few drops of the solution on it, and if it kills the tick at once it is too strong; if the tick walks round your hand, it is too weak; so it can be made right by adding a little water to it, or a little more tobacco, as the case may be.

There is another pest more annoying to the sheep than the common tick. I refer to a small red louse, similar to the hen louse,—so small that you can hardly see it with the naked eye, and very nearly the color of the skin. They are generally found on sheep in poor condition. When these lice get on the sheep it makes them very uncomfortable; they are constantly biting at their sides and pulling some wool out. Remedy:—Take some Scotch snuff, put it in an old pepper dish, open the wool about the shoulders and neck and sides, dust it well in with the snuff, and sure death will result to the pest.

I find that the use of Shropshire or Southdown rams on Cotswold or Leicester ewes makes a profitable cross, producing good large sheep, well mixed mutton, and plenty of wool. We had a few wedders of the above cross at the Winnipeg Show; I think in 1892. One of the wedders dressed 166 pounds of mutton. All rams should be separated from the ewes about the last of August. Sheep always do better in dry seasons on short pasture, with plenty of water. The lambs should be weaned about the beginning of September, so as to give the ewes a chance to gain up before the cold weather comes. The ewes should be milked, say about the second day after the lambs are taken away; this should be done twice, so as to keep their udders right for another crop of lambs. Turn the ewes out on the summer-fallow to eat up all the green weeds that are there, which they are fond of, and which are beneficial to them. Their droppings and the packing of the ground are beneficial to the soil.

Now, just a few words about the wool, and I am through. Professor Shaw, in judging the sheep at the show in Winnipeg in 1893, said that he found the wool on the sheep in Manitoba wherever he went so very dry, showing a great lack of yolk. He said he could not account for it; nor do I know the exact reason either, unless it was on account of the very wet weather we had previous to the show that year; for much rain is always against sheep and wool.

But I know that it is not a general thing in Manitoba, for I find, from my own experience, that it is just the reverse. For example, when I was shearing our sheep last spring, I never saw the yolk up in the wool better in any country, my hands becoming very greasy before I would be at work half an hour.

FARM.

Narrow Tires Not the Remedy.

SIR,—I notice in your valuable paper an article by Mr. G. D. Farmer on the road question, advocating as a remedy for bad roads broad tires. Any system before being established should be tested by experiment and general facts. For example: I want to catch a train. I have to drive eight miles; the road is about two rods wide, ditched on each side; the night is dark and rainy; the road is of blue clay loam and gravel, constructed on the general statute labor system. I have two lumber waggons, one with two-inch tires, the other three and a-half; each waggon is of the same weight; which will I take to catch the train? I might also state that the mud was from three to six inches deep, well mixed up. What would be the difference in draft for the team between the different width of tires, mathematically demonstrated and proven by actual facts? Most farmers would choose the two-inch-tire waggon.

Mr. Farmer says many things that are very true, but there are very few intelligent men but can realize the shameful state of the country roads summer and winter. Even the macadamized roads, throughout Ontario Province, are not according to law, nor are they constructed or kept according to the terms of their charters. Any intelligent farmer knows that it is not the width of tires that builds roads; first build roads, and according to the traffic and weight of loads use a common sense tire, and those who will not comply without compulsion, let them be compelled to do so according to statutory law, and not by by-law.

The present system of road construction, by statute labor and pathmaster, borrowed from feudalism, might have done in the past, but the intelligence of the present day requires different administration. There will be no improvement till the Provincial Government appoints inspectors to introduce a specified system for road construction, to be carried out by councils in each municipality, all delinquents to be reported to the County Judge, and a penalty fixed by statute for roads that are not according to the required standard.

It is not my desire to suggest tolls to raise revenue for speculators or usurers. There are some farmers who can play sharp, but they are the exception and not the rule. The financial question of road construction might be left to each municipality, and the road improvements might be confined to those that are most travelled; and each municipality would be the best judge how to raise a revenue to meet the required expenditure.

Every intelligent man in the Dominion with practical common sense knows that "fads" do not build roads; sometimes Government grants do. Let wisdom govern; do not be caught by untried systems; prove them first by general rules and facts, and you will find the proper width of the tire for a cart wheel. JOSEPH WHITE, Carleton Co.

Well Arranged Barn and Stables.

In the Township of North Dorchester, on the farm of Mr. Thomas Irwin, about eight miles east of the City of London, Ont., is situated one of the most economical and conveniently arranged set of farm buildings that we have yet seen. The accompanying illustrations are almost self-explanatory. The buildings are made over from an old barn, with a new additional lean-to (calf stable, etc.) attached. Fig. 1 shows a cross-section or end view. The dotted line running up through the horse stable represents the position of the silo beyond the stable, as shown in Fig. 2. The walls and floors are of cement concrete, and are solid and firm. It will be seen that the barn has an end drive, which makes it very convenient for feeding and bedding stock. The mow over horse stable is yearly filled with hay. The space over the east portion of cow stable and barn floor is never filled with grain, but is left to receive straw of the first threshing. When necessary the machine is moved back and the emptied mows are filled up again with straw. Frequently a grain stack is built outdoors, the straw of which goes into the last mow when threshed. The position of the silo, as shown in Fig. 2, the hay and straw in the different mows, also root-house beneath the barn floor readily show that feeding the stock is a very short job. Mr. Irwin has a windmill erected to supply water in the stable this coming season. He also intends constructing a granary on the barn floor next the silo, when everything that the stock requires will be right at hand.

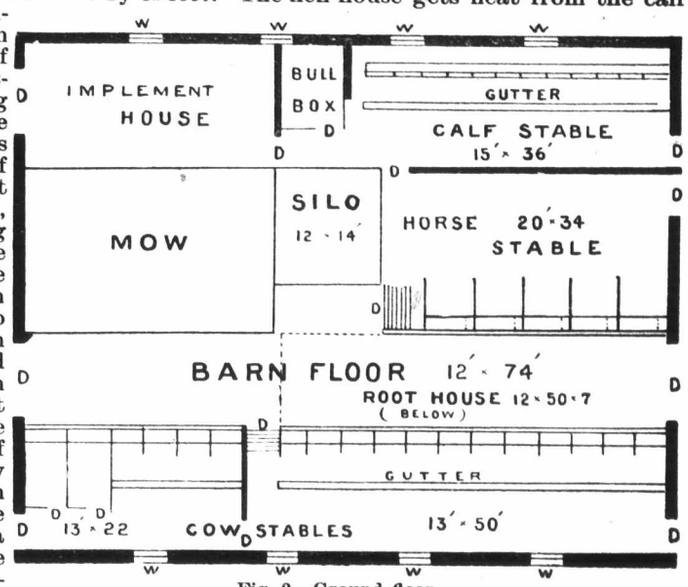

Fig. 2. Ground floor.

Fig. 1 represents the east end of the barn. The west end of the barn floor is almost level with the ground, the east end very little more than two feet above the yard level, so that teams can pass out the front door with ease. The dotted line running across the barn floor, in Fig. 2, shows the position of the west end wall of root-house beneath. The small lines, in what seems the sixth stall of the horse stable, represent a cleated bridge from the stable to the barn through a door represented by Fig. 5, which slides up and down by means of weights on either side just heavy enough to balance it.

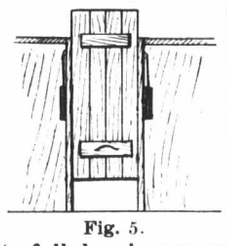

Fig. 5.

In front of each horse and cow is a little light door, which slides up and down between side grooves. To it a strap is attached having slits which fasten over a smooth hook to hold it up or closed. When this strap is unhooked it allows the door to fall, leaving an opening through which the feed is passed.

The cattle mangers are about twenty inches wide from back to front, having a front board nine inches high. Above the manger is a rack of three staves which holds straw or hay from falling into the manger, but through which ensilage, etc., will readily fall. These staves fit into holes in the front of manger and not into a cleat, which would harbor grain, ensilage, etc., when thrown into the manger. The cows are tied with chains sliding on iron bars, allowing their heads all the freedom and comfort necessary. The calves are all fastened by means of stanchions, which Mr. Irwin has found an excellent arrangement to teach them to stand straight. Behind each row of cattle is a cement gutter, about 14 inches wide and seven inches deep, to catch and hold all the manure—liquid and solid.

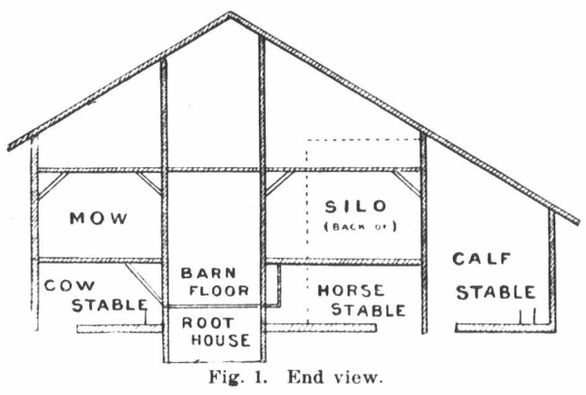

Fig. 1. End view.

The horse mangers are divisions of a wooden trough running the whole length of the stable; it is about nine or ten inches deep and twenty inches wide. The dotted lines across the left end of the manger represent a hay box, which runs up to the ceiling. It is divided from the rest of the manger simply by three strips, represented by the three dots. The centre one is flat and moveable, so that the spaces through which the hay is drawn by the horses can be made wide or narrow at will by turning the flat bar half around.

Mr. Irwin considers he has ventilation down fine, at the same time very simply arranged. The root-house has openings up through the partitions which divide the stables from the barn floor. The cattle and horse stables are ventilated by a diamond-shaped opening, three by four inches, in front of each animal (except the calves), close up to the ceiling, which allows the heated air to pass out of the stables into the barn. A circulation is created by leaving every stable door one inch up from the bottom, which can be closed if desired by a forkful of manure.

The barn is roofed with Pedlar metal roofing, which Mr. Irwin considers a great improvement on wooden shingles.

To the east of the barn, adjoining the calf stable, is a hen house and hog pen (divided by partition) 12 by 45 feet. The hen house gets heat from the calf pen, which has the effect of producing good quantities of winter eggs. The hog pen has a novel feature worthy of mention. It is arranged with a double deck or up-stairs, about three and a-half feet above, to which the pigs retire on a cleated bridge after meals. This is supplied with plenty of clean straw, which is always kept dry by the pigs when not allowed too much room. We liked the plan well, as the under floor of cement can be cleaned in a very few moments each day, and little or much straw need be used, according to one's desire.

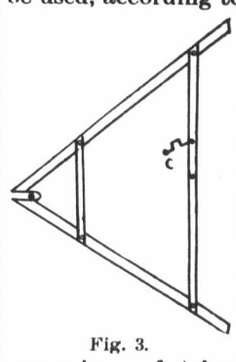

Fig. 3.

Fig. 3 represents the style of fastenings used on stable doors; the two side pieces are of one by two inch hardwood, and about two feet long. The cross-pieces may be lighter, and are bolted to the side strips. It is attached to the inside of the door by means of a bolt, as shown at the slotted apex upon which the triangle slides back and forth. The bolt passes through the door, through the slot and then through notched cleat bolted to the door at either end, against which the cross-piece of triangle rests when the door is open. The little crank, "C," shown in Fig. 3, passes out through the door, where the handle can be given a swing which moves the triangle one way to allow the door to open or the reverse to hold it shut, when the ends of the side pieces of the fastening pass the edge of the door inside the partition. When the door is closed the long cross-piece of the triangle rests against a block or cleat fastened to the door. Through a slight inaccuracy on the part of the artist the short cross-piece on the triangle is shown about three times as far from the slot as it should be. The advantages of such a fastening are that it holds the door in two places, about two feet apart, and that it is convenient, strong, and home-made.

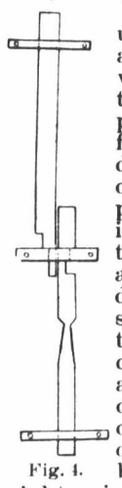

Fig. 4.

Fig. 4 represents the style of standard used on the large barn doors. They are attached to the left-hand door when viewed from the inside. They are held to the door by the cleats, through which they pass into slots above and below. The figure shows them in position when the door is closed. When it is desired to open it the under piece is raised and pushed to the right, into the second notch in centre cleat; this allows the upper piece to slide to the right and fall to next notch and out of the upper slot. When the door is to be closed the upper piece is shoved up and to the left, which allows the under piece to fall into place. The cross-pieces of the right-hand door project about two inches, which rest inside the other door, thus holding it shut. This is one of the most ingenious and simple door standards we have ever seen. It can be manipulated as well in the darkest night as in the light of day, which every man that ever worked about a barn can see to be a great advantage over the ordinary old-fashioned standard.

The Horse Your Friend.

This being so, be sure to keep the harness soft and clean, particularly inside of the collar and saddle, as the perspiration, if allowed to dry in, will cause irritation and produce gall. The collar should fit closely, with sufficient space at the bottom to admit your hand; a collar too small obstructs the breathing, while one too large will cramp and draw the shoulders into an unnatural position, thus obstructing the circulation. Never allow your horse to stand on hot, fermenting manure, as this will soften the hoof and bring on diseases of the feet; nor permit the old litter to lie under the manger, as the gasses will taint his food and irritate his lungs and eyes.