Pigpen Plan.

Editor "The Farmer's Advocate":

In a recent issue of "The Farmer's Advocate" I read that you wanted some pigpen plans. Now, the size of this described pen, which was built in 1905, and has been in use since, is 30 x 36 ft., with a 3-ft. cement wall, on which is built the frame, with 10-ft. posts; the ceiling is built 8 ft. All the 2-ft. and 3-ft. doors are just the height of the cement, 3 ft. The general passage, 4 ft. in width, is a driveway, for the purpose of cleaning pens out. The 4-ft. doorways in each and every pen may be opened and fastened, so as to make a passage from pen to pen. The flooring is of cement, with a slight slope towards the passageway, to a sort of rounded gutter falling towards one end. There are two of these, one on each side of the passageway, but inside the pens. To take this through the feed halls, 3-in. tile are used, built in the floor. It may either be caught at the lower end by a cesspool or a tile built in the wall, thus allowing it to run off with the fall of the ground in the hog-yard. There is a sleeper built in each pen. The troughs are built of very strongly-mixed cement. There is a large upstairs—room for 1,000 bushels of grain, four loads of straw, and a good workshop. The chop is kept in bins upstairs, and a chute is built to boxes below, one in feed hall for dry feeding, and one in mixing room. If you have a windmill, have a tap in the mixing room; if not, a well may be dug for the water.

Middlesex Co., Ont. E. G. BOURNE.

THE FARM.

Pennsylvania Board of Agriculture

Complete organization seems to be the chief characteristic of the State Board of Agriculture, established in 1876 by the Pennsylvania commonwealth. The annual meeting, held at Harrisburg, Pa., January 26th to 29th, was one of the best organized State agricultural meetings which it has been our pleasure to attend. A splendid exhibit of corn, butter, market milk, dairy and farm machinery, and exhibits from the State College and Sanitary Board, in a large hall adjoining the place of meeting, added interest to the gathering. The State Live-stock Breeders' Association and the Dairy Union are affiliated organizations.

The Dairy Union meetings were not largely attended, as this branch of the work has been organized only recently, under Prof. Van Norman, of the State College. As an indication that the Dairy Union means business, we may mention that, when the plan of appointing State instructors for creameries, of which there are some 700 to 800 in the State, was laid before the meeting, and the fact pointed out that funds would be necessary to pay the expenses of a committee to lay the matter before the State Legislature, a number of creamerymen came forward and placed five or ten dollars in the hands of the secretary to forward the work. This was done without any urging on the part of the chairman. In a short time they obtained $200 or more for the work. This impressed us most favorably. The creamerymen need instruction; they knew it, and they were willing to pay for it. They expect that the State will assist them, and rightly so. We had thought that coal and iron were the great natural resources of the State, but one speaker said that these would all be exhausted in a few years, and the Commonwealth would have to depend upon the top foot of soil as a source of wealth. We were convinced that the greatest asset which the State has is its farms and farmers. We never met so enthusiastic, whole-souled farmers anywhere as at this meeting.

SOME THINGS SAID AT THE MEETINGS.

Dr. Frear, Chemist, State College.—We were amazed at the way in which the audience of farmers listened to a lecture on "Lime Nitrogen, or Calcium Cyanimide." The wealth of technical terms used by the lecturer would have completely staggered an average Canadian audience, but both lecturer and listener seemed to consider that these scientific phrases were to be taken as a matter of course. Dr. Frear pointed out that, while lime-nitrogen may be produced at about one-half the cost of nitrogen in nitrate of soda or ammonium sulphate, it was only about two-fifths to three-fifths as valuable as these for top-dressing purposes. He thought it more valuable as a fertilizer when worked into the soil for some time before sowing a crop, or when used as part of a mixed fertilizer. A mixture of nine parts acid phosphate and one part lime-nitrogen was recommended.

Dr. Hallerstadt, State Mineralogist, deplored the useless waste of money in mineral prospecting. He pointed to a number of instances where farmers had lost a good deal of money digging for coal, coal oil, etc., beneath the surface of their farms. He showed that in certain rock formations coal or oil is not found, and advised farmers to consult with State officers before giving up their hard-earned money to human parasites who prey upon farmers.

Prof. Surface, State Ornithologist, made a strong plea for the preservation of insect and

Mr. Bourne's Pigpen Plan.

weed-destroying birds, which were among the most valuable helps which the farmer has.

Prof. Hunt, Dean of the State Agricultural College, gave the results of 25 years' tests of fertilizers on a four-year rotation of crops. These tests, he said, are the longest continuous tests which have been made in America. He pointed out the need of proper environment (moisture, heat and light) in order to obtain good results from commercial fertilizers. The application of mineral manures (phosphoric acid and potash) had maintained soil fertility on the limestone soil where the experiments were conducted, without the addition of any other form of manure, except that obtained by growing clover in the four-year rotation. The commercial fertilizers gave better results than did barnyard manure in all cases, except one, but the barnyard manure was more economical.

He showed that an application of six tons of barnyard manure per acre twice in the four-year rotation gave a value in increased crops, compared with plots on which no manure was put, equal to $2.00 per ton; an application of eight tons per acre gave a value of $1.66 per ton, and ten tons per acre a value of $1.44. His conclusion was that light applications of stable manure, made frequently, was most profitable and most economical, but that a combination of barnyard manure and commercial fertilizers as a supplement would likely be more economical still. He advised a mixture of one hundred pounds potash, one hundred pounds phosphoric acid and six tons of barnyard manure per acre. For the second crop of hay, where barnyard manure was not available, use 150 pounds nitrate of soda, 150 pounds acid phosphate and 50 pounds muriate of potash per acre.

Dr. E. B. Voorhees, of the New Jersey Experiment Station, read a most valuable paper on the subject of "Alfalfa." His experience was that late summer or early fall seeding was preferable to spring seeding, and that better results are got by seeding alone than by sowing with a nurse-crop. Barnyard manure is not always necessary; in fact, is sometimes a disadvantage, owing to the weed seeds it usually contains, which tend to choke the young alfalfa plants. He recommended sowing on a dry, sandy soil, and the use of about a ton of lime per acre, together with mineral fertilizers. Lime is necessary to neutralize any acidity there may be in the soil, to improve the physical character of the soil, and to furnish needed lime for the plants. Either caustic lime or raw ground limestone rock would answer the purpose. Soil inoculation was necessary, especially on light soils. It was not wise to take chances on the necessary bacteria being present, especially with first seedings. The best way to inoculate a field was to sow about 200 pounds per acre of soil from an alfalfa field. This is best done in the evening, so that the bacteria will not be killed by drying out, as they are likely to be if sown in the day time, especially when the weather is warm. Sow 20 to 30 pounds seed per acre, and have the seed free from weed seeds. On light soils the alfalfa will remain in good condition for three to five years, and on heavier soils four to six years. As necessary factors in successful alfalfa-growing, he mentioned:

1. Well-drained, moderately porous soil. Good potato or corn land is good land for alfalfa.
2. Plow deep, cultivate well, and have a fine seed-bed.
3. The preceding crop should be potatoes, oats or peas.
4. Soil should have plenty of available manures, and a certain amount of vegetable matter for the proper action of the bacteria.

Dr. Voorhees was of the opinion that alfalfa would furnish a large part of the proteids now purchased by the New England farmer.

The foregoing will be sufficient to indicate the many good things furnished on the programme. We must not close this short and imperfect sketch without saying a word regarding the good work being done by the Grange order. The Master is a member of the Legislature, and he informed me that they keep a pretty close "tab" on all legislation affecting the farmer.

The committee on resolutions at the meeting had some very important suggestions for State legislation. Not only this, but I was told that the Grange have organized fire insurance, banks and other organizations for the benefit of farmers.

The writer's address, on "Some Needs of Agriculture," wherein he pointed out the need of relief from tariff burdens, and more direct control of agricultural machinery and institutions by the farmers, seemed to meet with the cordial approval of the meeting. We also intimated that, whenever the United States expressed a willingness to join Canada, we were prepared to take them in. The audacity of the suggestion seemed to tickle the audience immensely. We met many persons who had relatives in Canada. Many "Pennsylvania Dutch" residents of the State have friends or relatives in Waterloo County and other parts of Ontario. It has not been our pleasure to meet more cordial sympathy for Canada and Canadians than we found in the State named after Wm. Penn.

The State Capitol Building is possibly the finest to be found in any State of the Union. Its marble steps, marble columns, beautiful statuary and paintings are excelled by few public buildings anywhere. The only one we have seen to rival it is the Pantheon, at Paris, France. It is unfortunate that "graft" to the extent of several million dollars should have been associated with so beautiful a building. However, it is fortunate, as John Bright said, "Palaces, baronial castles, great halls, stately mansions, do not make a nation. The nation in every country dwells in the cottages." H. H. D.

Build a New House.

Editor "The Farmer's Advocate":

In reading over the contribution of J. C. S., in the recent issue of your valuable journal, "How the Old House was Improved," it strikes me very forcibly that the time is now past when such work should be advocated in this glorious land of ours, and I would not advise any person who has any intention of improving his home to do any such thing, for in more ways than one it is never very satisfactory, and in the end generally costs as much, or nearly so, as a brand-new building, and can never have the same conveniences.

A much better plan would be to leave the old home (if it is worth leaving) where it now stands, and select the most desirable spot on the farm for a new site; and if you are not just now prepared to build, you can make out your plans, and lay out your drives and lawn, and then plant trees and shrubs where they will be required, and in a very short time you will have a most desirable spot for a modern structure.

The old home can then be utilized by the boy if he is of matrimonial disposition, or can be kept for the hired man, if such happens to be married. The late Lord Dufferin stated that, "The greatest mistake he saw in Canadian rural life was the tendency to leave the farm, and move into town or city as soon as a little competency was acquired." Such, he said, was a great mistake. Spend your money where you made it, and help build up a class of country gentlemen such as they have in England, and it would not be long until it would have a marked effect on our country life. It would not only do that, but would tend to longer life and much more happiness. The time is not far distant in this Province, at least, when all the conveniences of town or city life may be enjoyed on the farm, and when that time comes, country life will be much more preferable, if we prepare for it as we might. W. F. J.