

## Prize Essay.

In this month's number of the *ADVOCATE* you ask for a plan and description and estimate cost of a cow stable to answer the purpose of D. S., of Stonewall, Manitoba. As no particulars are given as regards height of walls, pitch of roof and the kind of floor to be used, all of which are necessary to know in estimating the cost of construction, I take it for granted that the building is to be built in a substantial manner, using no surplus material and as cheap as may be consistent with strength and durability.

I send you a plan of a stable that is convenient and suited to the wants and requirements of the majority of farmers in the Prairie Province. Fig. 1 is a front and end view of stable, size 60 feet by 30 feet, 14 feet height of walls and 18 inches thick, with four doors in front, one entering behind each row of cattle and one into passageway; two in the end, one entering into meal or storage room, and one into the loft or mow over the cattle. Three small windows in front and two in the end to admit light into the passageways and stable; the window frames should be set into the walls and the concrete built over them. Double windows should be used, that is, one placed near the inside of the frame and the other near the outside. When the windows are single the breath from the cattle in cold weather freezes on them so thick that it makes them in a measure opaque. The inside ash may be hung on

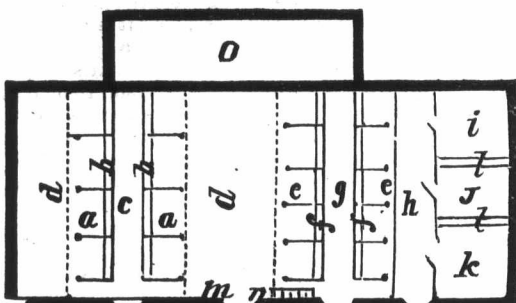


FIG. 2—BASEMENT AND CATTLE STALLS.

a pivot in the centre, so as to open easily to give ventilation in the spring and summer seasons when the stock is required to be stabled, and the outside one can be taken out and a mosquito bar put in its place. The doors are hung on hinges; they are cheaper and better adapted to the country than slide doors.

Fig. 2 shows the plan of cattle floor, which contains eighteen double stalls with ample accommodation for 36 head of cattle, besides calf house, meal or store room, and one loose box for cows at calving time, or an extra calf pen, if required; *a a*, cattle stalls 6 ft. 4 in. in width from centre to centre, and 11 ft. in length from the passageway *c* to the wall behind the cows on one side, and the same distance from the passage to the manure dropped on the other side; *b b* is manger, 20 inches high from the floor, 2 ft. wide on the top, and 1 ft. 6 in. at the bottom. The top of the manger is formed of 3 by 6 scantling, running the width of the stalls, and from the scantling to the floor of inch lumber made tight and close at the bottom for feeding meal, or a small box at each side of the stalls can be made for that purpose. *c*, passageway in front of cows to feed from, 4 ft. wide and boarded up 3 ft. 6 in. high. *d d*, manure drops. The stalls described are for large-sized cows. *e e* are stalls for smaller-sized cows or young cattle, 5 ft. from centre to centre, and 10 ft. from passageway to the partitions on one side, and the same distance to the centre of manure drop, *d*, on the other. *f f* are mangers the same as *d d*. *g*, passageway the same as *c*. *h* is manure drop. *i*, calf house. *j*, meal room. *k*, loose box. *l*, mangers. *m*, side passage. *n*, ladder to loft. *O* shows the position of a root house that can be built, if required, and entered from the stable by the passageways. The partitions between the stalls are 6 ft. long and 4 ft. 4 inches high, boarded up with 2 inch plank, each partition requiring four pieces of 2 by 6 plank spiked to the studding, the

two top pieces having a small bolt through each end, making them firm and secure.

Fig. 3 is hay loft; *a a* are feed shoots for delivering hay into centre of passageways. The hay can be thrown in at the tops or through small doors in the sides, according to the height of hay in the mow. *B*, entrance to loft from passage below. *A*, shoot, the same as *a a*, to deliver hay into feed room for calf pen and loose box.



FIG. 1—FRONT AND END VIEW OF STABLE.

Fig. 4 shows stall partition and manner of tying cows; *a a*, end view of manger; *b*, a two-inch round stake, the bottom end let into the top piece of the manger and the other end bolted to the top bar of stall partition. *c* is tie chain to slide up and down on the stake. Instead of the stakes, rods of inch iron 14 inches long can be bolted on the slats of the stalls for the chains to slide on, but they would add \$18 to the cost of the building, and the stakes answer equally as well. The partitions are boarded up 5 feet high. Height of stable 7 feet from floor to loft; the upper floor is laid with inch lumber. If poles are used instead of lumber for the upper floor, it will lessen the cost in the estimate about \$30.

## QUANTITY OF LUMBER REQUIRED.

17 pieces, 2 x 8 = 30 feet long =	680 feet
for joists.	
4 pieces, 2 x 10 = 30 feet long =	200 feet
for plates.	
22 pieces, 2 x 6 = 18 feet long =	396 feet
for rafters.	
2 pieces, 3 x 6 = 26 feet long =	78 feet
for mangers.	
56 pieces, 2 x 6 = 12 feet long =	672 feet
for collar be. & st. partition.	
40 pieces, 2 x 4 = 14 feet long =	396 feet
for studding.	
14 pieces, 2 x 8 = 12 feet long =	224 feet
for window & door frames.	
2 pieces, 2 x 14 = 12 feet long =	56 feet
for calf mangers.	
Inch lumber 14 feet long =	1386 feet
" 12 " =	3512 feet
Total number of feet,	7600

## ESTIMATE COST.

7,600 feet of lumber, at \$30 per thousand....	\$ 321
24 thousand shingles at \$4 50 " " " "	108
4 140 cubic feet of concrete, at 15c. per foot..	621
Nails and hinges.....	20
Windows.....	6
Carpenters' work.....	100

Total cost.....\$1176

I have made no estimate of kind of floor to be used, as lumber and other materials are expensive. And as D. S. is in the neighborhood where stone

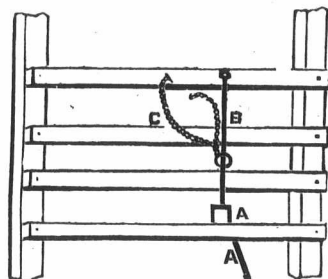


FIG. 4—STALL PARTITION.

is plentiful, a floor paved with stone will be the cheapest and best floor for him to make, and he can do the paving himself at spare times, and the cost will be small. He can also change the plan as regards width of stalls, passageways, ventilation, &c., if necessary, for no person can possibly know so well what an individual wants as himself, if he be a reflecting man.

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## Onslow Agricultural Society.

The Onslow, N. S., Agr'l Society met in the court house, Jan. 18th, F. Tupper, jr., in the chair. About 100 members were present. The meeting had been called to support the application of the Onslow A. S. for the Provincial Exhibition of 1882. At the meeting Counsellor Jas. Fleming read a paper on "Agricultural Education,"

from which we take some extracts. The essayist fully endorses the opinion we had advanced, to wit, instructions in the principles of agriculture in public schools:

If we could by any means give such information to the rising generation of farmers in this Province, as would enable them to raise five, six, or ten bushels more per acre, than their fathers are now getting, the effect on every profession, trade, and department of business in the country would be marvellous. Hence the time and means spent in teaching

agriculture is not for one, but for every class of the population. I therefore claim on behalf of all classes of people that without delay steps should be taken to introduce and make compulsory the teachings of the first principles of agriculture in our rural public schools. The mere reading of books on such subjects, as the origin, nature and most important constituents of soils; the relation of the plant to the soil, the atmosphere and the animal, the composition of and uses, of various manures, tillage operations, rotation of crops, stock raising, &c.—I say the mere reading of such books, on such subjects, without any teaching whatever, would be of great value to our farmer's sons, it would excite their curiosity, and teach them to make a right use of their eyes, in observ-

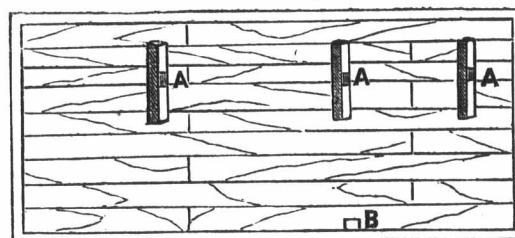


FIG. 3—LOFT WITH FEED SHOOTS.

ing the common objects and scenes of every day life, would foster in them a love of nature, and form most valuable habits of observation, would cause them to think, and inquire into the causes of things; and above all would develop in them a taste for reading books and papers, that treat of the operations which they are called to perform, in the daily routine of farm life. In this way a desire for agricultural education would be created, and before long the Government would be justified in establishing in every agricultural district, or county, an agricultural school, and a competent master with a good laboratory, where young men could be taught the principles of agriculture and agricultural chemistry, botany and fruit culture, veterinary science, geology and physical geography, reading in agricultural books and papers, writing, spelling, and English composition and arithmetic. I venture to say a school of that kind in any of our counties, would be one of the most popular, and one of the best attended schools, especially during the winter season. After the student had received instruction in a county or district agricultural school, he could apply the principles on his own farm.

## Durable Whitewash for Outbuildings.

As the season will soon be here when whitewashing outbuildings will be in order, we print the following excellent receipt:—Slake half a bushel of good lime in boiling water in a covered vessel, and strain it through a fine sieve; add a peck of salt dissolved in a small quantity of hot water, three pounds of rice boiled with water to a thin paste, one pound of Spanish whiting, one pound of glue softened by soaking in water and then dissolved over a water-bath, and five gallons of hot water. Agitate, cover from dust, and allow to stand several days. Apply hot. Slaked lime or hydraulic cement mixed with skimmed milk makes a cheap and durable paint for outdoor work.