## THE FARMER'S ADVOCATE.

ground, and branching off in front of the different kinds of stock. In the corner of each stall, and behind the feeding tube before men tioned, there should be an upright spout, with the top widened sufficiently for the animal to drink with comfort. This spont should be provided with a lid, in order that the stock may be watered when required, or be allowed to get it at their pleasure. The smaller tank should hold sufficient water to force each spout full, and should be filled from a tap at the bottom of the larger tank. This tap should have attached to it a weight just heavy enough to close it if not resisted in any way, and also a strong cord, which should pass upward from the tap, over a small pulley, thence horizon-tally toward the smaller tank, over another pulley, and, falling directly over the centre of nk, be attached to a "float," which the t should be heavy enough to raise the tap with the weight attached. The float should be placed so that it will allow the tap to close only when the smaller tank is full.

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The management of the manure now demands our consideration. If there be a sufficient surplus of straw over and above what is required for feeding, this alone should be used for litter (being first cut), and any muck, leaves, or anything of that description that may be preferred, should be used only for making composts. We will suppose, however, that muck is used as an absorbent. In that case the manure thus made should by all means be placed in a heap and left to ferment, and thus prepare itself to be of use as food for The balance of the manure should, the soil. if possible, be taken directly to the field and scattered over the surface of the ground or snow, as the case may be. The application of properly prepared manure to the soil in winter has been found to be more beneficial than a similar application would be in the spring, and if applied in the fall it is better still. It is also an economy of time to draw out the manure in the winter when one is not so busy as during the summer months. I like the idea of using a tank for the liquid manure if no absorbents are used, but would have as much as possible taken up by absorption.

It seems to me to be a great waste of room in having the hand-car track wide enough for a wagon to pass through. I see no advantage in it whatever, as anything that is required to be put into the different departments can be put there through the floor above; and the space would require to be not only wide enough for the wagon, but to allow for the turning of the horses in passing around the building; but the hand-car might be found quite convenient if properly made, and the track kept in good condition.

You seem to have located the granary in as good a position as could have been chosen; ny other than a general where room must be economized. I would have two granaries, one above the other; by this means the grain could be dropped from each bin, through a spout at the bottom, directly to the fanning mill below. No extra room will then be required for cleaning in the granary above. I would have the open shed exchange places with the shop and shed for implements. The horses would then be convenient to both wagons and implements, and the shop would be nearest to any repairing that might require to be done. This would make the open shed some what smaller, but the room for implements should be larger than given in the plan.

American Silver and Indian Wheat. In a recent issue we pointed out the hopelessness of our position as a wheat growing country, unless a revolution took place in the international trade policy of this continent. The Week discusses the question in its relation to American silver, the following article being taken from its issue of March 11: The widden and almost total loss by the

The sudden and almost total loss by the United States of its export trade in wheat is due mainly to the decline in silver and to a tariff that requires England to send gold to pay for American wheat, while India and other countries take her goods in payment. Other causes there are,—the rising competition from our North-West among them,-but the two we have named are the principal; and they have been for some years in operation, although the culmination of the effect has only now suddenly become developed. Silver coin passes at its face value in India ; but as it is at fifteen per cent. discount in England, the shipper of Indian wheat, in selling his produce there for gold, has a profit of the premium on gold over the silver currency he uses to make his purchase with. This amounts to a bonus of about fifteen cents per bushel, which the politicians of the States are paying-at the bid of the Silver Ring-to the wheat growers of India; the artificial stimul is to the production of silver in the States afforded by its compulsory coinage, as a prime cause of the decline of silver, has taken twenty cents off the value of every bushel of wheat raised in the country. Under this favoring circumstance, and notwithstanding the extra cost of transportation, India, which in 1884 contributed fifteen per cent. of the wheat imported into the United Kingdom, contributed last year forty five per cent ; while the contribution of the United States sank from fifty per cent. to fifteen per sent. The two countries have thus changed places ; a fact which is not without significance to our North-West and to While the balance of trade was Ontario. against the States, and England and Europe could pay for their imports of wheat and other food supplies, or raw materials, in manufactured goods, the States, by reason of their industrial advancement and facilities of transportation, could undersell the world ; but since this balance of trade has been in favor of the States-a state of things which began in 1879-and England has in consequence been obliged to ship gold to settle the balance, the States not taking her goods, it has been her policy, in order to keep gold in Europe, to encourage the production of not only wheat, but also all other food products of India and Australia. Protectionists in the States are thus not merely closing foreign markets to American farmers, but are moreover fostering the industries of their rivals. And is not Canada doing very much the same? By

## APRIL, 1886

## The Pairy.

## Prospects of Ontario Butter. BY M. MOYER, GEORGETOWN, ONT.

Canadian butter men have every reason to feel encouraged with the results of their efforts in improving the system of butter making and the introduction of the creamery business. Only a few years ago we were assailed by all sorts of arguments that the country was not suitable for butter making, and that we could never expect to take a high stand as a butter producing country. Experience has proved that our natural facilities are unsurpassed, and that it lies all in our power to make Ontario one of the leading butter, as well as cheese countries, in the world.

Since the great North-west and India are sending their wheat into the market cheaper than we can, our farmers feel alarmed ; but I am inclined to think that the low price of wheat only drives us into a more remunerative branch and a system of farming which our country requires. Our soil is so exhausted through continual cropping that a change is necessary. Had wheat growing continued to pay, we would no doubt have kept on raising. or trying to raise wheat, until the consequences might have been serious. Butter making just suits the circumstances of the country, and it must be a matter of delight to the farmers to see how rapidly the butter industry is being developed, and that our prospects of profitable farming are as bright as ever. All ideas that circumstances are not favorable to butter making must be abandoned, when we are told by our friend in England, who handles our butter, that Canadian creamery butter stands higher in quality than the American, and compares very favorably with the best from the continent.

When we take into consideration the short time since we introduced the creamery system, and the hard name our butter had in England, nothing could be more gratifying to those engaged in the business than to hear such reports. This should encourage every farmer to support the enterprise in every possible way. Even if our butter compares well with other butter, it must be remembered that it has to be sold as Canadian butter. So long hav sent to England only inferior butter, that there is such a prejudice there against Canadian butter that they buy it very cautiously, and with a great deal of suspicion, and at prices below the value of its quality. Time will overcome that trouble, if we act wisely, and entirely change our system and not ship any more bad butter. If we don't learn to do this through our own enterprise, we will learn it when our butter is no more wanted as human food, and becomes unsaleable. Every bad lot of butter going over there means a few cents off each pound made in this country. To raise the standard and reputation of our butter therefore requires united effort and our influence in every possible way to break up any system of making, buying or shipping which retards progress, and encourage every effort to improve in every line. The old fashioned way of setting milk in shallow pans should at once be discontinued. It is impossible to make fine flavored butter where the milk is exposed to the influences of the air. There are a great many who do not

The arrangement of the feeding departments seems to be good. The passage next to the bull stall should face the south, so that the. horses and most of the cattle could get the most possible light from the noon-day sun.

It is rather doubtful if the ventilator proves sufficient either for light or air without some places of access for the air to the ventilator through the basement from the outside. It looks as though the inner part of the basement would be rather dark, with no more provision for light than is given in your plan; however, we cannot expect it to be as light in a basement of any kind as it would be in a stable above ground.

our added protectionism, the commercial face of Europe is set wholly against this continent. While the price of the wheat grown in our North-West is beaten down twenty cents per bushel by lobbyists at Washington, we aid them by shutting our doors to European trade, although to pay our debts we must sell Europe our grain at whatever price it will fetch.

Temperature of germination. - Mr. Hellriegel has undertaken, in a series of experiments on eighteen species of cultivated plants. to ascertain the lowest temperature at which seeds are capable of germinating. The seeds, sprinkled with distilled water, were planted in large receptacles filled with vegetable mold that were raised to constant temperatures of 45°, 40°, 38°, 35° and 32°, and kept there from thirty-five to sixty hours. It was found that rye and winter wheat germinated at  $32^{\circ}$ . Barley and oats showed their cotyledons at 32° but did not start till 35° were reached. Indian corn required 48°. The turnip germinated at 32°, flax at 35°, the pea and clover at 35°, the bean and lupin at 38°, asparagus at 35°, the carrot at 38°, and the beet at 40°. The respiratory function requires little heat, and operates even in the entire absence of light. Heat and light are, however, most favorable for the as similation of carbonic acid and its conversion into carbon. But little importance is attached to the color of the light.