, and it is not an easy matter to do this if the plaits have been pressed and the decided creases made in them.

Join the skirt to the belt as notched and fasten at the back.

The lower edge of this skirt should be faced.

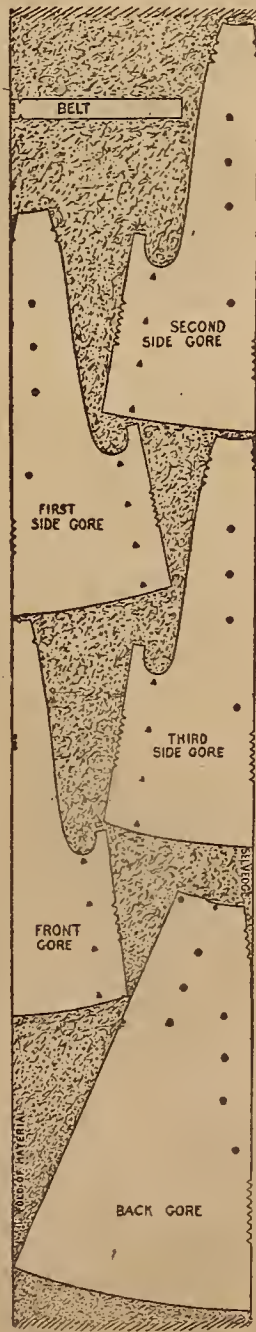
In the September 25, 1907, dressmaking lesson instructions were given on facing a skirt, and an illustration shows just how the facing and braid are applied to give the best finish to the lower edge of a skirt.

As this skirt is only thirty-nine inches

long (three inches from the ground), the ground, it is well to finish it with a braid, because the edges of these skirts cut faster than the edges of the really long skirts.



Showing One of the Plaits Creased, Just Before It is Basted Flat—Also How the Upper Edge of the Plait is Notched



This is the Most Economical Way of Placing the Pattern Pieces on Material Forty-Four Inches Wide

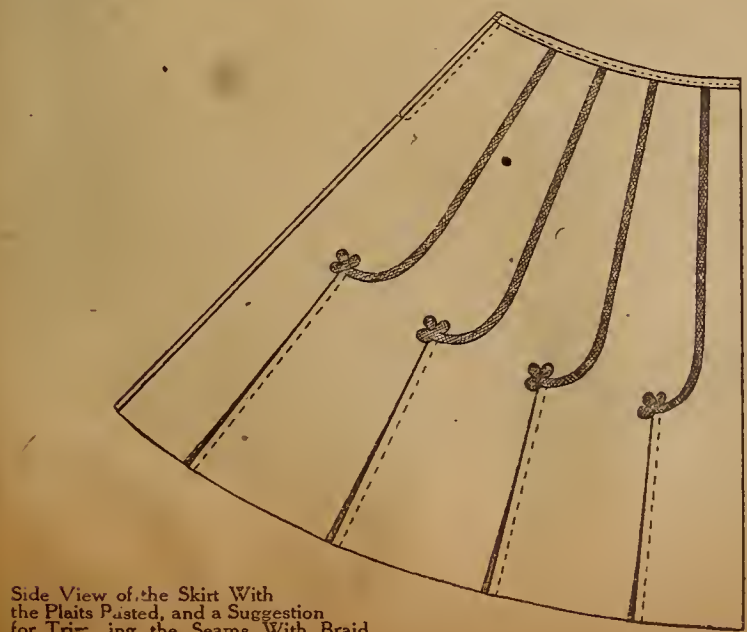
## Farm and Fireside HONOR ROLL

Every person whose name appears on this Honor Roll has not only already obtained a valuable prize by becoming an enrolled contestant in the Pony Contest, but is also entitled to an additional prize which he may choose himself, and has been made an active member of the FARM AND FIRESIDE Pony Club. You can get all these grand things, too, and get your name on the Honor Roll, where it will be seen by nearly three million people, if you will hustle a little. It doesn't take very many subscriptions—and think of all you get! It will put you right in line for a pony or a piano, too.

### You Can Do It in a Day

It is easy to get on the Honor Roll. Some boys and girls have done it in a day, and you can do it quickly, too, if you hustle and try.

- W. J. Garrard, Alabama.
- Louise Gayle, Alabama.
- Ronald D. Gibbons, California.
- Edna Hills, California.
- Serley Jennings, Connecticut.
- Robert Adams, Georgia.
- Alice Cortelyou, Illinois.
- Susie Cummings, Illinois.
- Maggie Hiles, Illinois.
- Addie Reichert, Illinois.
- Vera L. Wilcox, Illinois.
- Jane Hershman, Indiana.
- Eugene B. Postlewait, Indiana.
- Everette Yoste, Indiana.
- Bruce Bell, Iowa.
- Percy Dowling, Iowa.
- David H. Jones, Iowa.
- Clyde Sabyers, Iowa.
- Mabel Shadel, Iowa.
- Bernice Smith, Iowa.
- Ernest Davis, Kansas.
- Clara Dawd, Kansas.
- Addie V. Greene, Kansas.
- Elsie Hoskinson, Kansas.
- Mrs. Abe Smith, Kansas.
- Willard S. Van Scoyoc, Kansas.
- Clay E. Brinegar, Kentucky.
- Mary King Brown, Kentucky.
- Eugenia Y. Stone, Kentucky.
- John T. Lassiter, Louisiana.
- Edward F. Alden, Massachusetts.
- Eva M. Brown, Massachusetts.
- Ynte P. Haringa, Massachusetts.
- Archie Cramer, Michigan.
- Mrs. Hallie Oldacres, Michigan.
- Frank W. Warde, Minnesota.
- Vera Young, Minnesota.
- Minnie Moore, Missouri.
- Charley Mays, Nebraska.
- Laura Smith, Nebraska.
- Master Earl Trout, New Jersey.
- Glen J. Easton, New York.
- Jerry Hart, New York.
- Howard Laidlaw, New York.
- Corina Maricle, New York.
- Norman Onderdonk, New York.
- Oliver J. Simpson, New York.
- Belle Fairbanks, Vermont.
- Berley Petty, Vermont.
- Chester L. Sinclair, Vermont.
- Maurice A. Speir, Vermont.
- M. J. Copps, Virginia.
- Nellie Meythaler, Wisconsin.
- Marvin Smith, Wisconsin.
- Uwa Vandermark, Pennsylvania.
- Carl Kittle, Indiana.
- Clifford R. Grierson, Illinois.
- Lillie M. Smith, Ohio.
- Helen V. Siegfried, Ohio.
- Lea Bittinger, Ohio.
- E. Locker, Missouri.
- L. G. Baker, Ohio.
- Roy Bates, Ohio.
- Leona Collins, Ohio.
- Chester M. Cowen, Ohio.
- Ursel Crotinger, Ohio.
- Mrs. C. A. Cunningham, Ohio.
- Ethel Gregg, Ohio.
- Frank Durbin, Ohio.
- Clara Ely, Ohio.
- Gertrude Fultz, Ohio.
- Jewell Harrington, Ohio.
- Grace Hartman, Ohio.
- Walter E. Lucas, Ohio.
- Arthur B. McClure, Ohio.
- Paul Mathews, Ohio.
- N. Meriweather, Ohio.
- Wilmina Morris, Ohio.
- Muriel Murphy, Ohio.
- Herman Mustaine, Ohio.
- Lee Pierce, Ohio.
- Rowena Riley, Ohio.
- Wealthy A. Simison, Ohio.
- Benson Skillen, Ohio.
- Gladys Thompson, Ohio.
- Raymond White, Ohio.
- Willie Boyd, Oklahoma.
- Hanna Coulston, Pennsylvania.
- Victor Guiser, Pennsylvania.
- Mrs. Lawrence E. Lohr, Pennsylvania.
- Chas. M. Mark, Pennsylvania.
- Samuel Moyer, Pennsylvania.
- Jay F. Proof, Pennsylvania.
- Arley Rudolph, Pennsylvania.
- M. J. Stone, Pennsylvania.
- J. G. Bruce, South Carolina.
- Frank D. Wright, South Carolina.
- Mrs. Anna Yarbrow, Texas.



Side View of the Skirt With the Plaits Pasted, and a Suggestion for Finishing the Seams With Braid



## Famous Inns of Our Forebears---By J. L. Harbour

THERE was no more popular man of the bygone days in New England than "mine host of the inn." Nor was there any cheerier, any more comfortable place than some of the old inns, or "taverns," with their great open fireplaces and their general air of homely comfort. It is a far cry from the early inns of New England to the garish and gorgeous hotels of the present time, and one is not sure that some of the changes have been for the better. We are glad enough to exchange the lumbering old stage coach for the palace car, and all of our methods of travel are surely better than they were before the days of the railroads and "floating palaces" of our rivers and oceans, but we seem to have sacrificed real comfort to display in some of our modern hostelries.

The inn for the entertainment of guests was built about as soon as the church in some of our first New England towns, and the comfortable entertainment of guests was regarded as a duty. Surely any one traveling all day in a stage coach stood in need of a place of rest and comfort at the end of the journey. It was not so bad on a fine day if one could secure a coveted outside seat, but to be shut up all day in a rocking, swaying, jolting stage coach often produced as violent illness as any rolling and plunging vessel in a choppy or swelling sea. And one could not retire in privacy and misery in the stage coach, as it is possible to do on a boat, but must perforce expose one's wretchedness to all of the other passengers. The stage coach is something we can well afford to allow to pass into oblivion.

The hue and cry in regard to early closing and the general regulation of the sale of liquor in our hotels suggests the fact that this is a very ancient issue in connection with the conduct of hostelries, and that the hotel bar has always been a matter of more or less controversy. Away back in the year 1656 the General Court of Massachusetts took measures to regulate the sale of drinks in taverns and inns, or "ordinaries," as they were sometimes called. The General Court also made it imperative for towns to provide an inn, or ordinary, for the entertainment of wayfarers, and "Entertainment for Man and Beast" was one of the early signs in our country. Some of these old taverns are still standing, and the fires still blaze on the great hearths. This is true of the old Wright's Tavern at Concord, where there is the very fireplace in which whole lengths of cord wood can be burned, and some of the rooms are just as they were before the days of the Revolution.

Mrs. Alice Morse Earle, who has made a most exhaustive study of the old tavern and its history, tells us that "the early taverns were not opened wholly for the convenience of travelers; that they were for the comfort of the townspeople, for the interchange of news and opinions, the sale of solacing liquors, and the incidental sociability; in fact, the importance of the tavern to its local neighbors was far greater than to travelers. There were many restrictions upon the entertainment of unknown strangers. The landlord had to give the names of all such strangers to the selectmen, who could, if they deemed them detrimental or likely to become a charge upon the community, warn them out of the town. The old town records are full of such warnings, some of them most amusing. Nor could the landlord knowingly harbor in the house, barn or stable any rogues, vagabonds, thieves, sturdy beggars, masterless men or women."

The sale of "solacing liquors" and the "incidental sociability" then, as now, added immensely to the popularity and the success of the tavern, and the amount of "solacing liquors" consumed by some of our forebears seems to suggest that they must have been like the small boy who said that he was "hollow clear into the ground." Some of these "solacing liquors" were fearful and wonderful concoctions, and they had the trouble-producing quality that much of our modern liquor has. Then, as now, there were attempts to prohibit the sale of drinks in the hotels, and at one time proprietors were forbidden to sell "sack or strong waters," and later the sale of "strong waters" was regulated by law to such a fine point that it was not allowable to charge more than a penny for a whole quart of beer "out of meal time."

The hour at which all lights should go out in the inns was also regulated by law, and Boston early had night watchmen to see that the law was obeyed. We are told in the ancient records something about the duties of these night watchmen: "If they see lights, to inquire if there be warrantable cause; and if they hear any noise or disorder, wisely to demand the

reason; if they are dancing or singing vainly, to admonish them to cease; if they do not discontinue after moderate admonition, then the constable is to take their names and acquaint the authorities therewith. If they find young men and maidens not of known fidelity walking after ten o'clock, modestly to demand the cause, and if they appear ill-minded, to watch them narrowly, command them to go to their lodgings, and if they refuse, to secure them until morning."

In the year 1663 young fellows and their "Marmaleet Madams," or sweethearts, had to hie them home as early as nine o'clock, and there was no strolling around on the Common after that hour. The night watch, or "cop," of our day who would undertake to clear the Common of "Marmaleet Madams" and their sweethearts at nine in the evening would certainly have a busy time of it.

That the "fire water" loving red men visited the early taverns for the purpose of regaling themselves with "solacing liquors" is evidenced by the fact that early in the history of our country laws were made in regard to innkeepers selling liquors to the "devilish bloody salvages," who, no doubt, were made still more "devilish" and "bloody" once they were "in liquor."

Earnest effort was made to prevent drunkenness by the too free sale of drinks at the taverns, and we find that in the year 1633 a man named Robert Wright was fined twenty shillings and was compelled to sit an hour in the stocks for being "twice distempered in drink." Robert Coes also had to

pay a penalty for having too much of a "jag" on, for there are records to prove that he had to pay ten shillings and stand in a public place with a sheet of paper on his back bearing the word "Drunkard" for "abusing himself shamefully with drink." This had little effect on the tippling Robert, for later he was compelled to wear for a whole year a letter D (signifying "Drunkard"), made of red cloth set on white. This brand of the sot he was compelled to keep in plain sight.

Tobacco was regarded as being quite as iniquitous as drink, and the keeper of the early inns was hedged about with all sorts of restrictions in regard to the sale of it. Indeed, he was not allowed to sell it at all for a time, and an attempt was made to stop the cultivation of "the creature called Tobacco." It was forbidden for two men to be seen smoking together, and no one could smoke within two miles of a meeting house on the Lord's day. Smoking was absolutely forbidden on the streets of Boston, and Connecticut was felt to be making a somewhat dangerous concession when she graciously decreed that a man might smoke once during a journey of ten miles. But both tobacco and drink were used commonly in spite of the laws, and if the people of our day complain that in some localities there

are two or three saloons in a single block, they should bear in mind that we have an ancient precedent for this state of affairs, for away back in the year 1675 Cotton Mather declared that every other house in Boston was an ale house. The prices charged for entertainment

were far below those charged in the taverns in our day, and the keepers of some of the ordinaries were compelled by law to entertain some of the penniless free of charge. And one may be sure that there was no such thing as ordering "rooms with bath;" and if the tavern chanced to be crowded, one was fortunate in securing a bed without some total stranger for a bed fellow.

There was much good cheer at most of the taverns, and the landlord seemed to have been always a "good fellow" and a jolly if we are to take him as he is portrayed in most of the records and tales of long ago. We are told of George Monk, "mine host" of the Blue Anchor Inn of Boston, that he was "a person so remarkable, that had I not been acquainted with him, it would have been a hard matter to make any New England man believe I had been in Boston; or there was no one house in all the town more noted or where a man might meet with better accommodation. Besides, he was a brisk and jolly man, whose conversation was coveted by all his guests as the life and spirit of the company."

An English gentleman visiting our country wrote of our taverns on his return home: "You will not go into one without meeting neatness, dignity and decency. The table is served by a maiden well dressed and pretty; by a pleasant mother whose age has not effaced the agreeableness of her features, and by men who have that air of respectability which is inspired by the idea of equality, and not ignoble and base, like the greater part of our own tavern keepers."

This was in the year 1788 when the tavern was no doubt a good deal of an improvement over the tavern of an earlier period. John Adams has given us this agreeable description of the keeper of the inn at old Ipswich:

"Landlord and landlady are some of the grandest people alive. Landlady is the great-granddaughter of Governor Endicott, and has all the notions of high family that you find in the Winslows, Hutchinsons, Quincys, Chandlers, Otises, Saltonstalls, and as you might find with more propriety in the Winthrop. As to landlord, he is as happy and as big, as proud, as conceited, as any nobleman in England, always calm and good-natured and lazy, but the contemplation of his farms and his sons, his house and pasture and cows, his sound judgment as he thinks, and his great holiness, as well as that of his wife, keep him as erect in his thoughts as a noble or a prince."

As to the fare in the taverns of the olden days, it is certain that it was abundant and good, if it was less varied in quantity, than in the great hotels of the present day. An Englishman who spent some time in our country just one hundred years ago wrote as follows of the tavern at which he "stopped" in Albany: "At the better sort of American taverns very excellent dinners are provided, consisting of almost everything in season. The hour is from two to three o'clock, and there are three meals in the day. They breakfast at eight o'clock upon rump steaks, fish, eggs and a variety of cakes, with tea or coffee. The last meal is at seven in the evening, and consists of as substantial fare as the breakfast, with the additions of cold ham, fowl, etc. The price of boarding at these houses is from a dollar and a half to two dollars a day. Brandy, Holland and other spirits are allowed at a price, but every other liquor is paid for extra."

As is the case to-day, certain taverns were noted for the excellence of certain dishes. Perhaps one could find better pando-dowdy at the old Duxbury Tavern than elsewhere, while the old Cooper's Tavern out in Arlington may have excelled in planked shad, and the Wayside Inn's sack passet may have been a better beverage than could be found in other inns. It is certain that there were pies galore in every tavern, for New England has ever been the great "pie belt" of the land, and the pie is cut good and wide here.

Every tavern has its sign board, and there was often much ingenuity in inventing names for the many hostelries. The following ancient rhyme will give some idea of the different and curious names given to the taverns:

I'm amazed at the signs,  
As I pass through the town,  
To see the odd mixture;  
A Magpie and Crown,  
The Whale and the Crow,  
The Razor and Hen,  
The Leg and Seven Stars,  
The Axe and the Bottle,  
The Sun and the Lute,  
The Eagle and Child,  
The Shovel and Boot.

Doggerel rhymes were common on the old tavern sign boards, and the name of



THE RUSSELL TAVERN



OLD DUXBURY TAVERN



THE WAYSIDE INN



WRIGHT TAVERN, CONCORD



COOPER TAVERN, ARLINGTON



BLACK HORSE TAVERN



LAFAYETTE ROOM



SHAWSHEEN TAVERN, BEDFORD



OLD STAGE TAVERN, BROOKLINE



the keeper of the inn was often worked into rhyme in the following manner:

Of the waters of Lebanon  
Good cheer, good chocolate, and tea,  
With kind entertainment  
By John Kennedy.

A Philadelphia tavern keeper had on his sign board this alluring quatrain:

I William McDermott lives here;  
I sells good porter, ale and beer;  
I've made my sign a little wider  
To let you know I sells good cider.

The old Wayside Inn in Sudbury is as fine a specimen as we have of the tavern of our forebears, and no other tavern has been given such lasting fame as Longfellow has given the Wayside in his famous "tales" suggested by his visits to the inn. The real name of this tavern was the Red Horse, and not far distant was another tavern, called the White Horse. The Red Horse was built about the year 1636, and from the year 1714 until one hundred and fifty years later it was kept by generation after generation of the Howes, the old sign board recording the fact that one D. Howe kept it from the year 1686 to the year 1746, and another Howe kept it from 1746 to 1786.

The word "hospitality" had a truer meaning then than it has in our day. One may see in this tavern the state room in which Washington and Lafayette are said to have spent the night, and on one of the window panes is this rhyme, written with a diamond that young William Molineux wrote when he was at the tavern in the year 1774:

What do you think,  
Here is good drink;  
Perhaps you may not know it;  
If not in haste,  
Do stop and taste,  
You merry folks will show it.  
William Molineux, Jr., Esq.  
24th June, 1774, Boston.

These ancient hostelries of the "good old days" are among the most interesting of our American landmarks, and many and strange are the tales to be told of some of them. Some of these tales have been told in song and story, and some are forever lost in the unwritten records of the past.

### The Impostor

[CONTINUED FROM PAGE 15]

looked on in amazement; the dog's fondness for the King had heretofore been most pronounced. The first line of the guards, which had come to a halt, now received the word of command, "Forward," and the King laughingly waved his hand, as if to let the incident pass. But the dog had yet to be reckoned with.

In mad haste and with fierce yelps he dashed up and down the line of soldiers, in a seeming endeavor to turn them; then, realizing the futility of that, he gave up and broke away, dashing furiously toward the royal carriage, where he leaped high in the air, in an impossible attempt to scale its sides.

The incident was creating quite a sensation.

"Remove the dog!" ordered the King quietly to some attendants. "The beast is going mad."

The edict was more easily issued than executed, but at length the half-crazy canine was dragged away, snarling and biting at all who attempted it, and the troops passed on.

"Most odd," commented the Duke, eyeing the King closely.

"Dogs," said Amos, looking his "cousin" straight in the eyes, "often take violent likes and dislikes. That beast is very close to being mad. I have seen a mad dog before now once or twice. Perhaps you have, too, mon cousin."

The Duke was looking hard at the King, too, now.

"That dog is not mad," he said deliberately, and his swarthy face flushed heavily as he said the words.

"That I shall ascertain later," replied the King coolly, as he turned and began to speak to his consort.

During this episode the Queen's face had expressed the deepest concern. Once or twice she had tried to catch her lord's eye, but Amos was too busily occupied in his endeavors to pacify the dog to heed them. Now that she had his attention, she spoke a few words in an undertone, at which the King burst out laughing heartily, and Her Majesty joined, but with a face which belied her merriment.

The review moved on, the troops cheering the King enthusiastically as they marched past, but a gloom had settled over the royal party, which neither the forced gaiety of the Queen nor the efforts of the courtiers could remove. The King sat reserved and sober, acknowledging the salutes, and all the time Duke Rudolf of Roumania was watching him out of the corners of his eyes.

[CONTINUED NEXT ISSUE]

Words by  
Marie Millard

## With Roses

Music by  
Louis F. Gottschalk

bring red ros - es the sym - bol of  
true love, Their fra-grance sweet - er than all else a - bove: . Close to your bos - om  
hold them, sweet-heart, While vows of love they to you im - part. Parched is my heart with-out  
one word from you, dear, Turn not a - way from me, trust me, don't fear; As are these ros - es  
grate-ful to the dew, So would my heart, So would my heart, So would my heart be with  
one glance from you! Ah, . . . . . Ros - es for you, for you!



Little Boy Blue

BY HILDA RICHMOND

AT CHRISTMAS some one gave Richard a red horn, of which he was very proud. There was also a pretty blue soldier suit on the tree for the little boy, so when he put on the blue clothes and went about tooting on the horn everybody called him Little Boy Blue.

"Why do they say that?" he asked his mama.

"Don't you remember about Boy Blue in the story book?" asked his mama.

"The little boy who found the sheep in the corn?" cried Richard. "No, he didn't find them, either. He was under the hay cock fast asleep when he should have been watching. I wouldn't do that. If I ever see cows in the corn field, or sheep, either, I'll run and chase them out."

"I hope my little boy will always do all his tasks well," said his mama. "Perhaps Little Boy Blue was very tired when he went to sleep instead of minding the sheep."

Everybody grew very tired of the horn but Boy Blue, who loved to toot it all the time. One day his little cousin Hugh came to visit him, and when he went home he wanted to take the horn home with him for a little while. Now, Hugh was lame, and Richard didn't like to refuse him anything, but he did not like to see the precious horn go away from his home.

"Course you may take it," he said politely to Hugh, but when he was alone a few big tears would creep down his cheeks.

The very next day, as Richard was playing in the yard, what did he see but tiny tongues of flame lapping around the kitchen chimney. His papa and mama had gone to see a sick neighbor and he was alone at home. "If I only had my horn," he screamed, looking at the fire that might eat up his nice home, "I'd soon call folks here!"

Right near his head dangled the rope to the dinner bell, which his mama used to call the men in from the fields. Boy Blue took an old box and put it where he could climb up and reach the rope, and then he pulled with all his might. The little box swayed and rocked, but he held on to the rope and pulled as hard as he could.

Clang! Clang! Ding! Dong! People rushed to their doors to see why Mrs. Spencer was ringing her dinner bell in such a crazy fashion. Then they saw the smoke, and ran as fast as they could to put out the fire.

"Well, Boy Blue, you saved the house," said a man with very dirty hands and a black face, when it was all over, and there was nothing to show where the fire had been but a hole in the kitchen roof and a lot of water spilled everywhere. "I think you are a pretty good boy."

"I was sorry not to have my horn, mama, but I guess the big bell was better," said Richard. "Anyway, I wasn't asleep, was I?" "No, indeed," said his mama. "Little Boy Blue was a soldier that time."

Peter and the Green Man

BY FREDERICK M. SMITH

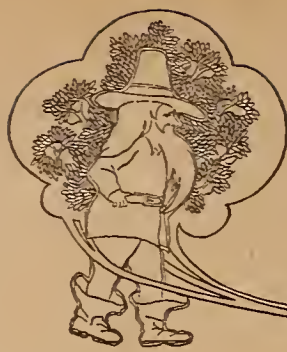
PETER sat looking out of the window wondering what he should do without a Christmas tree, for his mother had said that there was little chance of Saint Nicholas coming that year, and what was the use of having a tree when there was nothing to put on it. They lived in the great Thuringian forest, near the high little village of Igelshieb. Peter's father was dead and the grandmother was ill, so that the mother had to earn bread for all, though Peter helped. In summer he hunted balsam roots like the other village folks.

And now here it was the day before Christmas, and Peter had been told that instead of thinking of a Christmas tree he must be thankful if there was enough black bread to go around. He was thankful, but he could not help wishing for a tree. He looked at the old grandmother huddled by the fireside. Hilda, the baby, was playing on the floor, and his mother was making a bundle of balsam roots. This she gave to Peter. "You are to take these to the village and give them to the doctor in exchange for medicine," said she; "and be sure you hurry back, for there will be a snowfall by night."

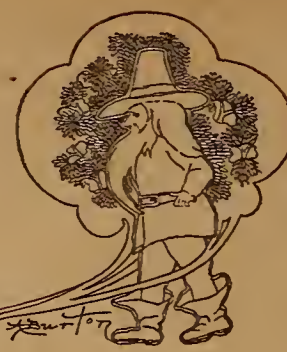
Peter took his wooden shoes from the oven, where they had been warming, and as he put his blue-stockinged feet into them the good warm wood made him smile. Then he clumped out into the road, and stood for a moment looking up at the great black fir trees all laden with twinkling snow crystals; and back into the forest he looked where the snow carpet lay white and the tree trunks cast blue weird shadows. He never ceased to regard the forest with awe and wonder, for the foxes ran in it and the wild deer hid in its depths; above all, did not his grandmother tell of the queer little Green Men who lived in the ground, and who sometimes appeared to children?

The cold suddenly brought him back to himself. He blew into his fingers, and off he went up the road to the village.

The snow was well trodden. Just as he got to the place where the road goes past the big rocks and the ever-running spring he heard somebody call "Peter!" He stopped and looked around, but never a soul did he see in all the forest. Yet he was sure he had heard a voice, a thin, small voice, and the thought that there was some one near who could see him, but whom he could not see, set his heart a-thumping with fear, so he started off again, and if he had walked fast before you can imagine that he made good time now.



For the Young People  
With Best Wishes for a Merry Christmas  
and a Happy New Year



"Hi! Peter!" said the voice again; and this time he saw on the hillside above him a little man beckoning. Near by were two other little men trying to drag a tree. It was a small tree, but it was too big for the little men, who were no higher than Peter's knee. All these men were old and were clothed in green.

As Peter looked at them his eyes opened very wide and his fear left him, so that when they all beckoned again he floundered toward them through the snow.

"Peter," said the spokesman, "just help us with this tree, will you? It's a Christmas tree, and we can't get it home."

Now Peter was a wise lad for his years,

"You push," said the Green Man, "and we'll pull. Now!"

With the three pulling and Peter pushing they managed to get the tree into the ground, though when he stopped to think of it, it was funny that so big a tree should go into so small a hole.

Peter was puffing and his shoes were full of snow, but he sat down to empty them, and looked ruefully at the place where the Green Men had disappeared. Suddenly one of them popped out of the hole. "It's all right," said he; "we are now able to manage. Thank you for helping us, and a Merry Christmas to you."

Peter laughed. "That is as may be,"



CHRISTMAS AT GRANDMA'S

and he had not listened to his grandmother's tales for nothing. He knew that these were the wonderful Green Men and that it paid to be polite to them. But being a German he was cautious. "Where do you live?" asked he.

"At the bottom of the spring," said the Green Man; "but the way to get there is through this hole at the foot of the old fir."

"Well," said Peter, "if one has the luck to have a Christmas tree it's a pity that one shouldn't get it home, so I'll help."

said he; "but with the grandmother ill and no money in the house there is little chance for merriment."

"Cheer up," said the Green Man; "and here is a groschen for you. Now we shall see what you will make of it. Adieu."

The Green Man walked back into the hole, and Peter was left alone in the quiet forest; it seemed stiller than ever now. He looked hard at the groschen in his hand. He had heard about groschens that came from the Green Men, though he had never



ALBERT LEVING

"Peter," said the spokesman, "just help us with this tree, will you?"

known anybody who had one. They were said to be very lucky, and if a man got one he was made for life, for as often as he spent it he found another in his pocket, provided that he had spent the last for some good thing.

The more Peter thought, the more he believed that he had just such a groschen, and with his fingers tight around it he again set off for the village. He knew very well what he would buy first. At Herr Keibel's store was a humming top that he had long coveted.

As soon as he could he did his errand at the doctor's and then turned his steps toward the store. Sure enough, there in the window lay the top, but there by its side was a Japanese doll with slanting eyes and a queer, long gown. It, like the top, cost a groschen. Peter knew that Hilda, the baby, wanted a doll. He stood on one leg and then he stood on the other. He looked at the doll and then he looked at the top. He was in two minds what to do, for he knew that his groschen might be the wonderful sort he had heard about. Should he buy the doll and risk finding another piece of money for the top, or should he buy the top and leave the doll to chance? Finally he said to himself, "If I buy the doll and do not find another groschen I shall have to go without the top; but I should be ashamed to buy the top and then have nothing to give to Hilda, for have I not been told that at Christmas one must give to others and not think of himself? So he made a dash for the steps, and when he came out Herr Keibel had the groschen and Peter had the doll.

Every one knows that this was the right thing to do; Peter knew it, too, but when he had gone a little distance he stopped and very softly felt in his pocket. Now you think, of course, that he found another groschen immediately. Not a bit. And if you are disappointed I am afraid Peter was, too, for though he examined all his pockets he found nothing. Every now and then on the way home he tried a new search, and just before he went into the house he took off his jacket and shook it, but not a glimmer of money did he see.

"Well," said he, "it is plain that the groschen was not so lucky as I thought; but anyway I'm glad I got the doll for Hilda." And with his best foot foremost into the house he went.

The room to Peter was strangely light. The mother was bustling about, and Hilda sat on the floor with a big doll in her arms, while there in the chimney-corner was a great tree; candles glowed on its boughs, silver threads glittered in the candle light, and tiny balls of green and red and gold glistened among the leaves. There was a heap of nuts and cakes and apples at the bottom, and upon the heap was a humming top. Peter opened his eyes, I can tell you.

"Did you meet the man?" said his mother. "What man?"

"Why, the Forester from the castle," said she; "he drove up but a little while ago and brought in these. I was for telling him that he had made a mistake, but he said, 'This is where Peter Shuman lives, isn't it?' Then this is the place to leave the tree," and he went off. But you must have met him, for he has just gone."

Then Peter laughed, for he knew a thing or two himself. "It was not the King's Forester," said he, "but the Green Man who lives at the bottom of the spring by the big fir." Then he told his tale.

"Tis true, 'tis true," said the grandmother; "it was the Green Man."

"Pooh!" said the mother, "it was the Forester from the castle, and it was the Princess who sent the things; and as for the Green Man, you must have dreamed it."

"That is as it may be," said Peter; "but here is the doll that I bought with the groschen given me by the Green Man, and a lucky groschen it was, too."

Well, his mother could make no answer to that. And, besides, everybody knows that the old grandmother was right, and that the little people still live in Thuringia in the great dark forests and show themselves now and again to boys and girls who are unselfish.

Stories from Our Boys and Girls

WE ARE anxious that our boys and girls shall have the greatest interest possible in the special department published for them in FARM AND FIRESIDE, and in order, also, to encourage them to literary efforts, we shall, each issue, devote at least one column of the department to short stories that our young friends may prepare.

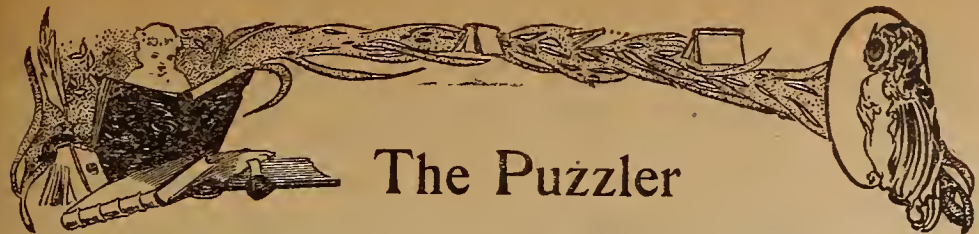
These articles should not be of more than two hundred words at the most, and should be written plainly in ink on one side of the paper. We shall not pay for these articles, and should you desire stories returned, in case we are not able to use them, a stamped and addressed envelope should be enclosed for the purpose. Communications are not invited from persons who are more than sixteen years of age. Write plainly your name, post-office address and your age.

We shall not, of course, be able to publish all the little sketches we shall likely receive, but will endeavor to use those that will best please our young readers.

Perhaps there is some historic old place near your home that holds a story never published, some generally interesting tale that papa, mama, grandpa or grandma has told you. These and hundreds of other similar subjects may be discussed by you. Be truthful in your statement of facts, use your own language, and be brief.

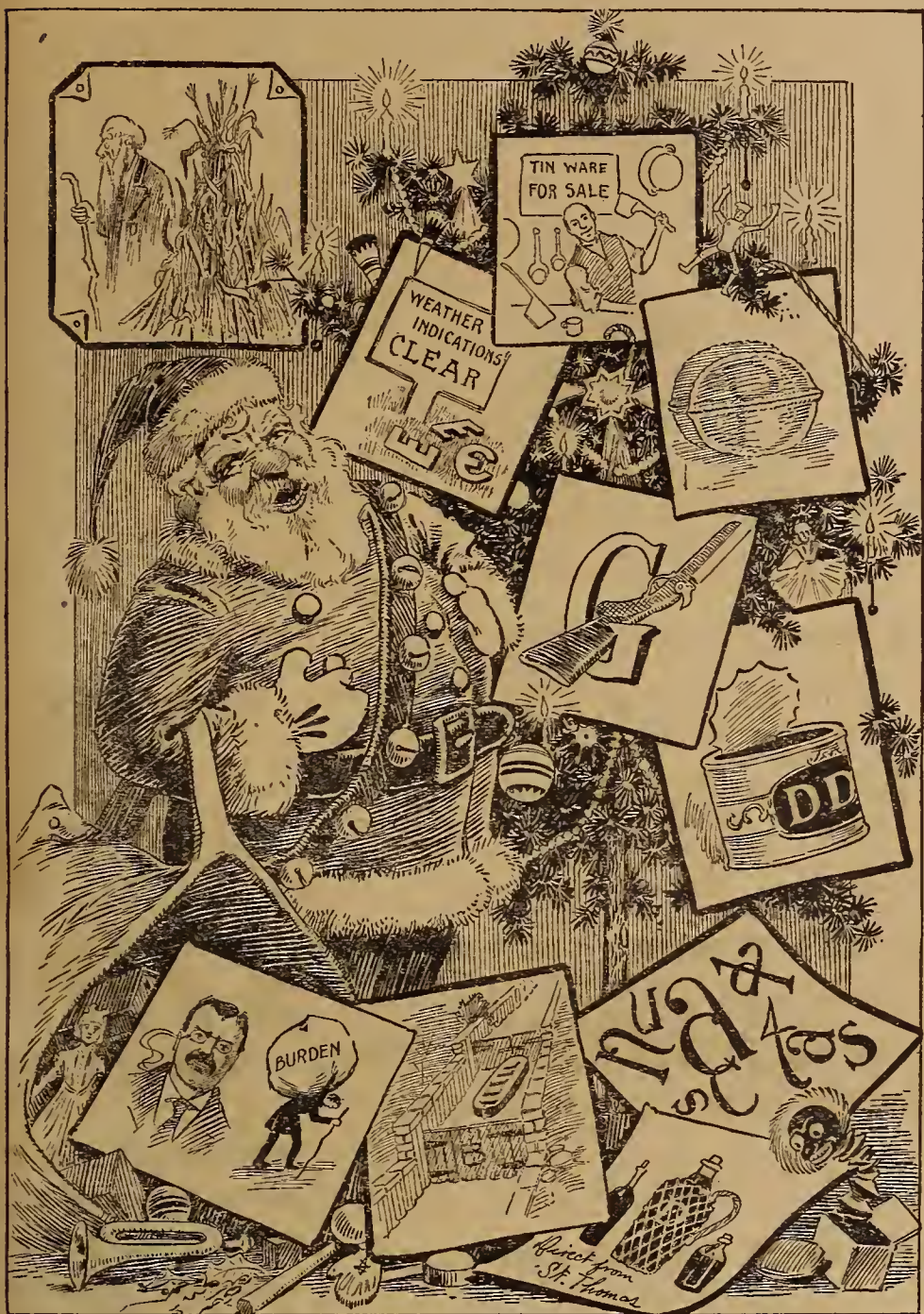
Address Editor Young People's Department, FARM AND FIRESIDE, Springfield, Ohio.





### The Puzzler

The Ten Small Sketches Shown on the Drawing Below Represent as Many Different Things That Are Likely to be Seen on or About the Average Christmas Tree This Year



Answers to Puzzles in the December 10th Issue: Riddle—The Whale. Central Acrostic—Geranium, the words represented being egg, pen, ark, fan, ink, pig, bug, imp.

### The Little Boy That Lives Across the Way

BY ALONZO RICE

Along the cities of the plain the darkness settled down,  
And early night began to weave her fair and shining crown;  
But one of all that starry host was brighter than the rest,  
And shone with splendid beauty that the fainter ones confessed.  
The Wise Men of the East beheld, and followed it afar,  
Till over peaceful Bethlehem stood still that wondrous star,  
That shone within the dome above to guide them where He lay,  
Whose kindly love still reaches us through ages far away;  
And so this eve, by faith, I see that fair and shining light,  
The dearest in the coronal upon the brow of night!

Across the sweetly sleeping hills and down the quiet glen  
I hear the message now of "Peace on earth, good will to men,"  
And through the song the starry choir is singing soft and clear,  
Is drifting up the chime of bells on Santa Claus' deer;  
For all the world is hushed to rest and wrapped in slumber deep,  
And on the child's expectant eyes has dropped the down of sleep,  
And only in the land of dreams he hears the merry sound  
That tells him surely Santa Claus is on his yearly round.

But hanging from the mantel, where the fading embers glow,  
Is seen a pair of tiny socks, well darned at heel and toe;  
A note for Santa Claus is there upon the mantel shelf,  
Unseen by any other but a poet like myself!

"Please bring to me the things that now I ask you for, and say,  
Do not forget the little boy that lives across the way!"

I want a sorrel hobby horse with mane and tail  
And a whip to make him go

I want a monkey on a string to slide like it was greased,  
I want a sweet canary that will sing when it is squeezed;  
I want a top—the humming kind—that plays a tune or two,  
'America,' 'Kentucky Home,' or 'Sweet Marie,' will do;  
And when you bring my presents 'round on Christmas Eve, I pray,  
Do not forget the little boy that lives across the way.

"So harness up your reindeer and your furry cap now don,  
And I shall close my letter,  
From Your Great Admirer,  
JOHN.

P.S.—I've changed my mind about the horse; please send an iron gray,  
And don't forget the little boy that lives across the way."

There are no times like those of old, some one has said or sung,  
And so my fancy wanders to the days when I was young;  
For life was bright as sparkling wine when beaded bubbles rise,  
The blossoms then were in the grass, the blue was in the skies;  
And now my prayer to-night is this, that he may never know  
But pleasant dreams that fill his mind where nodding poppies blow!

I know in very truthfulness it would not do at all  
To let him know his Santa Claus was even six feet tall,  
A gruff old bachelor to boot, and plodding hereabout,  
So I must walk upon tiptoe or he will find me out!

His wishes all are laws to me; his dictates I'll obey,  
And not forget his little friend that lives across the way;  
The horse is here, the singing top, the monkey, bird and all;  
I fancy I can hear his voice resounding in the hall.  
He will be happy when he wakes; for me, can skies be dim,  
To think I am his patron saint, beloved—unknown to him!

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Copyright, 1904, by de Brunoff. Jacob and Rachael at the Well

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# The Grange

BY MRS. MARY E. LEE

## THE TAXATION OF REAL ESTATE AND REAL-ESTATE IMPROVEMENT

WITH the development of the country, land values have increased until land is the attractive target for tax gatherers, the burdens of society having shifted in a large degree to the owners of land. In determining the amount of taxes upon a given parcel of land there are two main considerations: First, its natural resources—productivity, forests, mines, oil and gas. Second, the degree in which a large or small number of persons desire that particular parcel of land for the erection of homes, business sites, speculative and other purposes. This latter factor is subject to rapid change. This unequal development is often the cause of great injustice, as it confers new advantages upon those in the new district without increasing their burdens, and at the same time decreases the value and profits of those in the old districts without decreasing the burdens imposed. This calls for a frequent appraisal of real estate.

The taxation of improvements on land, especially buildings, is of an entirely different nature from the taxing of land. A little consideration of what goes on about us will convince. The farmer converts an unlovely spot into a bower of beauty, and thus enhances every acre of land in that community. The state immediately levies a tax as a penalty on his public spirit and energy. While the total value of his property is increased, the valuation is also increased. He should not be taxed to the full value of his improvements. Every tile intelligently laid, every increase in production an acre, every lawn, beautiful tree, fragrant flower, tasteful building erected, gallon of paint spread, adds not only to the value of his land, but to every acre in the community, and society should contribute to the expenses of government in proportion to the benefits received.

Within a few blocks of the state house in Columbus are vacant lots grown up to weeds. The owner will neither improve nor sell to those who would. He is holding the lot which he bought at one hundred dollars an acre until the energy, industry and sacrifice of his fellow-citizens enables him to sell at a hundred or a thousand dollars a foot. Common justice and an enlightened public sentiment will one day insist that the vacant lot shall share in larger measure in the expense that has contributed to its own value.

If any one fears for the revenues because of this leniency for improvements, he needs only become acquainted with conditions in many parts of the country. On what is known as the "Macy Corner" in New York City is a lot thirty-one feet ten and seven eighths inches by fifty feet six and three eighths inches, which is assessed on a valuation of three hundred thousand dollars aside from improvements. This building is valued at fifteen thousand dollars, and the property rents for thirty-two thousand dollars a year, or the interest on eight hundred thousand dollars at four per cent. The site with the building is valued by the city at ten million dollars an acre. There is land in this city valued at forty million dollars an acre, and the value of the site in each instance given is being carried forward to still higher planes by the sheer momentum of the life and business that throng around them. So long as we have this princely heritage, the land, there need be no fear for our revenues. I would not, however, release from taxation other forms of private property, tangible or intangible. I believe that all citizens should contribute to government expense in proportion to the income from their property, whatever its nature. There is sufficient wealth in all the states to meet all legitimate expenses without distressing anybody, if on duplicate.

The tax duplicate of Ohio is about two billion dollars, but this should be re-enforced by at least a billion dollars of intangible property. To withhold one third of the property of the state works a gross injustice upon the holders of visible property. Tax experts say that this escape of intangible property is due to the fallacy of the uniform rate upon all property at its true value in money. History proves this position. It would seem, therefore, that the first step in an effort to harmonize the tax laws of the various states and relieve real estate from excessive taxation would be to eliminate the uniform rate by amending the constitutions. The contention is that a tax payer who would not return his property at a rate that would absorb the share of the income would receive a lower rate for the sake of a

clear conscience and safety from the full rate, with penalty added. If a rate of one-half of one per cent instead of three and one half per cent were granted in Ohio, and in consequence the billion of dollars of intangible property estimated to be withheld were brought on the duplicate, the income would be increased five million dollars annually, something we never had before. This vast amount would build twelve miles of stone road in every county of the state. It would pay one hundred and eighty-five teachers forty dollars a month for eight months a year in every county in the state. It would be like having something given us without loss of anything we had before.

In 1896 Maryland adopted the proposed reform and substituted a tax of three tenths of one per cent on the assessed value for local purposes, but did not change the state rate. In 1896, the last year in which securities were taxed at full city rate of about two dollars per one hundred dollars, there were found six million dollars yielding a revenue to the city of Baltimore of one hundred and twenty thousand dollars. Under the three-tenths-of-one-per-cent law securities returned for taxation amounted to fifty-five million dollars, with an income to the city of one hundred and sixty-five thousand dollars. Since that time there has been an annual increase in such securities, and this year there are one hundred and fifty million dollars on the books, while the city's revenue from this source is nearly four times as great as ten years ago. It will thus be seen that by cutting down the local rate six and one half times the local revenues were increased four hundred per cent, while the state revenues were increased two thousand five hundred per cent. This also shows that it is not the small state rate to which tax payers object. "Public opinion," says Judge Leser of the Appeal Tax Court, "fully supports the new law and would frown upon attempt to change it."

It is claimed by some that "taxation is compulsory." This may be true in case of tangible property, but the moment the assessor enters the domain of intangible property it is all a farce. There is, save by accidental discovery, no compulsion possible. The tax on intangible property, instead of being compulsory is a tax on conscience. It has always been true, is now, and always will be, that when a tax rate in any zone of taxation exceeds, equals or approaches the net income from intangible property it will hide.

I would place no details as to taxation in the constitution beyond the statement that taxes should be justly collected and distributed for the benefit of the public. The whole question of taxation should be assumed by the people, who, through their representatives, assisted by an appointed nonpartisan commission, may devise a system of taxation that will enable each generation to meet the conditions that exist.—From an address delivered before the National Tax Conference, held in Columbus, Ohio, by F. A. Derthick, Master of the Ohio State Grange, and Chairman of the National Grange Committee on Taxation.

## AMERICAN FARMERS' INSTITUTE

The twelfth annual session of the American Association of Farmers' Institute Workers was held in Washington, D. C., in October. About one hundred and fifty delegates were present, representing many of the states of the Union and provinces of Canada.

Assistant Secretary Hayes gave the address of welcome, in which he said that the district school must yield to the more effective consolidated school; that agricultural and industrial training were the necessity of the age in our school systems, and that the American people would soon see the need and finance them. He graphically described a consolidated school where agriculture and the industrial arts were taught together with domestic science.

President Burnett, director of the Nebraska Experiment Station, declared that modern conditions made intelligence essential. Skilled artisans in agriculture and domestic science are needed, and their reward shall be commensurate with their skill and intelligence.

There is a growing demand for scientific institute lecturers who shall combine the science of the school with practical experience on the farm. One of the perplexing problems is to secure enough trained speakers to do the work. The college and station are already deluged with calls for speakers, and more men ought to be supplied to answer this call. It is good for both the station and college that their force shall get out in the field



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and find the problems that are uppermost in farmers' minds, and help to solve those of immediate need. It is also good for the farmer to come in close touch with the workers at these institutions. Relative to women's institutes, he recommended that until a larger amount of money should be available, they be held in connection with men's. Professor Burnett said that very soon there would be need in all the states of permanent organizations like the Grange, where the work begun at the institute could be enlarged upon.

It would be impossible to give in detail the excellent papers presented. The proceedings will be published soon, and I recommend that every farmer write Prof. John Hamilton, Department of Agriculture, Washington, D. C., for a copy. It is doubtful if anywhere else can be secured so accurate data relative to the growth of the farmers' institute idea.

The feeling expressed was that the institute was just in the beginning and that it would occupy for several generations an increasing importance as an educational factor. There was an earnest desire not to duplicate the work of the college and experiment station, but that each supplement the other.

Traveling schools of agriculture have proven of great value, and Prof. H. G. Holden was called out several times to discuss the Iowa plan which he has brought to such signal success. He urges that education must be taken to the people and be of that kind which will be of immediate good. The corn trains, through teaching methods of better selection of seed and better cultivation, have added millions of bushels to the corn crop of Iowa.

Other states, also, have tried the agricultural trains and the movable schools, and each reported it a most excellent way of reaching the people. They were not successful except in the more intelligent communities. A number of directors said that in their states they had these schools in different sections, and that farmers had come to them, stayed a week or two weeks, and felt paid for the time, and were anxious for the schools to come to them next year. The entire trend of the discussion was in favor of taking the very best skill and science directly to the farming community through these traveling schools or some other device.

The keynote of the entire convention was in favor of industrial, agricultural and domestic science training as an essential in the teacher and in the farmer. It was felt that the greatest problem before the people to-day was an education through all the agencies at work, that would develop to its highest point the efficiency of each human being. No nation can ever rise in the economic scale that has not a trained population to produce goods of the best grade for export, and who know how to wrest a living from their environments.

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# THE BEST THING YET!

## For All Our Pony Contestants

We have some news for our readers who are interested in the pony contest, that is certainly the **Best Thing Yet**. It is news of **extra prizes** that will be awarded to those who become contestants between December 25th and January 31st, in addition to the ten ponies, five pianos, and all the hundreds of other handsome regular prizes.

All those who have already become contestants have gotten these extra prizes, and we have decided to give them away for one month more—until January 31st. Now that the Christmas season is over, people will turn to magazines and papers all the more for their entertainment, and it will be easier than ever to get subscriptions. The time to become a pony contestant is **now** while subscriptions are easy to get, and we offer the extra prize inducements.

### REMEMBER THESE TWO THINGS

In this pony contest, every contestant enrolled gets a valuable prize—you can't possibly lose.

If you become a contestant by January 31st, you get an **extra prize** also—**The Best Thing Yet**. This is in addition to all the ponies, pianos, and grand prizes. **Now** is the time to act.

Send your name and address to the **Pony Man** to-day and ask about the ponies—that's all you have to do.

### THE PONY MAN

FARM AND FIRESIDE

SPRINGFIELD, OHIO

# The Roosevelt Family Calendar

Free with your subscription or renewal

These offers are made to both old and new subscribers, and we strongly advise you to accept one of them promptly, for at the rate these handsome calendars are going now, we may not be able to continue these liberal offers after January 15, 1908.

It is unnecessary to call the attention of our readers to President Roosevelt's great friendship for the farmers of this country. He has fought the trusts

and other enemies of farmers so bitterly that many of them are now begging for mercy, and the illegal ones have been put out of business. The country has never been so prosperous as under President Roosevelt's administration.

For this reason we want to send one of these handsome calendars to the home of every FARM AND FIRESIDE family.



Quentin The President Kermit Archie Theodore Jr. Mrs. Roosevelt Miss Ethel

This is the picture of President Roosevelt and his family, that appears on the front of the Roosevelt Family Calendar. It was taken last August at Oyster Bay, N. Y., the President's country home, with his special permission and by his authority.

This beautiful calendar is different from any other calendar you can possibly get. It is made on beautifully coated super-calendered stock and printed in sepia so as to get the full artistic effect. A silk cord is attached to the top, and when the calendar is hung on the wall it will be an ornament to any parlor. In a letter from the White House, President Roosevelt himself authorized us to give this picture of his family to the readers of FARM AND FIRESIDE. Every one, whether a democrat or a republican, should have a picture of this great President and his family. You cannot get this calendar in any other way. We have had it made solely for the readers of FARM AND FIRESIDE and we shall send it prepaid and carefully packed to every one who accepts one of the offers below promptly. This offer is open to both old and new subscribers. Do not delay!

Offer No. 1

# \$1.00

gives you Farm and Fireside seven whole years—168 big, helpful numbers—and the beautiful Roosevelt Family Calendar, the publishers' gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but six-tenths of a cent.

Offer No. 2

# 50c

gives you Farm and Fireside three whole years—72 big, helpful numbers, and the beautiful Roosevelt Family Calendar, the publishers' gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but seven-tenths of a cent.

Offer No. 3

# 25c

gives you Farm and Fireside one whole year—24 big, helpful numbers, and the beautiful Roosevelt Family Calendar, the publishers' gift for promptness. If you accept this offer, each issue of Farm and Fireside will cost you but one cent.

Rush the Coupon Below Right Now Before January 15th

CUT ALONG THIS LINE AND SEND TO-DAY

**A BLUE MARK**  
in the square below indicates that you are an old subscriber and that your subscription expires this month.

Renew by accepting one of these offers before they are withdrawn.

FARM AND FIRESIDE  
SPRINGFIELD, OHIO.

I accept your Offer No. .... for which I enclose..... Please send FARM AND FIRESIDE and the Roosevelt Family Calendar to

Name.....

Rural Route.....

Date..... Town.....

Dec. 25 F. & F. State.....

### AGRICULTURAL NEWS-NOTES

The Ontario, Canada, fruit growers' Association estimates the 1907 crop of apples at three thousand five hundred barrels. About two thirds of the crop will grade No. 1, and the balance No. 2.

The importance of a sound and uniform banking system is shown by the fact that ninety-three per cent of the business of the country is transacted by means of checks and only seven per cent by means of cash money.

Germany imported from the United States in 1906, for stock-feeding purposes, about 215,000 tons of oil cake and oil-cake meal, and from Russia over 530,000 tons of these products. Germany imports for profit. More oil cake should be used in this country for stock food.

The trend of modern education is along technical and economic lines. This means the teaching to our boys and girls of theories and methods which will enable them to do the kind of work for which they have a special liking and fitness. Such intelligent labor is a source of pleasure and profit.

There are millions to be made and saved if every farmer could and would take advantage of the knowledge already gained of improved methods in agriculture. The editor of "Hoard's Dairyman" says that "not one dollar is made from cows to-day where five might be made if cow farmers would consent to become more intelligent dairymen."

H. L. Bolley, M.S., botanist of the North Dakota Experiment Station at Agricultural College P. O. has succeeded in producing a variety of flax which is unaffected by "wilt," and in part by "rust," also. The total supply of seed is but twenty bushels, which will be distributed to enterprising flax growers throughout the state for further trial.

Congressmen are rendering a very important service to their farmer constituents by securing the co-operation of the United States Department of Agriculture in having "Demonstration Farms" of but a few acres established in their congressional districts. The seeing of modern methods is followed by the prompt adoption of them, as they show that farming is the best occupation, after all. Intelligent farming pays.

This year's exports of cotton from Southern ports show a decided gain. On October 29th the following number of bales were exported to Europe: From Galveston, 9,343; from New Orleans, 14,400; from Savannah, 17,600. In connection with Northern cities, nearly one hundred thousand bales were shipped during two days, the estimated value of which was one million dollars.

The amount of capital invested in the raising of meat animals in this country amounts to nearly eleven billion dollars. The supply of meat animals has not kept pace with the increase in our population, nevertheless it is very important to have a good foreign market for our surplus products. Our present meat-inspection laws will be a material aid in increasing foreign demand for American meats.

The state university at Morgantown, West Virginia, has arranged to give a "short course in agriculture" beginning on January 6, 1908, and continuing throughout the month. The instruction will be entirely practical. It ought to appeal very strongly to a number of our progressive farmers. In these days the men who know are the men who win. Dean T. C. Atkeson and his fellow-teachers of the College of Agriculture can tell how.

The convention which was held in October in Syracuse, New York, to consider the cause for the decrease in the number of farms in that state, as shown by the last census, concluded with the adoption of the following suggestions: "Agriculture should be taught in our country schools; farmers should co-operate in buying and selling; public roads be improved; postage rates be readjusted and better classified; farmers be allowed to go abroad and contract for labor." It was further stated that the opportunities for farmers in New York state were as good as in any other part of the country, and probably better.

In view of the probability that the price of gasoline for motoring purposes is likely to advance, and that of alcohol is likely to decrease, there will no doubt be an increased demand for alcohol for running wagons, plows and farm machinery. A change in engines is made necessary because of the fact that gasoline becomes volatile at a temperature of blood heat (98.5 degrees Fahrenheit), while a much greater degree of heat (158 to 176 degrees Fahrenheit) is necessary to volatilize alcohol rapidly enough for motor purposes. This fact makes it necessary to provide a change in the explosion chamber of the engine when alcohol is to be used. \*



**THE REAL SONG OF BIRDS**

IN AN interesting article in a recent number of "Out West," Virginia Garland has some new data to give us concerning the purpose of bird songs. She says:

"It is a mistaken idea that a bird sings directly to and for the ear of his mate alone, wooing her with his music. Most of the finest songs are sung to other males after the stress of rivalry is past and each little lady's love secured. If the motive of the singing were to attract the female, the best songs would be heard during the first stage of love making. But birds go very slyly about their mating; and when a male bursts out in song, one can be pretty sure that the demure wife is very busy over important affairs of her own. Every close observer of birds must notice that the female is often indifferent to the singing of her mate. As the love season comes on, a bird naturally overflows into song—it may be to attract some female nearer, though every bird has a distinct significant love call which carries as far as his song. The moment she appears upon the scene he has less musical ways of courting her. Should he go on singing, some more strenuous suitor would surely get ahead of him. He will fight for her, feed her, coax her with low, guarding notes. But if he is singing loud and clear, it is in triumph. She is won—is his—and, like all truly loving mates, gives him his freedom to go back to the springs of his being for rest and inspiration.

"Out of the fulness of his heart, in his complete happiness, the male sings. But listen!—a brother bird answers. Sometimes the response is just outside the range of our hearing. Change your position, circle about farther from the bird you hear plainly, and you are sure to catch the answering refrain—a bird of the same species singing back. This reiterative play of song is tossed back and forth between two males long after the mating season is over.

"Again, it is said that the male perches near the nest, singing to cheer his mate's long, patient brooding. Rather dull perception of the heart of a mother bird! She needs no cheering—she is quite happy there, soft breast close pressed to her treasures, singing her own speechless mother song."

**GREAT COMBINATIONS IN THE LUMBER INDUSTRY**

In an absorbingly interesting article on the lumber business in the United States, in the American "Review of Reviews" for November, Mr. Milton O. Nelson discusses the entire production and consumption of lumber and speaks vigorous words on the subject of the ruthless destruction of our great forests. Of the great capitalistic combinations alleged to control the lumber business of the country, Mr. Nelson says:

"It is the overgenerous laws of our country that have fostered the monopoly of the forests. The Homestead Act, the Pre-emption Act, and later the Stone and Timber Act, put millions of acres of choice timber into the hands of little adventurers, men of small means, who were willing to sell their patents to any cash buyer at a low figure. The government grant of land scrip to old soldiers, and the enormous issues of such scrip as bonuses to transcontinental railways, literally threw the bulk of government timber easily into the hands of moneyed men who had the wit to invest in standing timber. As a rule the railways were willing to sell their scrip at a low cash price; and it is safe to say that once in the hands of men who, through their trained timber hunters, had learned the location of rich timber, it was placed on government timber worth from ten to a thousand times its cost.

"The bounty of the federal government had left holes in its land laws through which six logging teams could be driven abreast, and a very dull speculator it would be who would not have driven his team in. Unscrupulous men went beyond the law by collecting and hiring men to use their individual homestead and other rights on rich timber already spied out. In earlier days loggers even went so far as to cut right and left in government timber without permission. Doubtless big fortunes were acquired by these unlawful means without any retribution. State lands in Wisconsin and Minnesota were shamelessly stolen by means of corrupt legislation. But such undue greed was not necessary to the easy getting of great timber fortunes. Men of moderate means, keeping wholly within the law, disappeared into the woods, kept quiet as to their operations, and came out millionaires. Twenty-five years ago it took no prophet, if he knew anything at all about timber, to tell that the purchase of good pine at going prices was a safe investment. A supply surely and rapidly diminishing and a population surely and rapidly increasing gave security to the venture. It was really no venture to the venture. Men who had

bought Northern pine in the Lake States at a few cents a thousand, and had sold or sawed their holdings till cents turned into dollars, went to the Gulf States or to the Pacific Coast and with the wisdom of lumber experience and the dollars of sugared-off deals bought heavily into rich and ridiculously cheap timber. The sensational timber fortunes have been made within the past twenty-five years, and nearly all of these within the past ten years.

"Frederick Weyerhaeuser, of Saint Paul, is credited by current report with being the incarnation of the Lumber Trust. He is probably the largest individual owner of timber and lumber interests in the United States, though in this regard he does not far surpass any one of a long list of wealthy lumbermen. For the first forty years of his life he operated in Wisconsin and Minneapolis pine, becoming wise and rich above his fellows by reason of his personal knowledge of standing timber and his square dealing with his competitors. When his mills and those in which he had a stockholder's interest had sawed their way past the white-pine maximum, Mr. Weyerhaeuser went West to look for a future timber supply.

"Just at this time—in the fall of 1899—the Northern Pacific Railroad Company was loaded with government bonus timber on the Pacific Coast, but short of ready money. To a man of the woods like Mr. Weyerhaeuser, the Pacific slope of Washington and Oregon, with its smothering crop of timber, looked like the garden of the Lord. And a block of this in weak hands at a few cents a thousand feet looked like the opportunity of a century. And it was. He formed a plan, laid it before twenty or more of the lumbermen who had been connected with him in a business way, and the result was the Weyerhaeuser Timber Company, which bought for six million dollars all the Northern Pacific timber in Washington and Oregon. The timber was so good and the price so low that the purchasers did not trouble to estimate more than one third of it before closing the deal. The company added two million dollars for the building of mills and the acquiring of more lands. The holdings of the company in the two states are now about one million acres. They have also holdings and mills in Idaho, and timber in British Columbia. Mr. Weyerhaeuser owns but a small part of this total, but in other combinations his lumber and timber interests in Wisconsin, Minnesota and the South are large.

"It may not be far from fact to say that the land of the Weyerhaeuser Timber Company in the two states named contains forty billion feet of standing timber. At the time of the great purchase stumpage was selling there at from ten to seventy-five cents a thousand. To-day it is worth from seventy-five cents to three dollars a thousand. To-day hemlock and sound dead and down timber is counted in the price quoted, while in 1899 it was counted as valueless. This timber company was formed with the expectation of holding the timber for twenty years at least before making a good profit. But the very buying and holding in firm hands of this block of timber stiffened the market. The great seven years of prosperity since have done the rest. This company owns perhaps ten per cent of the standing timber in the two states, not for the purpose of taking it out of the market, for it is selling to all legitimate log buyers at market prices, and at the same time is continuing to buy timber, and to manufacture it. This is probably the nearest thing to a timber trust in America. If there is any iniquity in it the loose laws of the United States are responsible for it. But these laws have made a six million dollar deal worth something like one hundred million dollars, and will in time double and treble this amount."

**GIVE THE FARM BOY A CHANCE**

Give the boy on the farm a chance. Remember, he is human and must have incentives to work. He desires, like his parent, to gather the fruits of his own labor. If he is not permitted to do so, the work he is required to do will become irksome.

He cannot be made content with only what he eats and wears. He has been created with a nature that reaches out for something more. So give the boy an interest in a calf, pig, horse or crop of corn. Life for him will take on new color, and he will acquire new energy. He may not realize a large sum of money in the end, but the pleasure and interest will come in the pursuit rather than the possession. If the boy has no part in the father's stock or crops he will begin to think he is nothing but a slave to drudge for his parents, and when he is half grown—the very time he needs the care of a loving mother and the admonition of a wise father—he drifts away from the farm.

Then, too, put responsibility on the farm

boy. He will not shirk it, and he needs to be taught self-reliance. Let him strike out for himself at times by putting in a patch of potatoes or a few acres of corn. This will encourage him to work and depend on his own resources. He will have to stand alone after a while anyway, and the sooner he develops self-power, the better.

If his ideas are crude at first, which they are most certain to be, suggest to him the best plans and methods. He will learn by experience that your judgment is worth more than his.

Let him bump up against the business world. He will like it. If he does get cheated in a calf or colt trade, it will put him on his guard for the next time. After all, experience is to be the great school in which he is to learn many of life's lessons that are worth while. Take him to the market with you when you sell your stock. Don't ask him to help you out to the end of the lane or nearly to town, and then send him back home to drudge while you enjoy the delivering of the stock to the buyer. The boy has helped you to fatten them, and it is natural that he should desire to know what they weigh and how much they bring. Give him a chance to figure out the profits, and he will surprise you.

Also let your boy go with you when you purchase your farming implements. Ask his advice about them, for he will probably use them more than you do. If he sees you rub elbows with the business men he will soon learn how to do the same.

Above all, broaden the boy intellectually. Don't starve his mind just because you need him on the farm. The time has come when the untrained man must fall behind in the race. The boy who intends to be a farmer needs a good education, the same as the one who thinks of becoming a doctor, lawyer or preacher. Besides furnishing him a great deal of enjoyment, it will enable him to study out the best methods of farming, stock raising, etc. So don't starve his mind, especially if he is eager for knowledge. Give him all the schooling you can. If that isn't much, then put good books and papers in his way. After a while probably he will save up enough to educate himself in some college; but if he should not, the information received from the daily and weekly periodicals will fit him to take his place among men.

W. D. NEALE.

**LIFTING POSTS**

In a recent issue you give and illustrate a method of lifting posts from the ground. This may be a very good way, but I have a decidedly better way, because much quicker. Simply back the common farm wagon (with the box removed) up to the post, using the axle as a fulcrum, and with a long lever attached thereto and fastened to the post with a chain, easily lift out the post. I have lifted electric-light poles in this way when set five feet in the ground.

S. M. BEECHER.

**NEW SAWS AND FRESH FILINGS FOR THE FARMER**

Every cow path leads to the milk lot. The science of agriculture makes kings of men.

Good turns is the seed of which good returns is the fruit.

Farming appeals to the man with new tools and old experience.

A farm without the cackle of the hen is like a needle without thread.

System, diplomacy and push are ingredients of the salt of the farming business.

The man who keeps himself too busy to complain of hard luck is not apt to have any hard luck to complain of.

Seek the truth, the whole truth, and nothing but the truth as it relates to the best method of doing things on the farm.

- Grain from the plow,
- Milk from the cow;
- Pork from the pen,
- Eggs from the hen.

Some farmers like best that part of the city where they have hitched their horses, and are the happiest when they are ready to untie and start for home.

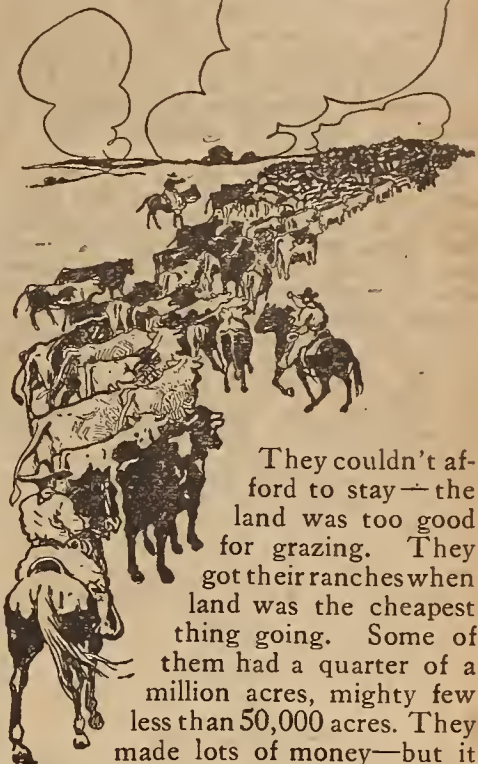
The world could not move without the farmer, nor would the farmer care to do much moving without the incentive the world's market affords.

The educated farmer has the ability to farm wisely and become wealthy, while his unsophisticated neighbor remains poor because he has failed to develop his land according to its possibilities.

As interurban traction lines crowd their way through the country the value of lands increases, and the farmer, when he has business in town, may turn his team out in the pasture, flag the next car, step aboard and look happy.

WILLIAM J. BURTSCHER.

**The Cattle Kings are Leaving the Texas Pan Handle**



They couldn't afford to stay—the land was too good for grazing. They got their ranches when land was the cheapest thing going. Some of them had a quarter of a million acres, mighty few less than 50,000 acres. They made lots of money—but it couldn't last. Too many people wanted the land for farms. They offered the Cattle Kings good profit and the Cattle Kings took it. That ended the big cattle business. Now lots of these big ranches are for sale in small tracts, dirt cheap. Lots of them have already been sold.

It's amazing what crops the farmers get on this land—forty or fifty bushels of corn to the acre, right along; wheat 20 to 30 bushels; alfalfa 2 to 2½ tons to the acre, three cuttings a year; oats, kaffir corn, milo maize. You can't beat the crops on any hundred-dollar land you ever saw. Size that up with what you and your neighbors have been getting on \$75 and \$100 land, and you'll see where you get off. The Pan Handle farmer has got you skinned a mile. There's only one way to get even with him—pull up stakes and go to the Pan Handle yourself. Buy a good big farm for \$10 or \$15 an acre and see how easy it is to get along.



The Farmer is Crowding Him Out.

You never saw better land for twice the money in your life. I know good land when I see it, and I know the Pan Handle land is tip-top—good chocolate loam, 4 to 8 feet deep with clay subsoil; plenty of water anywhere, 25 to 50 feet down. Rainfall is abundant. If you ever set eyes on the Pan Handle it's good bye to your old state.

Why don't you go down to the Pan Handle and get a farm? It would pay you to take a trip down there just to look around. It doesn't cost much: only \$20 from St. Louis or Kansas City and \$25 from Chicago, round trip. The Rock Island-Frisco lines have four routes to the Pan Handle—each one goes through a different part of the country. Let me know if you will go and I'll tell you how to arrange the trip so you can see the most for the money.

I've got a book about the Pan Handle that's mighty interesting reading. It'll tell you a lot you want to know about the Pan Handle. You ought to read it before you go down there. Do you want one?



**JOHN SEBASTIAN**  
 Pass. Traffic Mgr.  
 1522 La Salle Station  
 Chicago, Ill.  
 or  
 1522 Frisco Bldg.  
 St. Louis, Mo.



### FARMERS AS UNITED STATES JURORS

Is Uncle Sam partial to farmers in the matter of summoning juries for important trials?

Recently, when a Chicago bank wrecker, who was charged with diverting the funds of three banking institutions to the needs of private enterprises to the amount of some fifteen million dollars, was brought to trial, it was found that when the jury was complete there were nine farmers, a laborer, a dry-goods merchant and a dealer in machinery.

To secure this jury to try one of the most important cases that ever has been brought in Chicago, or even the Middle West, there was a venire of two hundred men, all from sections outside of Chicago. A majority of the venire were farmers, some of them retired. Only one of the nine farmers on the bank wrecker's jury was over forty-two years of age; the others were in the prime of life, and withstood the questioning of sharp lawyers relative to their prejudices and qualifications for trying a man whose operations in handling stocks of run-down railroads astounded the financial world.

Not only in this instance, but in many others in Chicago, where the United States court has had important cases on hand, the rural districts of the Prairie State largely have been drawn on for men of sound judgment to sit on juries, and most of them were soil tillers.

J. L. GRAFF.

### THE BLUE JAY

The gentleman who wrote the article on "Bird Friends" in a recent issue evidently prizes his cabbages very highly, or else raises nothing but cabbages.

The English sparrow has so often been discussed in FARM AND FIRESIDE that anything said here would merely be a repetition of what has already been said; but the blue jay, I believe, is eligible to discussion. If he did nothing but eat, he might be classed as a bird worthy of our protection, as he eats but little that is of value to man. But there is a capacity for mischief, that, while characteristic of all corvidæ, in him seems to be abnormally developed. When he knows of nothing else to do he will collect a few companions and make a raid upon the "ancient, solitary retreat" of some owl who has retired for the day, and he generally succeeds in bringing the owl to the conclusion that life would hardly be worth living if blue jays were nocturnal as well as diurnal. Nor are owls the only victims of his depredations. I have seen him drive a pair of robins from their nest more than once, and had I not intervened he probably would have broken the eggs or torn down the nest. I have observed similar attacks on the brown thrasher and have heard of others.

I most heartily condemn the blue jay and put him in the same list with the English sparrow.

HOWARD W. McMILLEN.

### A CALIFORNIA LETTER

We are living now in a pleasant little village in the foothills of the San Jacinto Mountains.

Here we raise grain, wheat and barley without irrigation, but fruits, berries and vegetables must be irrigated. Alfalfa is grown wherever there is plenty of water, and where there is alfalfa there is generally fine stock of all kinds. It is good for the horse, hog, cow and hen. We cut here from six to eight times a year, and perhaps the average is a ton to the acre each cutting. When it is baled it sells for eight to fifteen dollars a ton. On the ranches, before it is baled, it can be bought cheaper. The cost of irrigation must be taken out of the profits.

Nearly fourteen years ago the people of our village planted eucalyptus trees along the principal streets. The red gum was used, as the blue gum will not stand our foothill frosts. These trees are now from one foot to three feet in diameter. On our place here we have eighty-five trees of the red gum. Four years ago they were cut six feet from the ground, and over thirty cords of wood made. They have all grown up again, making beautiful trees sixty or seventy feet high, while others near us, that have not been cut, are nearly one hundred feet high.

We will never have these trees cut again, but get our firewood by trimming them out.

Once a year they shed their bark instead of their leaves. Long strips of bark become loose, and hang down in a very ragged way until the wind whips them off. Some of the trees are white after this, and their surface as smooth and polished as a piece of furniture.

The Sante Fe Railroad is planting hundreds of acres in eucalyptus in San Diego County, for their future supply of ties. In this county (Riverside), especially in this great San Jacinto Valley, almost every farmer is planting, or has planted, a gum grove for his supply of firewood. Perhaps I should say the eucalyptus is commonly called gum tree. E. I. RICE.



# Emergencies

Anything for emergency use, such as a telephone, a revolver or a fire-extinguisher *must be, above all, reliable.*

You don't want a telephone line that may work all right for a social chat with your neighbor and then fail you when you need the doctor in a hurry; you want a telephone that is *always* reliable. Buy and use only

## Standard

# "BELL" Apparatus and Equipment

and have not only a fair-weather line, but emergency protection.

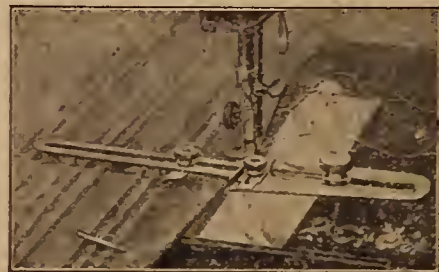
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Indianapolis	Seattle
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St. Paul	Los Angeles

Use Address Nearest You



## THE MAGIC TUCKER

(Regular Price \$1.00)

For Only Four Subscription

**Description:** This Magic Tucker is made of best quality steel, nickel-plated. It fits any sewing machine and is easily put on or taken off. It cannot get out of order, does not touch the foot or feed of the machine, and does not cut, pull or stretch the goods. Any quality of material is tucked equally well, and it makes the smallest pin tuck or the largest tuck with equal precision. This wonderful little device tucks silks, flannels or

woolens without creasing, basting or measuring. With one of these tuckers you can do all sorts of things on your sewing machine that have been impossible before, and that will add much to the attractiveness of your clothes. If you have a sewing machine, you certainly ought to have one of these Magic Tuckers. No invention of recent years is more of a labor saver in the home or more of an aid to the housewife.

**Tens of Thousands** have been sold at \$1.00 each throughout the country. We could not possibly offer it for four subscriptions if we did not buy them in very large quantities. We believe the Magic Tucker is one of the most wonderful devices ever invented for use in the home, and for this reason we have made special arrangements with the manufacturers whereby we can offer it to the readers of FARM AND FIRESIDE without a cent of cost to them.

**Don't Forget** Only four subscriptions to FARM AND FIRESIDE at twenty-five cents each, will bring this Magic Tucker right to your door. Your own subscription or renewal may count as one, and you can easily get three of your friends to take FARM AND FIRESIDE. Just think, a \$1.00 Magic Tucker and four 25-cent subscriptions all for only \$1.00—just one half the regular price. Isn't that fair enough? These tuckers will go very fast, so don't delay. Send all orders to

FARM AND FIRESIDE, Springfield, Ohio