

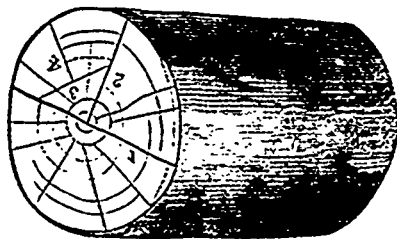
gradually drain, so that it runs over and entirely through the mass. From six months to one year may be necessary fully to incorporate the materials, but when ready, 1 cwt. of this manure, mixed with common barn yard manure, will contain more rich vegetable substance than the same weight of ordinary guano. Its effects may not be so evident as the guano in the first crop, but its action will be increasingly manifested in succeeding crops. As a general rule, small grains, such as wheat, rye, oats and barley, require a less concentrated manure than potatoes and garden vegetables generally; you can therefore vary by mixing with a light manure.

How to Make Shingles.

SHINGLES, the most common material used for roofing in this country, are yearly becoming scarcer and costlier. The greater cost of labour, and the expense of long transportation from the now remote forests where the timber from which they are made in large quantities abounds, are the chief causes of these enhanced prices. One of the heaviest items in building at the present time, is the roofing material, and many an outbuilding is permitted to remain for years with a leaky roof, to the detriment of the frame and floors, and frequently to the damage by wet of crops stored therein, because the owner has not the means to spare from other uses, or shrinks from incurring the expense necessary to procure a new covering. Yet these same farmers may have in their forest, or can procure at small comparative cost of their neighbours, a sufficient amount of suitable timber to make all the shingles they require. A very few trees—sometimes a single one, or two at most—will furnish enough roofing for an ordinary barn or shed. And if one knows how, the shingles may be made by the farmer and his men in the shop during bad weather in the winter and spring and he will not feel the expense.

The varieties of timber adapted to making shingles are few. A wood is required that will split easy and true, and one also that when exposed to the weather on the building, will not warp from its place or "curl" up. The durability of the timber is a secondary consideration—shingles wear out more than they rot—and the varieties which would be least subject to these changes, might, for good reasons, not be at all suitable for roofing purposes. Pine is doubtless the best, but hemlock, cedar and chestnut are excellent. The trees should not have passed their prime when cut, but should be vigorous in growth and sound at the heart, so that the wood will not be "brash."

The first work to be done when we commence shingle making is to get out the bolts. Saw the trunk of the tree with a cross-cut saw into sections, each one of the length you intend to make the shingles. Sixteen inches is sufficient length for any easy splitting wood, and if it be tough or "brashy," twelve will do. The shorter the shingle, the less space you can lay to the weather, and the more time and nails it will take to make them into a roof. These sections of the trunk may then be set on end and split into bolts.

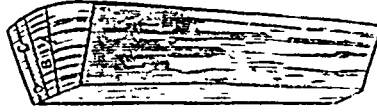


A SECTION FOR MAKING SHINGLE BOLTS.

The numbered lines in the engraving show the place and order in which the section should be split. No. 1 divides it through the centre, No. 2 quarters it; No. 3 takes off the heart block, and No. 4 finishes the shingle bolts. If the tree is large, however, so

that these bolts are wider than it is practicable to make the shingles, they can be further subdivided. The splitting may be done rapidly with the axe and a light maul, drawing the axe first carefully along the longest lines, and tapping it lightly with the maul, until the block is "checked," when a blow or two on the axe placed in the centre, will open it as desired. The bark should next be removed from the bolts, and they should be piled under cover so that the sun and wind will not "season check" them.

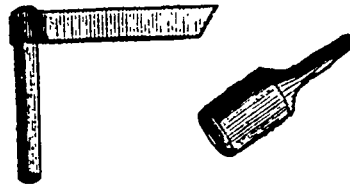
Having the bolts in the shop, next proceed to split them into rough shingles with the mallet and froe.



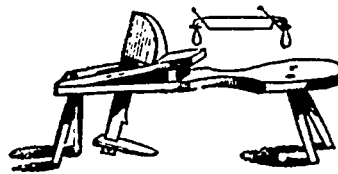
WHERE THE BOLT SHOULD BE SPLIT.

The engraving shows the proper way of splitting a bolt. First, split it at the line, A; this should take off a piece thick enough for four shingles. Next divide this piece through the centre as shown by the line B; the pieces are then each wide enough for two shingles. These are split through the middle, which finishes them. If you undertake to split off each shingle separately from the side of the bolt, they will almost invariably "run out," and the timber be wasted.

A large-sized shaving-knife, and a shaving-horse or bench, are necessary to shave and complete the shingles.



The froe is formed of a heavy steel blade, eight or ten inches long, and two wide, having a dull edge, and a handle a foot long, and projecting from one end of the blade at right angles with it. When the blade is driven into the bolt and partially splits it, the handle can be forced over to one side with the hand, or by a blow from the mallet, and the leverage force thus exerted, splits off the shingle. In this operation, skill and practice in the art come most into use. If the check or split runs out, the shingle will be too short, and therefore worthless, and the timber wasted. The operator must change his block, end for end, as circumstances require, and work carefully. Three-eighths of an inch is the proper thickness for the shingles.



SHAVING BENCH AND KNIFE.

Shave the but-end of the shingle first; this will require but a stroke or two, as it is already of the desired thickness if properly split. Next edge the shingle on the right or left hand side, as most convenient, taking off, when you meet it, all of the sap wood. Change ends of the shingle, shave both sides, thinning it gradually from the but-end to the top, straighten the other edge, and it is finished. A smart workman will split out and shave one thousand in a day.

The shingles should be packed away in tiers, lapping them as in the common bunches which we see for sale, and plank put on the top of the pile and weighted down, so as to keep them in proper shape until seasoned.—*Rural New Yorker.*

On Saving Manure.

A correspondent of the *Agricultural Gazette* speaks thus of the three ways in which alone manure is perfectly saved, viz. :—

1st. The plan now general over the better-farmed counties, of ploughing in fresh manure on the autumn stubble, in preparation for the succeeding green crop. 2nd. The plan of liquefying the whole exuvio for distribution by steam power and iron pipage over the land. 3rd. The plan explained by Lord Kinnaird of having the manure made in covered court-yards. He testifies to the excellence of the third plan. The droppings and soiled litter of stall-fed cattle, and the same from the work-horse stable, are daily thrown into a walled and covered pit, care being taken that they are intermixed. A dozen feeding pigs are kept in the pit; any loose litter there may be found lying about together with road scrapings and odds and ends of animal and vegetable refuse, are thrown in; the pigs mix and incorporate the whole well together. From time to time liquid from the manure-tank is pumped in; and thus we have generally a deposit of a considerable quantity of well-made manure at hand, to supplement the dung heaps when they are exhausted.

These (the dung heaps) are managed on a system which is efficacious. The manure is carted out as the boxes become full, and thrown out of the carts into a heap of 5 feet in height by 12 feet broad. As we advance in this building we follow with a cover to the tops and sides of clayey mould. This cover is at first about 6 inches thick. The still open side, to which we are adding, admits a small degree of atmospheric action, which induces a gentle heat. When this has gone on for three or four days, we add three to six inches more clay or soil, over which we pour dilute urine. This keeps fermentation going on in the heap, the gases from which have to permeate the clay ere they can reach the atmosphere, and the now well-known absorption of ammonia by aluminous earth, prevents any waste. Indeed, with manure taken from covered boxes, there will not be any escape of vapour from the clayey covering till the dilute urine is plentifully supplied; even with the manure made in courts exposed to rain, there will be an escape of nothing but of watery vapour; a loss which is a gain, as there is less weight afterwards to cart on the ground.

In ten days after the heap has been made, it will, if it has been properly attended to as above, be fit for using in bean or potato drills, being soft and unctuous; it is cooked in its own steam. Should it not be required for a month or longer, all that is necessary is to give it a coat of six inches more clay or mould, and it stands ready to be cut up when wanted. I find this system to work exceedingly well. I am satisfied that from seventy loads of manure, carted out and covered with thirty loads of clay, I have a larger store of fertilizing elements than I should have from one hundred loads of similar manure carted out and trenched up in the old mode of ferment.

This conservative power of clayey loam over the fugitive products of the rotting process in the dung heap, is a point of great agricultural importance; and wherever there is any collection of fecal matter which it is desired at once to save and disinfect, this is the best material to mix with it for the purpose.

HAY AND CORN SHRINKAGE BY DRYING.—The *Genesee Farmer* says :—The loss upon hay weighed July 20th, when cured enough to put in the barn, and again February 20th has been ascertained to be 27½ per cent. So that hay at \$15 a ton in the field, is equal to \$20 and upward when weighed from the mow in winter. The weight of cobs in a bushel of corn in November, ascertained to be 19 lbs., was only 7½ lbs. in May. The cost of grinding a bushel dry cob—counting hauling, hauling, and miller's charge—is about 1c. a lb. Is the meal worth the money? This is a question long debated, and the general decision has been in the affirmative.

SEEDING WITHOUT GRAIN.—I saw in one of the late Farmers an article on seeding land without sowing grain. I will tell you what I did seven years ago last fall. After I dug the potatoes—in October I think it was I smoothed the surface over with my hoe on a few rods of ground, drew the tops away, sowed timothy seed and raked it in. It came up in the fall, and the next summer I cut a large swath from it. I could see that it was better than where I had stocked with wheat, for a number of years. In the fall of 1864 I stocked another piece down, which also did well, and last fall I sowed a small piece where I had taken the oats off, a part of which I ploughed and a part I did not. It was on a loamy soil. Next spring I intend to sow a piece to timothy and clover, where I had corn last summer.—*New England Farmer.*