

anyway, it is a grand luxury to pick the splinters out of the fingers and see how good it feels when it quits hurting. The heavier clippings are the better fuel, but heavy clippings reduce the width of the staves and lessen their value, hence a clipping wider than necessary to secure a good joint is not to be tolerated.

Clippings, to meet a ready and profitable sale, should be tied in bundles of uniform size and one end chucked against a board or flat surface to make all ends even. One string around the middle of a bundle is enough, a thin wire is as good, and cheaper than a string. Then sell them at a uniform price. Cull staves that are rejected at the jointer, if unfit for roofing boards, are bunched with the clippings, and increase their fuel value, because heavier and more lasting in the fire.

In circling heading, a small margin is usually allowed in the width of the "match" to insure a perfect head. However, most managers are so careful of their stock after it has been bought, sawed, stacked, dried, planed and jointed, that they put the margin to the minimum by requiring that the circlings break in two every time, unless defective stock requires a broader match to shun defects. The man that matches the heading is the one that is responsible for all the waste, or entitled to praise and credit for the saving.

Circlings are tied in bundles when they do not break, thirty pieces making a bundle. These bundles sell the same as clippings, two cents a bundle when delivered, or three bundles for a nickel at the factory. All circlings that break in two are called scraps and are handled with a shovel easily. Many people prefer circlings to clippings, because they are stronger fuel. Circlings are always thoroughly dry unless allowed to get wet after they are made. One person can take a circling on a block and with a hatchet split off the long corners, then break it in the middle, unless it is too strong in consequence of too much timber having been wasted in making it. A bundle thus prepared makes a batch of wood that is nice to have in any family. Circlings and clippings are sold at almost fabulous prices in localities where kindling and dry wood are scarce.

A large amount of undried refuse drops from the heading saw. All except heading is refuse. Bad sawing, bad timber, iron bolts, dogs, nails and spikes all tend to assist in the production of refuse. If blocks are split with a saw, the first piece from the block may be good heading, but if split with a maul and wedge, the first piece is always refuse; also, the last of every block is always refuse. It may thus be seen that unless there is profitable sale for stove wood it will not pay to buy inferior timber for use in a stove and heading factory; even then I believe the most inferior sticks should be taken with care at reduced price. As a rule, consumers do not clamor for stove wood that is over sixteen inches long; therefore, when our people saw long heading they pass the refuse to the cut-off saw and cut it in two, making short stuff, for which they find a ready sale at good prices.

A large amount of first-class wood is spoiled and becomes refuse in consequence of the ignorance, inexperience and carelessness of the operatives. A great amount of refuse drops at the heading saw from the inexperience and inattention of the sawyer, because he fails to place the block fairly against the gauges, and one end or one edge is made too thin, and it is refuse. Again, the sawyer too often thinks a block is finished when there is another splendid piece of heading on it, which becomes refuse as soon as he drops it. And, again, often the sawyer keeps the dogs

adjusted too far from the saw, so that when the last cut in a block is placed against the gauges, the dogs will not grasp it for lack of a little more thickness; whereas, if the dogs were $\frac{1}{4}$ -inch from the saw, as they should be, another piece could be sawed off with safety. Then, frequently, the saw to give clearance, cutting eight pieces from a block wastes kerf is too broad. If it cuts 1-64 more kerf than is needed 8-64, equal to $\frac{1}{8}$ -inch. It is very often noticed that at the finish of a block it only lacks $\frac{1}{8}$ -inch of being thick enough for the dogs to grasp it, and a good piece of heading must pass off as refuse. A foreman who is not a practical heading sawyer will not recognize these minor wasteful details or be able to correct them.

Large quantities of refuse also drop from the stove machine. All culls that will not do for roof boards are fuel. The last piece of each stove bolt, called a "core," is a beautiful size for a stick of stove wood, and when these and the culls are cut in two at the cut-off saw, they produce stove wood that consumers seek with energy. Often a core is dropped when another good stove could be cut from it, if the stove-cutter had known his business and been careful. Almost any man will be surprised at the enormous number of roof boards that can be selected from the culls as they drop from the stove machine. Thousands are soon accumulated if the selection be closely made. Roof boards sell readily for 25 cents a hundred; no drying, stacking or jointing; they cost nothing except to select them.

HOW FRUIT BASKETS ARE MADE.

A writer in the Toledo Times Bee thus describes the manufacture of fruit baskets in that region. From the rough log to the finished basket is a quick process to the myriad of skilled hands to which the labor of manufacture is allotted. And their work is of such a high degree as to merit the commendation of the most critical fruit-packer, for to be successful the basket-maker must be as honest as the fruit-grower is in packing and shipping, and all cripples are thrown away in the infancy of their make.

The bark is taken from the rough logs as an initial process, the tree trunks being stripped of all outer covering. An endless chain arrangement hauls the now dressed log into the factory, cutting it the desired length for the several uses required, by the steam saw. The big veneering machines carve the wood in huge continuous sheets of the thickness desired for the splints to be used—whether for the main basket splint for half bushels or for the rims of the different sizes or grades, as the case may be. From the veneering machines the wood sheets are placed on to the splint-cutting machinery. This huge cutting device has a long blade, operated by steam power, continually working up and down, the wood sheets passing through an inch, or the desired width, after the rising of the huge blade for a second heavy drop on to the wood, and so on until the entire veneered product is cut into the desired splints.

For bushel baskets a splint in length $62\frac{1}{2}$ inches, $1\frac{1}{2}$ inches wide, and $\frac{3}{8}$ -inch thick is used for the top-side enforcement, while a thin paper-like splint, much shorter and wider, is used for the body of the basket. For half bushel baskets a splint 46 inches long, 1 inch wide and $\frac{1}{8}$ -inch in thickness is used for the top rim, the bulk build of the basket splints varying with the kind made, the splint in all instances being thin for the body manufacture. The average-sized splint for half bushel manufacture, however, is about 32 inches long, and the body splint of the bushel basket is $32\frac{1}{2}$ inches long, $1\frac{1}{8}$ inches wide.