

anywhere. Then, another layer may be laid, always in the same direction, but this time, putting the heads of the corn on the butt-ends of the former layer, and so on.

To get this sort of silage out of the silo, you have only to cut it with an axe by armfuls. The stock will do the rest, particularly if it is Canadian corn. As the U. S. corn is stouter, the butts will very likely be left uneaten.

The chaff-cutter is not so much needed when clover and other green-meats are ensiled, though one advantage of its use is that, when chaffed, more silage can be made in the same silo.

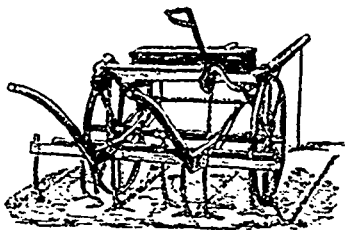
I believe I have answered all the questions that are likely to be put to me on this subject. However, if further information is required, I shall be happy to afford it.

Your obedient servant,

(Signed) ED. A. BARNARD,
Sec. Council of Agriculture, and Director
of the Journals of Agriculture.

(From the French.)

Vipian & Headly, Church Gate Works, Leicester, Manufacturers of the Royal Agricultural Society of England's prize general purpose Steerage Horse Hoe.



For Hoeing 6 rows of Corn... £10 0 0
 " " 7 " " ... 10 10 0
 " " 8 " " ... 11 0 0 (1)

Model Barns Cowhouses, &c.

Now that labor is so scarce and dear, and that building materials have become so costly, it is important to inquire thoroughly what are these models of farm-buildings that offer us the greatest advantages from an economical point of view.

GENERAL PRINCIPLES.—We shall gain time, and time is money, by getting under one and the same roof the greatest possible number of those things that occupy the attention of the farmer in the interior of his farm-buildings, so that he may be able to inspect all this most important part of his business without, if it be possible, setting his foot out of doors. It will, besides, be a great saving to get the greatest possible number of cubic feet under the same roof, provided it does not make the cost of the frame and walls much more expensive.

Of late years, the frames have been very much simplified in structure, yet their power of resisting the force even of hurricanes has not been diminished. The engraving of the erection, No. 1, will give an idea of the exterior appearance of a building *d'ensemble* uniting all the desiderata or requirements of a well managed farm. It may be larger or smaller, either as to length or breadth, according to the size or productiveness of the farm. We know that a circular building gives the greatest amount of covered space in proportion to any given roof and wall, but this sort of edifice leaves much to be desired in several ways, and the intended saving is more than lost by the quality of lumber that this form of construction requires. As to square buildings, which are more ad-

vantageous, as regards economy in construction so long as they are of moderate breadth, it is difficult to be contented with them on the majority of farms, for, if the appearance of the barn is studied, the length ought to be about twice the breadth. It will shelter the horses, cattle, sheep and pigs, in fact, all the live-stock of the farm, including the poultry. There will be a dung pit, siloes, root-cellars, and fruit cellars if necessary, besides stowage for fodder-crops and threshed or unthreshed grain.

This building may be so constructed as to take advantage of the formation of the ground, which will admit of the loaded wagons entering even above the hay-loft of the cowsheds. It will also answer on more level land, but in this case, it will be necessary to use the horse-fork for the raising and transporting of the crops to different parts of the building, in which case the bridge shown in the engraving will not be wanted.

It seems to us that, since the invention of the hay-fork, the old style of barn, with hardly more than 12 feet of height to the beams from the ground plate, is no longer required. The same roof can cover two or three times as much crop without greater expenditure. For this purpose, it is only requisite to raise the body of the building a little higher, bearing in mind that the higher the barn, the more the pressure on the fodder, and the greater the weight contained in the same number of cubic feet; so much so, that a barn 18 feet high in the clear will hold as much fodder as a barn only 12 feet high, but covering twice as much space as the former. As to the use of the horse-fork raising fodder or grain-crops, 10 or 12 feet of height, more or less, make but a slight difference. Raising the height of our buildings, then, is of immense advantage, and the more so, because it allows of our having the equivalent of a barn above the cowhouse and dung-pit, which, without much additional cost, enables us to feed our cattle with much less trouble.

As to the width of the building, you will easily see the advantage of having it very wide, provided it be well lighted and ventilated in the part in which the live-stock is kept, and that the style of building do not make the cost of the frame too heavy.

But to insure the proper working of the horse-fork, there must be as little obstruction in the barn and the hay-lofts as possible. You will see in the engraving No. 2, that these advantages are to be found in the frame of the building we are about to describe. The horse-fork travels along the building from one end to the other without the least hindrance, except for about 12 feet at the ends, where the fork need not go, since the hay falling from so great a height will get up to the very gables of the barn.

The frame, though very strong is very simple. It is nailed in every part, and any one who can handle a saw and a hammer can make it properly.

Trusses—Each of the trusses is complete in itself and forms a compact body, bound together and strengthened on all sides. They may be made of planks 3 inches broad by 8 inches and more deep, according to the breadth of the building. They may be 3 to 4 feet from each other, but in a large barn, exposed to the wind, it would be wiser to place between each two trusses, 4 feet therefore apart, a false truss which will serve as a support and allow the casing and the roof which are the only bonds between the trusses, to be more firmly nailed on.

Bonds—Each truss is bound at each of its angles, on each side, with boards, 1½ thick, nailed on very firmly.

Joists.—The joists unite the two sides at the base of the truss and thus make a perfectly solid whole. As the weight it has to bear in a large barn, is enormous, they should be 10 or 11 inches thick by 3 inches wide. They are to be nailed

(1) The hoe is set here for working among root-crops.