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FACTS ABOUT THE CENTENNIAL.

The act of Congress which provided for "celebrating the one hundredth Anniversary of American Independence, by holding an International Exhibition of Arts, Manufactures, and Products of the Soil and Mine," authorized the creation of the United States Centennial Commission, and entrusted to it the management of the Exhibition. This body is composed of two Commissioners from each State and Territory, nominated by the respective Governors, and commissioned by the President of the United States. The enterprise, therefore, is distinctly a national one, and not, as has sometimes been stated, the work of a private corporation.

The Exhibition will be opened on May 10th, 1876, and remain open every day, except Sunday, until November 10th. There will be a fixed price of 50 cents for admission to all the buildings and grounds.

The Centennial grounds are situated on the western bank of the Schuylkill River, and within Fairmount Park, the largest public park in proximity to a great city in the world, and one of the most beautiful in the country. The Park contains 3,160 acres, 450 of which have been enclosed for the Exhibition. Besides this tract, there will be large yards near by for the exhibition of stock, and a farm of 42 acres has already been suitably planted for the tests of ploughs, mowers, reapers, and other agricultural machinery.

The exhibition buildings are approached by eight lines of street cars, which connect with all the other lines in the city, and by the Pennsylvania and Reading railroads, over the tracks of which trains will also run from the North Pennsylvania and Philadelphia, Wilmington, and Baltimore railroads. Thus the exhibition is in immediate connection with the entire railroad system of the country, and anyone within 90 miles of Philadelphia can visit it at no greater cost than that of carriage hire at the Paris or Vienna exhibition.

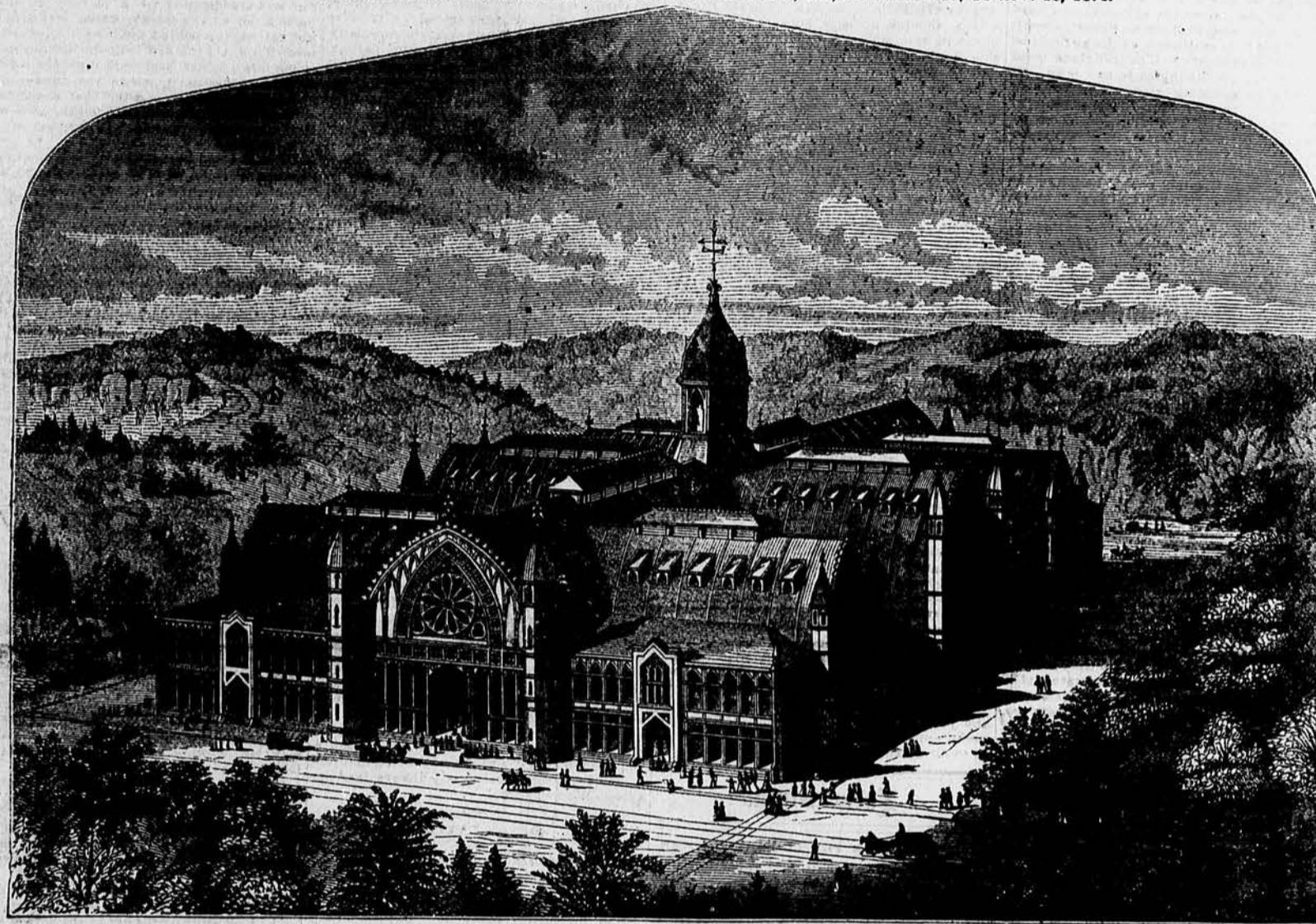
The articles to be exhibited have been classified in seven departments, which, for the most part, will be located in appropriate buildings, whose several areas are as follows:

DEPARTMENT.	BUILDINGS.	ACRES COVERED.
1. Mining and Metallurgy.	Main Building.	21.47
2. Manufactures,		
3. Education and Science,		
4. Art,	Art Gallery,	1.5
5. Machinery,	Machinery Building,	14.
6. Agriculture,	Agricultural Building,	19.
7. Horticulture,	Horticultural Building,	15
Total,		47.47

This provides nearly ten more acres for exhibiting space than there were at Vienna, the largest International exhibition yet held. Yet the applications of exhibitors have been so numerous as to exhaust the space, and many important classes of objects must be provided for in special buildings.

An important special exhibition will be made by the United States Government, and is being prepared under the supervision of a Board of Officers representing the several Executive Departments of the Government. A fine building of 4½ acres is provided for the purpose, space which will be occupied by the War, Treasury, Navy, Interior, Post Office, and Agricultural Departments and the Smithsonian Institution.

INTERNATIONAL CENTENNIAL EXHIBITION—PHILADELPHIA, PA., FROM MAY 10, TO NOV. 10, 1876.



AGRICULTURAL HALL.

Agriculture.

THE NEEDS OF AGRICULTURE.

We often hear men talk of the dullness and stupidity of farming. But where is there a field of enterprise that requires so much and so varied forethought as the proper cultivation of the soil? And there is no field on the farm that requires more cultivation than the brain.

The farmer must lay his plans for years—not only in regard to the manner he would till his soil, but in regard to the products and the development of his farm for greater capacity in the future. There is no occupation that requires more planning for the future. The different qualities of the soil must be studied and experimented upon, suiting each kind of product to its peculiar soil.

Successful agriculture must be controlled by intelligence. Brains are necessary. A man may rise before day and work till after night—may sow with diligence and reap with care—but unless the farm work is done in the proper way and at the proper time, the effort will in part be a failure.

In this connection we may call attention to the benefits derived from agricultural literature. The time has arrived when the farmer must be educated for his calling. The age in which we live and the circumstances surrounding us, demand that educated mind should be come closely connected with rural pursuits.

There is no mistaking the admonitions of the present and the indications of the future on this point. And why should not the husbandman be prepared for his manifold duties as well as thoroughly as the lawyer, the doctor or the minister? Surely, no sufficient reason exists.

The lawyer, for instance, is confined to the statute book, or to long and well settled decisions; precedent is his guide, and he follows it because it is old and universal. The divine must necessarily confine himself to the sacred writings and his own peculiar theology. If he teaches anything which cannot be sustained by them, he teaches error. The physician confines himself to the different diseases to which the body is heir.

But the agriculturist enters upon a field without scope or limit. Nature in all her untold amplitude and boundless research is still beckoning us onward to heights and depths that seem to know no bounds. She is not only generous in her gifts, but true to her promises. Her laws are the same over all the earth. The atmosphere, the clouds, the storms, the heat, and cold are not controlled by the fineness of uncertainty, but by well established rules that the discover only to her devotees. And shall

we be told that it is a waste of time and money to learn her secrets?—Ohio Farmer.

SEED PER ACRE AND SEASONS FOR SOWING.

The table annexed, as amended by us, with time for sowing and quantity per acre, will be found valuable for reference. The letter "a" signifies the month when they may be sown:

SEED.	WEIGHT PER BU.	SEASONS.				QUANTITY PER ACRE.
		MARCH.	APRIL.	MAY.	JUNE.	
Red Clover.....	10	10	10	10	10	3 to 10 bu.
Timothy.....	14	14	14	14	14	1 to 4 bu.
Red Top.....	14	14	14	14	14	1 to 4 bu.
Blue Grass.....	14	14	14	14	14	1 to 4 bu.
Hungarian Grass.....	14	14	14	14	14	1 to 4 bu.
Willet.....	14	14	14	14	14	1 to 4 bu.
Dillingham.....	14	14	14	14	14	1 to 4 bu.
Finger Seed.....	14	14	14	14	14	1 to 4 bu.
Turnips.....	14	14	14	14	14	1 to 4 bu.
Carrots.....	14	14	14	14	14	1 to 4 bu.
Beets.....	14	14	14	14	14	1 to 4 bu.
Wheat.....	14	14	14	14	14	1 to 2 bu.
Barley.....	14	14	14	14	14	1 to 2 bu.
Rye.....	14	14	14	14	14	3 to 8 bu.
Spelt.....	14	14	14	14	14	3 to 8 bu.
Emmer.....	14	14	14	14	14	3 to 8 bu.
Emmer Wheat.....	14	14	14	14	14	10 to 12 bu.
White Beans.....	14	14	14	14	14	1 to 2 bu.
Peas.....	14	14	14	14	14	1 to 2 bu.

Below we give the weight per bushel, of other seeds and products, which will be found convenient for reference:

WEIGHT PER BU.	WEIGHT PER BU.
Bran.....	20
Castor beans.....	46
Garbanzo beans.....	46
Coconuts.....	46
Dried apricots.....	52
Pinto beans.....	52
Dried peaches.....	52
Turnip tops.....	52
Bar corn.....	70
Unslacken lime.....	80

It should be remarked here that in forming a table such as this, the range of season for sowing can only be given. Thus the larger quantity of flax should be sown on very rich land; and, also, where the lint for fine weaving is wanted. If a crop of seed is wanted, the smaller quantity of Hungarian and millet should be sown on clean land; or, better, drilled in. So, potatoes should not be planted in June, except very early maturing sorts; and our experience is that these are sure planted in March or April. So, also, the quantity of peas given is for sowing broadcast; if drilled, from one to one-and-a-half bushels only will be required.

Again, the greater number of pounds or bushels per acre are used only upon very rich land. And the earlier all spring crops not affected by frost are sown, the better as a rule will be the yield. This rule will apply to any crop in the West, for the earlier we seasonably sow any given crop here, the better will be the return; for instance, it is better to plant any variety of potato in March or April than in May, but with turnips and buckwheat, the later they are sown, so they will mature, the better, for both of these require cool weather to mature.—Western Farmer Journal.

AGRICULTURE IN SWITZERLAND.

Mr. Amos Bonsall, a Correspondent of the Practical Farmer, writes from Lausanne, Swisse, an interesting letter from which we extract the following:

They grow small quantities of corn in the valleys of Switzerland, but the yield is not large enough to warrant them in planting much, and I believe they only use it for the animals and poultry, never using it as green or dry, in meal. The kind planted, is what we call "Canada Corn" and much that I have seen growing is not 6 feet high, and I do not think would produce over 20 bushels to the acre.

Wheat, rye and oats are all grown profitably. I saw some of the finest wheat this season I have ever seen but the main dependence of Switzerland must always be dairying, because of the country being so much broken in many parts as to prevent any other crops being produced except grass for pasture. Everything here is carried on in such a small way as almost to prevent a comparison being made with farming operations in this country.

The Swiss farmer may own much land; if he does, he sub divides it and lets it out in small parcels, so it amounts to the same as if the country was like France owned in small tracts, the workmen usually depending upon the work of himself, his wife and children to accomplish all his needs. His wants are few, and happily so, and if he can get through the year without debt, he wishes for nothing more.

One of the most interesting questions to the farmer just now is, how he may make the most out of his stock. The common native stock of the country is not sufficiently profitable. It

produces too little beef, butter, wool, mutton, pork and lard, and it takes too long to produce what it does, to be profitable in this rapidly moving age. Farmers must wait with the stream of improvement, or they will find themselves cast high and dry upon the banks. Feed is the farmer's raw material, and his stock the machinery, from which he manufactures his ware. No matter how skillfully he feeds, if his machines are perfect or slow in action, his wages must necessarily cost too much. To improve his machinery, that is the stock which he feeds, is as useful to study how to feed. All the investigations and experiments he, and others for him, can make go for nothing, if the animals he feeds cannot digest and assimilate the food in sufficient quantity to turn it into salable material fast enough. In order that this may be done more rapidly, breeders have, for years, been improving their stock. Cattle, sheep, and pigs of improved breeds come to maturity and reach double their weight, at half the age of the unimproved breeds.

Unfortunately we are bewildered when we hear and read of the marvelous prices at which some of these animals are sold. Clearly they are out of the farmer's reach. But it would be wrong to suppose that he is therefore debarred from improving his stock by the use of improved animals. The past month over 1,000 head of Short-horn cattle have been sold at various public sales. Many of these have been of the fancy sort, valued at very high prices for their pedigrees. No complaint can be made if a wealthy man chooses to give \$10,000 for one of these animals, any more than if he gives the same amount for a diamond. He injures no one, and does at least some good with his surplus money. But fortunately he has no monopoly of the really good cattle. A good judge of stock would be equally well, or better, satisfied with an animal that at the same sale brings but \$200 or \$300, simply because its family is not so fashionable, or it has not "so sweet a head." Hundreds of valuable bulls are sold every year, at prices that any prosperous farmer can afford to give, and which will bring him a handsome profit. The prize milk cow at the New York State Fair this year, was a grade Short-horn, sired by a bull that is not valued at more than \$150, if so much. The fattest steer was of the same kind. There were two-year-old sheep weighing 280 lbs, and yearling pigs that weighed over 800 lbs, and the sires of these animals could have been purchased for \$10 each. To use such animals as these would in a short time double the value of our farm stock. Let no one then be deterred from investigating this matter of improved stock, because some rich men choose to make a fancy of a certain class of it, and give what

some may think ridiculous prices for it. We gave \$5. (a ridiculous price it was thought), for our first pound of Early Rose potatoes, and the second year we gave away more than \$5 worth to friends, and sold \$125 worth at \$1 a bushel from the produce of that pound. Improved stock ought to be a better thing to have than an improved potato, and it is, provided it is used with judgment and well cared for.—*American Agriculturist.*

STAND BY THE AGRICULTURAL PRESS.

On this subject a correspondent of the *Rural World* says: "I give it as my deliberate conviction that we, as farmers, always have, and do still, under-estimate our noble calling. And when we ourselves do it by daily example, how can we expect others to properly estimate us? Brother farmers, my object is to get you to think—soundly, methodically, and rationally. If you will do this, I have no fears but that action—judicious action—will follow as a natural consequence. You will soon see that we are not occupying our true position in society; you will soon see that there is no sort of necessity for us to continue to be the drudges and slaves of all classes of mankind. We shall then be able to assert and maintain our true position, which is the noblest of all the earth. The age in which we live, and the times, are propitious for this great reform. The facilities for the intercommunication of thought and for the concentration of effort and action on a given point, are all favorable to this great achievement. And where can we look with so encouraging prospect of success, as to the agricultural class? And through what medium so honest, unselfish, and noble in sentiment, as the agricultural press of the country? The religious press is divided into conflicting sects and isms, and ready only by adhering classes and votaries. The scientific press is limited, and confined to its favorite pursuit. The influence of our so-called literary press is, to a very great extent, corrupting; and the political press of the day is not only corrupting, but positively disgusting to the honest mind. We challenge the refutation of these statements. Then, brother farmers, let us rally to the support of our press, the hope of our country, the palladium of our prosperity, and—may I not say—of our liberties."

Horticulture.

PLANTS IN WINTER.

The plants best suited for flowering in winter may be divided into two classes. First those requiring moderate temperature, at night, say an average of 50 degrees. Whether the plants are grown in the parlor or sitting-room of a private dwelling, or in a greenhouse especially constructed for their culture, the conditions should be as nearly as possible the same; that is, uniformity of temperature ranging from 45° to 55°, and an avoidance of a dry atmosphere; it is easy enough in the greenhouse to get a properly humid atmosphere by sprinkling the paths with water; but in a room in the dwelling house, the only thing that can be done is to place pans of water on the stove, furnace, or whatever may be the source of heat. If plants are kept in a sitting room or parlor, an east, south-east, or south aspect should be chosen. Plants of the class that may be grown at an average temperature of 50 degrees, are Azaleas, Abutilons, Ageratum, Carnations, Cinerarias, Catalonian, Jessamines, Cape Jessamines, Camellias, Callas, Chorizemus, Geraniums of all kinds, Hibiscus, Hyacinths, Myrsiphyllum, (Smilax), Maheras, Primulas, Stevias, Roses. Violets, and the various kinds known as *greenhouse* plants, which, together with those above named are fully described in the florists' catalogues.

The second class, or hot-house plants, require an average temperature of 60 degrees at night, the range of which, however, may occasionally run from 55° to 65° without injury. Of these we name the following: Begonias, Bouvardias, Clerodendron, Euphorbias, Epiphylums, Fuchsias, Heliotropes, Poinsettias, Roses, (these will do in either temperature), Tuberoses, etc. The necessity for this difference in temperature is not absolute, as many plants will do partially well in either; but we make this distinction as a guide to those having a choice of temperatures, in order that they may select the plants that are best adapted to the one at command. In a greenhouse particularly if heated by a fire, there is often a difference of five or ten degrees between one end and another; in such a case the plants named in the first class must be placed at the cool end, and those of the second class at the other.

One of the most troublesome pests of plants grows in the greenhouse, or sitting-room, in winter, is the aphis, or 'green fly,' as it is termed; we have no difficulty in getting rid of it in the greenhouse, when it is separated from the house; all that is necessary is to get some tobacco stems, (such as are thrown out as refuse by cigar makers), and soak them in water for a minute or two; about half a pound or so for a greenhouse, 25 x 20 feet is placed over a small handful of shavings, only enough to light the dampened tobacco, as too many might injure the plants by smoke; the burned tobacco stems give out a smoke that is quickly fatal to the 'green fly.' To thoroughly prevent the least appearance of this insect, the greenhouse must be fumigated every four or five days. We fumigate all our greenhouses twice each week during the entire year; our rule being that an aphid must never be seen upon any plant in the house. If the greenhouse is attached to the dwelling, so that the tobacco smoke would find its way into the rooms, recourse may be had to another remedy; take these same waste tobacco stems and steep them in water until the liquid is of the color of strong tea, with this water syringe the plants freely twice a week, this will not only effectively destroy the green fly, but will keep in check most other insects that infest plants. Where only a few plants are kept in rooms, the easiest way is to dip the plants entirely in the tobacco water, moving them up and down in the liquid, to wash the insects off if they have a firm hold. The 'red spider' is another pest to winter blooming plants, and wherever it is seen you may be certain that the atmosphere has been too dry, and very likely the temperature too hot, as it is rarely found in a cool, damp atmosphere. The treatment for this insect in the greenhouse is copious syrings with water, but where but a few plants are grown in the house, it is best to go over the leaves, especially on the under side, with a wet sponge. The red spider is so minute that it is hardly distinguishable by the naked eye, but its destructive effects are quickly perceptible, as the leaves upon which it works soon become brown, and if the leaves are closely examined, particularly the under side, the minute insect will be seen in great numbers.

BOUQUETS

What a pleasure to gather the beautiful flowers and fashion them into bouquets, to ornament our rooms, decorate the graves of our dear ones, or gladden the heart of the invalid! They are fit messengers of love and sympathy to our sick and suffering friends, telling their own story of heavenly care and protection.

Many people dislike to cut their flowers at all, while others will pluck all kinds and colors in one bunch, and, never giving a thought to their arrangement, crowd them into a little vase, or put them in an old pitcher too large by half, and down go several of the prettiest into the water out of sight. We should know when we gather our flowers what we wish to do with them, and cut and arrange them accordingly. Some flowers have very short stems: these look pretty in something shallow like a saucer, for we dislike to cut off large clusters of buds every time we pick a Verbena, or take a whole plant to get one Pansy or Balsam.

Every bouquet should have a good proportion of green and white; and not too many bright colors, for it is poor taste to put all shades and varieties together. Neither should flowers be formed into rank and file like a regiment of infantry, where like the soldiers they lose all their individuality by their similar positions and crowded appearance, but grouped loosely and gracefully, letting each flower show its own peculiar beauty and habit as far as possible. Those with long, slender stems, such as the Tassel Flower and Callospis, look so pretty nodding their heads above their larger and stiffer companions. Then the Pansy, which chooses a shady nook to grow and bloom in, should never be placed on the outside of a bouquet to stare at the whole world, but be seen peeping out from beneath the green leaves, half hidden from view, while the stately Gladiolus may look proudly forth from the center, surrounded and intertwined with fine flowers or wavy green.

Very pretty bouquets can be made in saucers of wet sand; they are easily arranged, and keeping each flower in place. These are very appropriate to place in the cemetery, as the flowers appear to have grown and blossom 'mid them in the grass. Very beautiful ones are made with the June Pinks, the white English Pinks, and two or more kinds of Rose-buds, with a Rose just opened in the centre. For green the Scotch Rose leaves are the prettiest for the top, they are so small and delicate. Place larger Rose leaves round the edge, allowing them to fall over and hide the saucer, and the bouquet will appear to be made in a wreath of Rose leaves. The next morning the Rose-buds will have opened, and you will almost wonder if this is the same bouquet you made the day before.

There are no flowers that excel the lovely Pinks and Roses; to their firmness of texture, perfect form, and beautiful coloring, is added a delicate perfume, more pleasing by far than that of the Mignonette, which is not a particular favorite of mine. I would choose first those flower having beauty as well as sweetness, among which will be found the half hardy purple Heliotrope and Sweet Alyssum. Let us always have the pretty, sweet-scented blossoms, for fragrance gives a delightful charm to our bouquets.

A very common mistake is the forming of too many flowers in one cluster, destroying their graceful, airy effect; a few, carefully selected, and tastefully arranged with slender sprays of running vine, and finely cut, wavy green, will surely give us more pleasure than a confused mass, of many varieties, so huddled and jammed together that they present the repulsive appearance of floral criminals condemned to die by suffocation.—*Floral Cabinet.*

Farm Stock.

LIVE STOCK FOR THE COMMON FARMER.

At the recent Agricultural Convention held under the auspices of the Wisconsin State Agricultural Society, G. E. Morrow, of this paper, delivered an address on Live Stock on Wisconsin farms, of which the following is a brief abstract:

The condition of farming in the West, and in Wisconsin and the North-west as fully as in any other part of the country, for the past few years, as is well known, has been far from satisfactory. There has been a general feeling that too exclusive attention has been given to grain growing, and connected with this has been a general increased interest in relation to stock raising and feeding. For this Wisconsin and the Northwest has some disadvantages, chief of which are the facts that the winters are long and cold, and there is more liability to drought than in some other sections. There are, however, some advantages. The soil is fertile and grass and other forage grows with great rapidity. The difference in length of Wisconsin summers and those two hundred miles south is less than is generally supposed. The climate is healthful and the dry, bracing air of winter, although cold, is better than the damp, cheerless weather of some supposed to be more favored spots.

The rearing and feeding of live stock, gives work on the farm throughout the year, and thus enables the farmer to more steadily employ an important part of his capital. The growing of small grain exclusively gives but little work during a part of the year and leaves the farmer comparatively idle during the remainder. Live stock use up profitably much of the coarse products of the farm largely wasted in exclusive grain growing. The animals can get a good living from land which would otherwise give little or no profitable return. Keeping live stock greatly increases the quantity of manure made on the farm, and enables the farmer to better adopt a system of rotation of crops. Being able to ship live stock or animal products greatly helps Western farmers in meeting the great transportation question. Breeding, rearing and feeding animals tends to higher intelligence and better farming. Few things will tend more to give boys a love for farming than interesting them in breeding.

As nothing succeeds like success, a stronger argument in favor of giving increased attention to live stock than a feeling that this ought to be done, or arguments to show that it would be profitable, is found in the abundantly proven fact that stock raising has paid well in Wisconsin and other parts of the North-west. But if money is to be made, the stock must be good stock. By good stock is meant that which is well adapted for the purpose designated. In the market reports we read that one steer sold for seven cents, another for three cents a pound. One is better adapted for the designed purpose than the other. The purposes for which we desire animals are best accomplished when they are far removed from their "natural" condition. No natural or wild animal is so well fitted for meat, milk or wool,

production as when it has been subjected to the influence of man. "Like produces like" but with exceptions and modifications, and so by selection and careful treatment we develop the characteristics we wish, and repress those we do not desire, bearing in mind that no animal can be perfect, and that special development in one direction is usually accompanied by lack of development in other directions, and that a characteristic which has descended through several generations is much more likely to be reproduced than one in which the animal differs from his ancestors.

Thus we see why the pedigrees of animals are valued. These are partial histories of families and furnish evidence, more or less conclusive, that for generations past the ancestors have or have not had the same general character as has the individual in question. The character of the more immediate ancestors is far more important those more remote, so if we know certainly the character of the sires and dams for a half dozen generations back, we need not be anxious about those more remote. Pedigree is not all that is important. A poor animal may have a good pedigree; a good animal may have a poor pedigree. If both pedigree and individual be good and then good care be given, we have assurance of success.

Admiring the desirability of making live stock prominent in our farming system, it is a pertinent question with many farmers, "how are we to change?" Our farms have been devoted to grain culture; we have not the means with which to buy improved stock, nor have we the feed, had we the stock." In this, as in all such matters, time is required. A sudden change cannot be made. Grass should be sown as far as land can be spared for it. It is fortunate that the North-west is especially adapted to the growth of crops which partially take the place of grass, and help us when the grass fails. Chief of these is corn.

By careful selection and skillful management a farmer may, in a series of generations, so improve his stock that the first and last specimens would hardly be recognized as of the same breed, but this is a slow process and hence the average farmer will do wisely to avail himself of the work done by others in this direction. Most farmers cannot afford to purchase full flocks or herds of the improved breeds. They can afford, however, to make use of well bred males and thus in a comparatively few years have animals almost or quite equal for practical purposes to those pure bred. If, in addition to this, even one or two full blood females can be secured and bred from, a great additional help will be had, and it is surprising how soon a good sized flock or herd of full blood animals can thus be secured.

It is a fallacious and unwise objection that farmers cannot afford to pay the high prices asked and received for some specimens of imported stock; for there is no need that they should, as in any well established breed, very creditable specimens can be obtained at prices which farmers can afford to pay.

In the selection of breeds it should be borne in mind that no one is perfect: no one adapted for all uses and climates; that the breed best for one man may be ill suited to the wants of another. It is unwise to have so strong prejudices as to be unable to see any merit in but one breed. On the other hand, it is good to have well established convictions, for in stock raising, frequent or aimless crossing of breeds is always an evil.

For the professional stock breeder it is often advisable to give attention to but one class of animals, and to but one breed of this class. For the general farmer it is often advisable to keep horses, cattle, sheep, swine and poultry, selecting some one breed of each. Exclusive attention to any one class is rarely advisable and sudden changes to meet the fluctuations in market prices are nearly always inadvisable.—*Western Rural.*

DEVON CATTLE.

Their History in America.

This race of cattle has been bred in England for a couple of centuries, and greatly admired for their many good qualities. They were imported from that country into the United States at the beginning of the present century, and are already increasing in numbers without any effort being made by the breeders to introduce them. For a large portion of our country they are better adapted than any other, being just the cattle for the hills. They are not excelled for their hardiness by any other breed, thriving where other cattle would starve, and yet showing care and good feed as much as any. For the yoke they have long been considered excellent, being docile, strong and quick in their motions. The quality of their beef is well attested by the price it brings at Smithfield market in London. When bred for milk, they equal any, as numerous cases of their producing from fourteen to nineteen pounds of butter per week will show.

They vary in color from a light to a dark red, with flesh colored muzzles, with sam around the eyes, the tip of the tail white, and sometimes their udders are white, but it should be nowhere else. Breeders east of the mountains seem to prefer the light red color, while those west prefer the dark red, but it is best to avoid either extreme. They are called by many the "little Devons," but it is not at all uncommon to find cows weighing from thirteen to fifteen hundred pounds, the bull from fifteen to twenty-one hundred pounds, and the steers often forty-five hundred pounds.

As for their milk and butter qualities, Mr. Wainwright, of Rhinebeck, N. Y., says he made 14 lbs. of butter per week from Heifers (774); F. P. Holcomb, of New Castle, Delaware, 10½ lbs. from Lady; Hon. H. Capron, formerly of Robin's Nest, Ill., 21 lbs. in 9 days, from Flora 2d (120). C. P. Holcomb, of New Castle, Delaware, in the summer of 1848, in 12 weeks, made from one cow 17½ lbs. of butter, or an average of 14 lbs. and 9 oz. per week; during one week she made 19 lbs. and in three days 9½ lbs. W. L. Cowles, Farmington, Conn., 16½ lbs. in 10 days. J. Buckingham, Duncan's Falls, Ohio, in three months, summer of 1850, from four cows, an average of 44 lbs. per week, besides using the cream and milk in a family of seven persons L. G. Collins, Newark, Mo., from the dam of Red Jacket (96) 16½ lbs. per week. Mr.

Coleman, 21 lbs. per week for several weeks in succession. Mr. Hurlbert, of Connecticut, from Beauty (523) averaged 16 lbs. per week during June, 1850, when she was 16 years old. This is but a small portion of those I have on my list as famous for butter.

The first pure-bred Devons that we have any knowledge of in this country, are one bull and six heifers, presented by Mr. Coke (afterward Earl of Leicester), of Holkham, England, to Mr. Robert Patterson, a celebrated merchant of the city of Baltimore. Of their arrival in this country I find the following notice in the 4th volume of the *Old American Farmer*, page 29, which is before me, and reads as follows: "June 10, 1817, the brig *Margaretta*, Capt. Gardner, arrived at Baltimore from London, England, with six beautiful young cows and one bull, of the Devonshire breed, for Mr. Patterson and Mr. Caton, the whole being a present from Mr. Coke. From Howard's Catalogue of Devonshire Herd.

LULU AGAINST TIME.

This was, of course, considered the event of the day, and the result proved that it was not only the event of the day, but the greatest trotting event of the year. Though Lulu failed to beat Goldsmith Maid's best time—2:14—she succeeded in trotting three beats, which aggregate the fastest on record, and beats even her magnificent performance here last August. She was accompanied by a piebald running horse attached to a sulky, which was driven just far enough behind her to excite her to her best effort. On the first heat she did not seem to get down to her best work until she reached the back-stretch, where the runner had closed pretty well up. After that she trotted splendidly. On the home-stretch the pace was very fast, but she only succeeded in getting in 2:16½.

On the second heat Green made a more desperate attempt to win the coveted \$2,000, and the glory of beating 2:14, and Lulu's trotting for the first three quarters of a mile was such as to inspire the belief that she would accomplish the wonderful feat. It is generally believed that she would have done so but for the high wind which was blowing from the south east, and which blew square in her face quite hard when she was rounding the upper turn. Charley Green put her to the best, but it was useless, he was just one second too late, going under the wire in 2:14½. This practically ended the struggle, though on her third attempt she made the splendid time of 2:16. It is the almost universal belief among horse-men that Lulu will yet succeed in trotting below 2:14, and her performance yesterday day justifies it.

The Dairy.

HOW PRIZE CHEESE ARE MADE.

Seth Bonfay, of West Winfield, N. Y., is a cheese maker of long experience. He has had factories in several counties, and has studied the art of manufacture thoroughly. Of late he has been doing unusual things in the way of making cheese, which capture the judges at our largest cheese exhibitions, and send him home with the leading premiums. For two years, at least, he has taken the first premiums at the State and the Central New York fairs. These achievements make his method of manufacture of special interest, and we have secured from him for our readers some facts which may be of wide usefulness. We print the following as the result of an interview:

Question. At what temperature do you set your milk, and why?

Answer. I set at 82 degrees, because I believe the whey separates more freely, the curd handles with more life, and in the end makes more cheese than when set at a higher temperature.

Q. Do you vary the heat of setting at different seasons of the year, and why?

A. I set slightly higher in the spring and a trifle lower in the fall. The separation is more ready as the season advances.

Q. What rennets do you use and how do you prepare them?

A. Patrons' rennets. I prepare them for use by soaking twelve hours in warm water, at 98 degrees. Then take them out and salt the liquor to keep. The skins are resoaked in the same manner.

Q. How do you judge when to break the curd?

A. I break the curd a little before it will cleave before the finger.

Q. How do you break the curd and make it fine?

A. I cut with Young's perpendicular curd knife, lengthwise and crosswise carefully, and then handle with hands carefully while warming until the curd is sufficiently fine. Careful cutting and handling adds to the weight and character of the cheese.

Q. How much time do you occupy in breaking the curd?

A. I govern altogether by the condition of the milk in its keeping qualities. If it is old milk I warm carefully and constantly until it reaches 95° or 96°, and not venture too far.

Q. Do you have any rule as to the time when you begin to apply the scald, and the time occupied in raising the heat?

A. I have none but judgment. The curd should be properly matured at a medium low temperature. The time occupied depends on slowness or rapidity with which it matures. The heating should always be slow and careful, and the curd should be carefully and constantly handled while raising the heat.

Q. How high do you scald, and how long do you cook the curd?

A. I scald to 98 degrees, and the time taken varies from fifteen to sixty minutes. In the spring I heat slightly quicker, and the slower in the season advances, especially in the fall.

Q. How do you tell when the curd is scalded enough?

A. By my judgement of the appearance of the curd.

Q. What are the concluding steps of handling the curd?

A. I draw off the whey with a siphon, forming a channel in the center of the curd, elevating the vat slightly at one end. When the curd is thoroughly drained I grind it with one of Jones & Faulkner's curd-mills, and salt immediately.

From Clay County.

Horned stock in good condition; Horses also generally, but have the influenza in a mild form. Heard of no hard cases; Crops look well at this date. Weather fine for fall work, corn picking progressing finely. Good feeding generally over future prospects. A few still have the blues, Clay Center grain dealers are doing a heavy business. According to the Dispatch they shipped 107 (one hundred and ninety seven) car-loads of grain during October. S. B. KOKANOUR.

TO MUCH TOLL.

The great fight in the West between certain dealers, agents, manufacturers and the Grange brought out some facts showing the cost of manufactured articles. McCormick, one of the large manufacturers of the West, testifies in relation to the cost of many articles which he manufactured and the price they were sold to the farmer. Some of the articles here enumerated.

	Cost.	Paid.
One McCormick reaper	\$15	\$21
One Beloit reaper	15	18
Vanbrunt seeder	25	75
Watson's seeder	25	71
Sulks rake	20	45
Panning mill	10	25
Flows	10	21

Total \$180 worth of machinery. As we have taken the above figures from the sworn testimony of McCormick himself, they are entitled to the fullest credence.

The *Scientific American*, in an article upon the "Profits w. Pay," gives the cost of the manufacture of each part of a sewing machine and sums up the result of its investigation with this statement. "That the sewing machines that are usually sold from \$65 to \$125, cost from seven to fifteen dollars to manufacture, the average cost being eleven dollars and eighty-two cents." Three manufacturers of sewing machines in 1873 netted \$6,000,000 profit each, and the agents receiving even a greater profit than the manufacturers, making over \$40,000,000 profit drawn from the farmers and mechanics of the country in a single year, by three sewing machine companies and their agents. Hundreds and thousands, even, of other articles are paying similar profits to agents, dealers and manufacturers. Hundreds of millions of dollars are thus taken from the producers of the country annually. Can we wonder then that farmers and mechanics cannot live at the prices they receive for their labor, which even are claimed to be excessive?

AGRICULTURE IN GREAT BRITAIN.

The official agricultural returns of Great Britain, lately published, make the following exhibit:

1872.	1773.	1874.	1875.
Wheat.....	3,576,357	8,491,880	3,689,310
Barley.....	3,116,32	2,835,313	2,822,357
Oats.....	2,705,827	2,676,237	2,593,864
Potatoes.....	161,88	514,684	520,423
Hops.....	61,627	78,278	65,805

The area in wheat is about 290,000 acres less than last year, a reduction of nearly 8 per cent. Barley shows an increase larger in proportion than the decrease in wheat, though not so large in area. The number of animals, June 25, for each year is as follows:

1872.	1873.	1874.	1875.
Cattle.....	5,624,934	5,961,549	6,181,491
Sheep.....	27,021,07	28,637,631	30,313,041
Pigs.....	3,771,749	3,500,250	3,423,841

LARGE AND SMALL FARMS.

By the census of 1870 the farms of the United States are divided as to size as follows, the whole number being 2,650,985:

Under five acres.	6,675
Five acres and under ten.	172,611
Ten acres and under twenty.	391,607
Twenty acres and under fifty.	847,614
Fifty acres and under one hundred.	734,221
One hundred acres and under five hundred.	505,04
Five hundred acres and under one thousand.	15,826
One thousand acres and over.	8,783
Average size of farms, acres.	183

Twelve of the States have farms that average less than 125 acres in extent, which is less than the average elsewhere, which is some. States run up nearly to an average of 500 acres. These twelve States give the following as the average size of their farms:

Maine.....	98	New Jersey.....	98
New Hampshire.....	122	Pen. sylvania.....	103
Masac. usetts.....	101	Indiana.....	101
Rhode Island.....	91	Ohio.....	111
Connec. ticut.....	98	Mich. gan.....	101
New York.....	108	Wisconsin.....	114

While the total value of the farms in the United States is put down at \$9,262,861

the value in the above small-farm States

goes up to \$5,407,587,178, or nearly three-fifths of the total, and this, too, while the area of the whole country. No more conclusive exhibit of the practical superiority of the small-farm system could be given than this.

WHAT A LADY SAYS.

I am sure no Cooking Stove that ever was made has given so great satisfaction as the CHARTER OAK. The arrangement of the flues is such as to always insure a good draft and a quick, uniform baking, which enables the housekeeper to do a large amount of kitchen work with a moderate quantity of fuel; the reservoir is unusually large and supplies all the hot water required.

"HEAL THYSELF."

The people's Common Sense Medical Adviser, a book of about 900 pages, illustrated with over 350 engravings and colored plates, and sold at the exceedingly low price of \$1.50, tells you how to cure Catarrh, Liver Complaint, Dyspepsia, or Indigestion; Stick, Billious, and other Head-aches, Scrofula, Bronchial, Throat, and Lung Diseases; all diseases peculiar to women, and most other chronic as well as acute disorders. It contains important information for the young and old, male and female, single and married, nowhere else to be found. Men and women, married and single, are tempted to ask their family physician thousands of questions on delicate topics, but are deterred from doing so by their modesty. This work answers just such questions so fully and plainly as to leave no one in doubt. It is sold by Agents, or sent by mail (post paid) on receipt of price. Address the author, R. V. Pierce, M. D., World's Dispensary, Buffalo, N. Y.

Brother Diawdiddie writes to the Farmer proposing as a compromise on the degrees question that the fifth degree be conferred upon all fourth degree members willing to pay \$5 for it; the sixth degree to be reserved for members of the State Grange who have bought the fifth, and the seventh degree for members of the National Grange.

From Norton County.

Nov. 8.—Stock in good condition. Wheat generally threshed; a poor yield. Corn mostly in the field, yet a fair yield. Weather fair; one light fall of snow on the 4th inst. Markets: Wheat, 50c; corn, 35c; potatoes, 75c; turnips, 30c; butter, 25c; pork, 10c. Insects of all kinds frozen to death. Fall wheat and rye looking well, and a larger breadth sown than ever before. Wm. M. HEPLER.

THE HOG CROP.

The assessor returns for the principal Western states also show a falling off in the supply, though conflicting somewhat with later returns of the agricultural bureau. In this state (Illinois), as before stated, the agricultural department reports the same number of stock hogs on hand September 1, 1875, as last year, and the quality seven per cent. better. The assessor's returns present the following result:

Number of hogs assessed, 1875..... 3,458,313
Number of hog-assessed, 1876..... 3,809,966

Decrease..... 68,647

The principal hog raising counties in Illinois present the following returns for two years.

No. Hogs	No. Hogs
1874..... 15,896	1875..... 17,000
McLean..... 91,157	93,701
Fulton..... 65,950	67,641
Knox..... 68,665	67,001
Livingston..... 50,980	52,819
Hancock..... 70,485	64,700

The improved condition of the receipts of hogs at the principal centres would leave the impression that the agricultural department's report is approximately correct—the returns being made later in the season. With the bountiful corn crop farmers will be induced to feed liberally, and the majority of operators in provisions are inclined to the opinion that the bulk of the good hogs will be forwarded to market after the holidays.

The hog crop in Ireland shows a slight increase this year as compared with last, while the number of hogs in Great Britain this year is reported to be 2,299,870 head against 2,422,882 head last year.

The agricultural bureau returns of hogs in all the States, January and February, referred to above, are given in the following totals of the different years:

1875, Jan.	1874, Nov.	1873, Oct.	1872, Sept.
5,021,300	5,021,300	5,021,300	5,021,300
52,625,900	52,625,900	52,625,900	52,625,900
31,765,800	31,765,800	31,765,800	31,765,800
50,457,500	50,457,500	50,457,500	50,457,500

Comparative PRICES OF THE CORN CROP.

For comparison, the prices of corn November 1, in the markets named, are given for four years:

Chicago, Nov. 1.	New York, Nov. 1.	Liverpool, Nov. 1.
50 bu.	50 bu.	50 bu.
1872..... 80	1873..... 80	1874..... 80
1875..... 80	1876..... 80	1877..... 80
1878..... 80	1879..... 80	1880..... 80

The total bushels produced in the years named, as derived from statistics of the agricultural bureau by the Bulletin, were as follows:

1874..... 830,148,000
1875..... 827,274,000
1876..... 819,719,000
1877..... 801,98,000
1878..... 1,084,266,000

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1872.</

Literary and Domestic.

EDITED BY MRS. M. W. HUDSON.

Written for the Kansas Farmer.
A CHILD AGAIN.
After the years of labor and pain,
I'm finally free,—a child again.
A sea of peril, an ocean of care,
Has stiffened my limbs and whitened my hair;
But ah! thank God, 'tis over at last,
I'm growing younger, younger fast!

O how I long to skip and run
With the little lambs in the noon-tide sun,
Or roll on the grass with curious whirls
Like all the other boys and girls!
How perfect the joy! How happy the play
Of a child like me, this new-born day!

How very real the old spring seems,
The very spring of my childhood dreams;
And bless me! there's the old well-sweep,
And the trumpet-vines that over it creep.
Just as they did one summer morn,
Long, long ago,—when I was born!

All day long I sit in the sun
And watch the swallows—'tis capital fun!
And to ask the children that pass that way,
To stop awhile that we may play;
But they care very little for fellows like me,
I'm much too young for them—eighty and three!

So I sit and chat with the friendly swallows—
I find them a jolly set of fellows—
Or list to the morning song, plaintive and sweet,
Of the robin-red-breast, close to my feet;
I sing with the birds: when they're silent I'm still,
Till of singing and playing, we've both had our fill!

And I slumber peacefully all the night long
A wanderer in dream land, a pilgrim of song
E'en as a child on its fond mother's breast
Knoweth no sorrow, secure in its rest;
And like it I cry, when the long night is done,
Come take me up, mother, I'm waking, come!

GEORGE H. PICARD.

THE BABY'S CURLS.

It had been a serious subject of debate in the household for some time, whether the baby curls should be cut off or not; every morning when she got up with the little head covered with "mouse's nests" and said "please don't comb my hair," somebody resolved that it should be cut that very day, the child should not be punished any longer; but when the sunny hair was subdued and brushed into golden ringlets, that lay lovingly about the little neck, everybody said it was a shame to cut them off, the mother's heart failed, and the baby wore her curls. A day came, however, when they were carefully, regretfully, clipped from the dear little head and laid away in a perfumed box. All said the baby looked more cunning than ever, her head was of finer form than had been suspected under the mass of hair, and the little "drake tails" were really prettier than the long curls; she was kissed and caressed for her new found beauty. But there was also a new roguishness which her little brother detected, for it was not long after this that he came running in one day and said: "Mamma, isn't it time to begin to scold the baby now? she's been naughty, and oughtn't she to be scolded now?" When asked what he meant by time to begin to scold, he said: "Why, she has her curls cut off; she is a little girl now, isn't she? and don't we begin to scold when they are little girls?"

The mother's conscience heard the whisper of the "still, small voice" answer, "Alas! we do," and a mournful sadness fell upon her heart; but to the questioning boy she could not answer a word, and he ran back to the little sister, telling her "she must be good now, or she would get scolded, cause she had her hair cut, and wasn't a baby any more."

If the curls could be replaced, and the time for scolding to begin could be delayed until they were cut off again, truly that mother's hand would never touch them but with tenderest care; not a hair should be harmed, and the protecting halo of baby curls should be guarded with loving hands all through the scolding season of little girlhood; and worn as the loveliest crown of womanhood.

What home thrusts these "practical little questioners" do give us sometimes. How this one jabs at our impatience, our unreasonable, our lack of love and charity for the little ones, who are too old to be cunning in their mischief and too young to be unruly. We chide them for the tricks we once encouraged and taught, with more diligence, we fear, than we now try to lead them in the right way; it is so much easier to scold, to tell them they ought to know better and that they might be ashamed of themselves.

If after a while they cease to come to us with their troubles, and no longer yearn for our sympathy, whose fault is it. O, if we could keep them all babies, and the mother and the father could encircle and protect them always!

But we cannot, they will grow away from us, cherish them as we may—don't push them off.

They will have faults and must be told of them, but be sure always to tell them a better way, tell it kindly and tell them why it is better; when children are told that reasons will not be given them because they are too young to understand, it generally means that the parent don't want to take the trouble to explain; "little pitchers have big ears" and big understandings too, and can be led by loving words in almost any path, lead them then, as the tender shepherd of old led his flock by noble example and affectionate care—but don't scold.

Written for the Kansas Farmer.

LETTER FROM THE KITCHEN.

It seems to be the easiest thing I do to make good bread—yes, beautiful, white, flaky loaves. I thought at first it must be the good

yeast I found already made, but when that was gone, and I made some myself, by boiling three good sized potatoes and a handful of hops 'most an hour in two quarts of water, mashing the potatoes and adding a pint of flour, a tablespoonful of salt, one of sugar and one of ginger, and, when it was cool enough, half a cup of the old yeast; and the good bread still kept on, I concluded it was the flour. Not good fresh flour, but good old flour. If you are fortunate enough to be able to possess two barrels of flour at once, and have a place to keep them, get them and let one season while you use the other, and see how much easier it is to make good bread of the old.

To-day, while we had an ironing fire, I stirred up a cornpone and a soft ginger cake, but made the mistake of trying to bake both at once, as the former requires a very hot oven, and the latter a moderate one. Grandma told me how, and I will give you her receipt, which I can recommend:

Ginger Bread.—One cup of molasses, butter size of a hulled walnut, half cup of butter-milk, 2½ cups of flour, ½ teaspoonful of soda; spice to taste. I use one tablespoonful of ground cinnamon, ½ tablespoonful ginger; lemon is very good. Most men and children are fond of this cake, and it is so easily made. If you have no butter milk, take cream and less butter, or skim milk and a little more butter.

Corn Pone.—To one egg well beaten, add one pint of butter milk, 2½ cups of corn meal, one tablespoonful salt; one teaspoon even full of soda, and one heaping full of cream of tartar, and add a piece of lard the size of a hickory nut. Stir, and bake in two tin pie pans.

I asked "Aunt Lid," whom Mrs. Hudson recommends so highly as authority on sponge-cake, as indeed she is on all kinds of cooking, and canning, how she canned tomatoes; she said when she read the talk in the FARMER on tomatoes, she just felt like sitting down and telling us how; for we made so much work out of nothing. She canned ninety-nine cans last fall and had not one to spoil. But she says it's no use to put them in glass, for they will not keep. Scald and peel, but cut as little as possible; put into a kettle and let hem boil but do not cook long; put them in cans which have a depression around the lid but on the lid and fill this depression with window putty—five cents worth will seal a number of cans, and they are so quickly done, opened, and perfectly secured. If the putty is too soft, add a little whiting; if too stiff, a little oil. With proper care you can sometimes use your cans three years. She showed some she had used three times, and expected to use again. I found some other receipts in her book, which I must give you. Among them some for making candy, which I have tested, and know you will have success with them, and hope the little folks will yet the benefit of it before Christmas, which is almost here. And you will not be afraid; they are eating poison or plaster of Paris. In fact, the little snow on the night of the first and ice several times since, make us feel the winter is here, though I still gather a few bouquet every day; but the dear, beautiful little Johnny jump-up blooms all winter, it happens to be a few warm days, and 'tis just the season for chrysanthemums and the dwarf ones are as pretty as daisies.

Chocolate Cream.—Two cups sugar, ½ cup of water; boil five minutes, counting from the time it boils well. Pour into a buttered dish and stir constantly till it is stiff enough to take into your fingers and mold into cones lay on a buttered plate or buttered paper, and when cold and stiff, roll in melted chocolate into a saucer, remove the teakettle lid and place the saucer over the the hot steam till it is melted. It is a good plan to have two saucers so the chocolate in one can melt while you use that in the other.

Cream Candy.—Two cups sugar, ½ cup of water, 1 tablespoonful of vinegar, to keep it from graining; boil till it will become brittle and snap when you drop it into water; flavor just as you take it from the stove. I use lemon, but Aunt Lid preferred raspberry, turn into a buttered dish, and just before it is cool or so cool that it will not run, cut into sticks or kisses, which, with a few mottoes and some bright paper to wrap them in, and some nutty, made of molasses, or some nut candy, made of some nuts covered with the cream candy, and the chocolate left off, and some pop corn balls—which you can easily make by rolling the popped corn in melted sugar or boiled molasses—will make a very nice Christmas for the little folks without much expense or labor.

A letter of Nov. 4, from Brooklyn, N. Y., says: "I suppose you are aware that we have Moody and Sankey fully inaugurated here, and successfully too. The skating rink has been fixed up at a cost of \$10,000 and holds from six to seven thousand people, but it is not near big enough. Fifteen thousand went the first day, which was Sunday week, and of course many were turned away. Last Sunday afternoon there was a meeting for women only, and ten thousand went, many having to go away. However, there are two churches, one just opposite and one on the next corner, and after the rink is filled to its utmost capacity, they fill these, and Mr. Sankey sings in the rink, and then slips out and sings in the churches, and then back. He has a glorious voice, and their selections of hymns are beautiful. Of course they cannot be judged from too high a standpoint of music, or they would seem very commonplace; but for holding an

audience and for effectiveness they are unparalleled.

"They have morning services at the tabernacle, but we cannot get there in time to get a seat. We have to leave home at six o'clock to get one in the evening, and then cannot ride, as the cars are more than full by the time they reach Bond street.

Mr. Moody is a very thick, heavy-set man, with the square shoulders I ever saw, and his head cracked right down between them, and scarcely neck enough to hang by. His arms go up, and his hands come down like sledge-hammers; but he is fully and wholly in earnest. Indeed, both men seem saturated through and through with the spirit of their work, which is, I expect, the secret of their success.

"Election was quiet here, but last night there was some excitement. A feeling of great despondency prevails among the Democratic faction in Brooklyn, owing to their overthrow.

"I was surprised to hear of your snow, as we have had none except a few flakes, and to day, the 7th, after a little skirmish with winter, the mild, pleasant atmosphere of Indian summer has settled upon us. Feather and fur trimming for hats, bonnets, caps, dresses, etc., is now the thing. Among quite a variety, in a window on Broadway, I saw one piece about 2½ inches wide, made of the smaller feathers of the guinea, that sold for \$3.00 per yard."

To-day, the 10th, Pennsylvania is having a good, quiet, soaking rain—a thing which is as precious here as in "drouthy Kansas." But it, and a bundle of Kansas papers which I received last night, makes chatting to you more agreeable than running a sewing machine.

ANNA SMITH.

COMMON SENSE IN THE SICK ROOM.
This is the title of an excellent lecture delivered at the Bellevue Hospital Medical College, by Prof. A. B. Crosby, and reported in full in the *Medical Record*. The following extracts on two of the most important topics treated, will interest both professional and non-professional readers.

VENTILATION.

This is another point which should always engage your attention, for the same person, when sick, demands a large supply of fresh air than when well. For instance, if healthy person requires two thousand cubic feet of breathing space, the sick person under the same circumstances should have at least three or four thousand cubic feet. Then, again, the sick man should have the air changed twice as frequently as the man in health.

Ventilation requires the introduction and diffusion of an abundance of pure air at short intervals, and a corresponding removal of air vitiated by respiration. The movement of air in the sick room should be imperceptible at a temperature of 65° to 60°, air moving at the rate of three feet per second is perceptible. Any more rapid movement than this gives rise to a draught of air, and will endanger the patient.

It is essential that the air should be thoroughly diffused, and then be removed after being breathed once.

It is claimed by some that the "law of diffusion of gases" will insure perfect ventilation. But this law acts slowly; whereas the circulation of the air by respiration goes on rapidly.

Others think that the wind can be made to ventilate thoroughly. The objection to this is that the wind is not constant, and incessantly varies in velocity and force.

The most reliable method is that which depends on the variation in the weight of the air by heat.

In every attempt at ventilation we are first to settle the question whether the impure air is to be removed from the apartment at the base or at the ceiling. The latter method is inferior to the former.

If there is a hot-air register in the floor on one side of the room, and a ceiling ventilator on the opposite side, the hot air will rise immediately to the ceiling, along which it will glide, and escape through the ventilator. Meanwhile, the bulk of the air in the room will hardly have been disturbed at all, and in sleeping rooms, especially, there will be very little diffusion. We are not to lose sight of the fact that carbonic acid gas is much heavier than atmospheric air, and that this air will naturally gravitate to the lower part of the room. A heated fire, with an opening at the base, will remove the bad air rapidly and insure the best diffusion. The old-fashioned fire-place answered the same purpose, and is by far the simplest and best method of ventilating any sick room.

If the chimney has a throat one and one half feet square, with a good fire, the air will move through the chimney at the rate of four feet per second, and air will be discharged at the rate of six cubic feet per second, which would be at the rate of 21,000 cubic feet per hour.

Supposing a room of the capacity of two thousand cubic feet, with a fire-place as above, and with three persons in the apartment. The doors and windows all being shut, the air would still become bad through lack of proper diffusion. The whistling of the air about the windows of such a room—fairly shrieking to get in—can always be heard.

If we now open a window farthest away from the fire place at the top, diffusion and ventilation will be good enough.

If the sick-room is ventilated by a fire-place, we should always open a window at the top. If the room, on the contrary, is heated by a register, a window should always be raised at the bottom, since the hot air raises to the top of the room, creates a plenum, and so forces the air out at the bottom. There are three points to be observed in regard to the sick-room. Note, first, whether there is any perceptible odor on entering the apartment from the open air; if so, ventilation is imperfect.

Make sure, in the second place, that there is a free inlet and outlet for the air.

And thirdly, place an open mouthed bottle by the side of the bed at night. In the morning, before there is any opening of doors or windows, or any movements about the room, pour a little clear lime-water into the bottle and shake it. If the air in the bottle is pure, the lime-water will remain clear; but if otherwise, it will become milky in appearance, showing carbonic acid in the air, which has united with the lime, forming a white precipitate of the carbonate lime.

DIETETICS.

A man, simply because he is sick, is not to be starved, nor, on the other hand, can a man who is sick, as a rule, take such articles of food as a well man would be likely to take.

It may be doubtful whether a man when first taken sick should eat a large quantity of food, but one of the articles which he may have is *Indian gruel*, if not made too strong. If, however, you give permission that the patient may have gruel to take, unless you give special directions as to how it shall be made, you will very commonly find that the nurse has prepared a fair specimen of Indian gruel, and has been administering that for gruel.

In making Indian gruel there should be no more than a dessert or table-spoonful of the meal to a quart of water, and this should be boiled for a long time, keeping the quantity of water good throughout the entire boiling process.

Prepared in this manner, it may be made decidedly salt, and then administered to the patient during the first few days of his sickness. There is one article of diet which all persons may take under all conditions, and that is *milk*.

There are those who say they cannot take milk, that it makes them ill, etc.; but that is not true. A person who is sick may take milk with the greatest possible advantage, because it contains, in a form easy of assimilation, all the elements essential in maintaining nutrition. It is the natural aliment of the young animal, and certainly answers a good purpose for the old animal, provided it is used properly. New milk, I do not hesitate to say, may be taken, as far as disease is concerned, in any and every condition. Perhaps it will require the addition of lime-water if marked acidity of the stomach is present; and perhaps a little gentian may be requisite to stimulate the stomach somewhat; and it may be necessary to give it in small quantities and at short intervals, with the happiest effects. We have now come to believe, contrary to the teaching of our fathers, that *cold water*, even ice-cold water, is a most beneficial drink, and therefore permit our patients to have it as often as they may wish, provided too much is not taken at any one time.

AN OLD HOTEL.

Of all the hotels in the world the very oddest is a lonely one in California, on the road between San Jose and Santa Cruz. Imagine ten immense trees standing a few feet apart and hollow inside; these are the hotel neat, breezy, and romantic. The largest tree is sixty-five feet around, and contains a sitting-room and that bureau of Bacchus wherefrom dispensed the thing that biteth and stingeth. All about this tree is a garden of flowers and evergreens. The drawing-room is a bower made of redwood, evergreens and madrona branches. For bed-chambers there are nine great hollow trees, whitewashed or papered, and having doors cut to fit the shape of the holes. Literature finds a place in the leading stump, dubbed "the library." If it were not for that same haunt of Bacchus, it is certain that the guests of this forest establishment would feel like nothing so much as dryads.

FRUIT IN PRE-HISTORIC TIMES.
Carbonized apples of small size, identical with those growing wild in the woods of Switzerland, have been found abundantly in lake bottoms and in a tolerable state of preservation. Mr. Messikommer discovered on one occasion more than 300 of them lying close together. They are often cut in halves, more rarely in three or four parts, and were evidently dried for consumption during winter. Whether a larger kind of apples was cultivated, remains undecided. Professor Oswald Heer, of Zurich, who has published an interesting work on lacustrine vegetable remains, inclines to the former view. Wild Pears were treated in the same manner; but they are far less common than apples, which must have formed a much-sought article of diet. Among other vegetable remains accumulated in the lake mud may be mentioned hazelnuts and beechnuts, both in great plenty; also water chestnuts, which doubtless were collected and eaten by the lake-men, as they are in upper Italy at this day. Their present occurrence in Switzerland appears to be restricted to a tarn in the canton of Lucerne. There have further been found abundantly the stones of sloes, bird cherries, and wild plums, and seeds of the raspberry, blackberry, and strawberry, showing that these fruits of the forest were used as food. According to Dr. Keller, the lake colonists of the Stone Age drew their sustenance chiefly from the vegetable kingdom. Their animal food evidently was acquired by hunting rather than by the breeding of cattle, considering that in the accumulations around the piles, the bones of wild animals out number those of the domestic species. Milk, we may assume, formed an important article of their diet.

Weather Maxims.—"Old Probabilities" has formulated the results of his observations for New England as follows:

1. As a rule, if the wind touches northeast or east for two or three days, it is a sure indication of rain.

2. Dense smoke and haze in early morning portend falling weather.

3. Summer showers of light character often follow two or three days of smoke or haze.

4. Fog, frost, and dew precede rain 24 to 48 hours, except fog at close of storm.

5. Wind veering from north or west to south and southeast precedes falling weather.

6. Halos, lunar and solar, also fairly defined and brilliant auroras, precede rain 24 to 60 hours.

7. Barometer rising or falling considerably away from its mean forebodes falling weather, subject to the modifying influence of the neighboring ranges of mountains and hills.

8. Precipitation generally follows a rapid influx or efflux of atmosphere.

9. If wind is in southwest and rain sets in, the rain is of short duration and light yield.

10. Banks of watery clouds or heavy haze on south or southeastern horizon indicate rain.

11. An area of low barometer at or near Fort Monroe, and running up the coast, surely reaches here as a northeaster.

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Let us Smile.

"Bub, is your mother in?" asked a Vicksburg lady the other evening of a lad of ten, who was lounging over his widowed mother's gate.

"No, she's out," he answered.

"Gone up to visit your dead father's grave?" she continued.

"Not exactly," he smiled—"she's gone after ice cream with a chap who has got three inches of fat on his ribs, and I'll betten to one she'll halter him in less'n a month."

Lying is trying to hide in a fog; if you move about you are in danger of bumping your head against the truth; as the fog blows up, you are gone anyhow.

"Bless you," said John Henry, with tears in his eyes, "she takes her own hair off so easy that perhaps she doesn't know how it hurts to have mine pulled out."—Boston Journal.

A Tennessee girl, riding on the cars, crossed the aisle, kicked a young man up against the window, and remarked: "I was brought up never to allow a yaller-eyed man to wink at me."

A rustic youngster being asked out to take tea with a friend, was admonished to praise the eatables. Presently the butter was passed to him, when he remarked: "Very nice butter—what there is of it." And observing a smile he added, "and plenty of it—such as it is."

BAPTIZED IN SPITE OF HERSELF.

Some of our worthy colored brethren of the Baptist persuasion had a baptism down at the creek last Sunday, and the ceremony attracted a very large crowd of people. Mrs. Pitman's colored servant girl was very anxious to be present, and as it was not her Sunday out she slipped away from the house while the dinner was cooking, and went round in her working clothes. Her interest was so intense that she stood close to the minister, who was in the water while the ceremony proceeded.

After six or seven had been dipped, the clergyman filled with enthusiasm, seized her and pulled her into the water. She resisted but the minister imagined that she was merely afraid of the coldness of the water, so before she could explain the situation he sooused her. She came up sputtering, and exclaimed, "What you doin'! Lemme go, I tell you!" But he exerted his strength and sent her "kerchuck" below the surface again. She emerged, chewing the air wildly and shouting, "G'way from here! Don't you chuck me under agin, you nigger!" But the clergyman was inexorable, and he plunged her under a third time, and held her there for a minute, so as to let it soak in and do her good.

Then she came up and struck for the shore, and standing there, looking like a drugged mermaid cut in ebony, she shook her fist at the astonished pastor, and shrieked: "Oh, I'll fix you! I'll bust the head offen you, you ornary trash! Soun' me in dat dar creek and nearly drowned me, when you known well enough all de time I'm a Methodist, and bin christened by dem dat's yer betters, and knows more about religion than all the Baptists dat ever shonted, you misable black scum! and me got the rheumatiz enough to set me crazy? Oh, I'll see what de lawkin do for you! I'll have you 'rested dis very day, or my name's not Johanna Johnson, you woolly headed herrin'? You hear me?

Then Johanna went home to redress, and the ceremony proceeded. Miss Johnson is now persuaded that the Baptists are not any better than pagans.—Terre Haute Gazette

If a set of double harness is used, and one-half of it oiled with dash or neatsfoot oil while on the other Uncle Sam's Harness Oil is used, the latter will be in better condition after one year's service than the former will be at the end of three months. Emmert Proprietary Co., Manufacturers, Chicago, Ill.



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