

dual slope downwards and outwards till the circumference is reached, and the first layer completed. This outside or foundation row should then be carefully examined, and if necessary, adjusted. If any sheaves are pressing too closely together they should be relieved, and a sheaf ought to be introduced where any slackness is discovered. On the regularity and uniformity of the foundation the success of the structure is greatly dependent. Too much care, therefore, cannot be observed in securing a good beginning. "Well begun is half done."

Several methods of construction and arrangement of the sheaves are in use among professional stackers. The method indicated in our small illustration showing a section of the leg of a stack without the centre-filling—is in our opinion the most artistic and satisfactory. It is known as the "right and left" process; which simply signifies that each row of sheaves is laid in an opposite direction. If the first row, for example, is laid "sun-way round," the third, fifth, and so forth, would be laid in the same direction; while the second, fourth, &c., would be stacked in an opposite manner, or contrary to the sun. The but-ends of the sheaves, which acquire a certain uniform bevel by standing in the field, are very favourable to this system, and when they are arranged somewhat obliquely, with the long side placed in front, and the beveled side touching the last laid sheaf, a very handsome structure may be reared. When a couple of outside rows have been thus laid, an inside one is formed. The but-ends of this course should rest on the outside sheaves a little within the band. This serves to secure the sheaves forming the circumference in their places, and keeps the heart or centre of the stack rather higher than its circumference. This precaution is of the first importance, as the inclined position of the outside sheaves prevents the rain finding a passage along the straw into the heart of the stack, which it would otherwise be sure to do. It will be obvious that the number of rows required to fill the body of a stack depends on the length of the straw and the diameter of the stathel. For sheaves not longer than five feet, a diameter of fifteen feet is well adapted. With these dimensions, a stack will be sufficiently filled with one inside row and a few sheaves crossing each other in the centre. When the grain is longer than this, the diameter of the stack should be at least eighteen feet. The same method of procedure is repeated—outside and inside alternately—till the leg is of sufficient height and the eave-row is reached. This row is laid so as to project two or three inches beyond that immediately under it—the object being to carry the rain-drip from the top clear to the ground. In building the top, each successive row of outside sheaves is placed further in than that preceding, so as to give the slope an inclination similar to the pitch of a house-roof. The long bevel of the sheaf from the eave row to the top is invariably laid undermost, and its slanting form is very favourable for the gradual contraction. When the top is thus drawn in to a diameter of four feet the stacker quits the kneeling posture in which he has hitherto worked, and places one sheaf upright in the centre of the small platform, filling the whole of that space with upright sheaves set around the centre one, and leaning a little towards it. The top sheaves are then secured by a rope, and the stack is ready for thatching.

It is almost unnecessary to say that when the stack has reached a height somewhat above the head of the teamster it is impossible for him to pitch the sheaves so as to be convenient for the stacker. A boy should be employed to hand them, as the stacker cannot rise from his knees to take them without a considerable loss of time, and at the risk of making bad work.

There are several recognized methods of thatching, as well as a variety of ways of arranging the ropes to secure the covering. We will content ourselves by describing what we deem the most secure and workmanlike process—merely adding that except in the case of an arrant sloven well drawn wheat straw

is invariably used for the purpose. The thatcher, standing on a ladder long enough to reach to the top of the stack, with a supply of drawn straw beside him, commences operations at the eaves. He takes a large handful of straw and gathering one end of it into a neck or wisp thrusts it into the but-end of a sheaf, and spreads the lower end like a fan overhanging the eaves. In this position he covers as far round the circumference as he can reach at arm's length. He then works upwards, causing each successive handful to over-lap that immediately below. He thus covers the roof by triangular portions till he has gone round the whole backwards, in order that he may avoid treading on his work. Our illustration exhibits two methods of arranging the ropes to secure the thatch; but if preferred the plan shown on the round haystack, at page 177 of this Volume, may be adopted. For ourselves, we prefer the diamond or lozenge arrangement shown in the completed stack on the left of the large cut illustrating this article. A glance at the detail thus shown will render any further instruction superfluous. We will therefore only add that the projecting straw of the thatching should be cut evenly off, and that in every instance a stout rope should be securely tied round the stack immediately below the eaves. To this eave or waist rope, all the other ropes are attached.

### Work for August.

By the beginning of this month, if the weather has been propitious, and the farmer has used proper energy in pushing on his work, the greater portion of the hay and grain crops will have been secured. Where harvesting has yet to be done, last month's directions will still be applicable. Oats in many places remain to be cut. This ought to be done before the grain is quite ripe, to enhance the value of the straw, and prevent the grain from shelling out. Root crops will now have got beyond the need of further hoeing. It is not, however, too late to sow white turnips where the Swedes have failed, or where there is a patch of ground that from any cause is vacant. Sown the first week in August, a fair crop may be expected if the land is in tolerable condition. It is too late to sow any grains now, except millet and buckwheat, and it is only now and then in very favourable seasons that these will do any good. The millet has scarcely time to come to any size for profitable fodder, and early frosts are likely to kill the buckwheat before it matures. Those whom the midge has not frightened out of growing fall wheat, will improve all their spare time in preparing the land for that crop. We recommend a trial of the "midge-proof" wheat. It is well to harrow stubble ground, that the seeds of weeds may germinate, and the next ploughing turn them under as green manure. Harvest tools when done with, should be thoroughly cleaned, well greased and carefully housed. This is the season when weeds ripen and scatter their seeds. Any destruction that can be visited upon them is a tenfold gain in view of their speedy increase. August is a good month for manuring grass lands with fine well-rotted manure. During this month the sheep gad-fly,—the cause of grub in the head,—is troublesome. An occasional smearing of the sheep's noses with tar is recommended,—also that they have access to ploughed ground. The garden and orchard will now begin to yield their increase, and but little needs to be done except to gather in the returns as they become ready. Insects may still be watched for, especially the borer which lays its eggs about this time. The grub soon hatches and works into the tree. Probe him out. A smearing of soft soap round the base of the tree is recommended. Give the bees ample room to store their sweet treasures, by providing surplus boxes where needed.

A cubic yard of farm-yard dung weighs one ton on the average if made in cattle boxes; if in the yard, it weighs a fourth less.

### Modification of the Drainage Prize Scheme.

To the Editor of THE CANADA FARMER.

Sir,—I have read attentively the letter of W. Wilkinson, in your issue of 1st July, and observe the suggestion he makes in reference to the "drainage prize fund." Before deciding to comply with it, I thought it might be well to write to Mr. Johnston, of Geneva, who has had great experience in draining, and get his views of the matter. I have done so, and received from Mr. J. a letter of great interest, which at a future time I may send you for the benefit of your readers. In the meantime let it suffice to say that he confirms the statement of Mr. Wilkinson, that tiles of 2 to 2½ inch bore, are large enough for all lateral drains, but as for mains, it is of great importance to have them large enough. Mr. J. has tiles in his mains as large as 9 inches, semicircular, but laid face to face, so as to make a pipe 9 inches in diameter. Another of his leading mains consists of two 4 inch tiles, placed 8 inches apart, and over and resting on them, a 9 inch half round. It may be laid down as a rule, that wherever two laterals meet they should empty themselves into a 3 inch, and wherever two or more 3 inch drains meet or discharge, it should be into a capacious main.

It should be remembered in constructing this main, that it has to discharge an enormous quantity of water. A fall of rain amounting to three inches, is equal to about one thousand hogsheads per acre. I beg, therefore, to modify my proposal for the premium referred to in the issue for the 1st of June, as follows:—

The premium to be paid to the person putting in the greatest number of rods of drains, laid either with tile or stone, two-inch tile to be the standard. Those laid with tiles 3 to 5 inch, and laterals laid with stone, to count as 1½. Mains laid with tiles over 5 inch, or stone, to count as 2. Thus:—

|                          |     |
|--------------------------|-----|
| 100 Rods 2 inch.....     | 100 |
| 40 " 3 ".....            | 60  |
| 40 " stone laterals..... | 60  |
| 50 " main 8 inch.....    | 100 |

320 rods.

The drains to be not less than 30 inches deep—for occasionally persons have committed suicide for the sake of the insurance! I include stone because I think it makes as good drains as tiles, and my object is not primarily to promote the manufacture of tile, but the improvement of the land, and the prosperity of the farmer. J. B. OSBORNE.

Beamsville, July 11, 1865.

### About Binding Grain.

THERE is considerable diversity among farmers in the mode of binding their grain after the cradle or reaper has performed its office. It is difficult, without grain to aid in the illustration, to explain any system of binding,—hence what follows may prove too obscure to be instructive or beneficial.

There are substantially but two methods of grain binding, to wit, *under the hand*, and *over the thumb*. The first does its work well, but is *slow*; the last does it equally well and is *fast*, and hence the preferable one. This only will be considered, and if possible explained. Let the binder, on approaching the gavel, take material for the band from the top, and not pull it from the centre, as is often done to the derangement of the balance; hold it up in front in the left hand, clasped directly around under the heads of the grain; with the right hand part the mass in the centre as nearly as may be; pass the right hand quickly under and over the left till the two sections of the band are secured together between the fingers and thumb in form resembling the last character in the alphabet. Change the band, now completed, to the right hand, passing one end of it quickly under the gavel to the left, letting the end project upwards between the thumb and fingers; give a smart upward pull with the right hand, letting the band run in the hollow formed by the thumb and forefinger; with the right give the band one swing or twist, and with the thumb or whole hand pass the twisted end under the band, and the work is done. This explanation may not be very lucid, but a few trials will render the operation as easy as its practice will be expeditious and satisfactory. Take two men of equal physical ability and practice in grain binding; let one bind under the hand and the other over the thumb, and the latter will perform one-third, if not one-half more work than the former.—*Rural New Yorker*.