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## IMPROVED SHINGLE AND HEADING MACHINERY.

We illustrate herewith three improved machines for shingle manufacture, which, though they have been before the public for several years, have, during the period since their introduction, been made the subject of numerous improvements, so that, at the present time, they are now offered in highly perfected form.

Fig. 1 represents Evarts' patent twelve block rotary shingle machine. Upon each of two sides of a frame, about seven feet square, is placed an upright shaft. These shafts each carry a horizontal saw, and above the saws a circular carriage, some eight feet in diameter, is mounted. The carriage is divided into twelve spaces, into each of which a block, to be cut into shingles, is placed while the carriage is in motion, new blocks being supplied as fast as the first ones are cut up by the saws. It is stated that twenty thousand shingles per hour can thus be made. The carriage is driven by two friction rollers, which cause a uniform and steady feed, and prevent back lash. The motion is positive and continuous, there being no springs or other gear to get out of order. The dogs are simply weights raised by an inclined plane to drop off the end and fasten the block while the saw is passing through.

But one man is required to place the bolts within the revolving carriage, while a boy can easily remove the slabs from the opposite side. This is done without delay or danger, as the bolts are free except when the saw is passing through them. The work produced is smooth; and as the tables are stationary and not tilted to produce taper when the apparatus is once adjusted, the shingles produced subsequently are exactly alike.

The machine is claimed to saw at least double the shingles of an ordinary two-block machine, and quadruple the shingles of any hand-fed one-block apparatus. If only half the capacity of the machine is required, or a production of from 65,000 to 75,000 shingles per day, but one saw need be used.

The apparatus is made to saw shingles from 16 to 18 inches in length, and is further claimed to saw up closer

and make fewer clip shingles than any other device of like nature.

The Evarts hand-feed one-block machine, which is represented in the second engraving, has one saw shaft, and a reciprocating carriage operated by hand. Eccentrically geared automatic feed works are added, so that the feed may be either automatic or by hand, as the user may desire. Perfectly tapered shingles, of any required thickness at top or

pine or cypress timber, and from 8,000 to 12,000 pieces of heading.

The third figure represents Low's patent shingle and barrel head sawing machine, a light running and portable apparatus, easily attached to any kind of power, and excellently suited for shingle and flour barrel head work. The saw is arranged in a vertical position, so that the bolt gate or carriage moves in a similar direction. The gate is counterbalanced and has a head block to hold the bolt, which is fed out over the saw, and then depressed while the latter cuts off a shingle. The bolt then rises, and a similar movement of the feed pushes it outward in place for another cut. The saw does not have to be removed from the machine to be gummed or filed, and it does its work with the grain of the timber, requiring no countershaft to run it. The dogs are set but once for each block. The capacity of the machine is from 20,000 to 30,000 shingles per day.

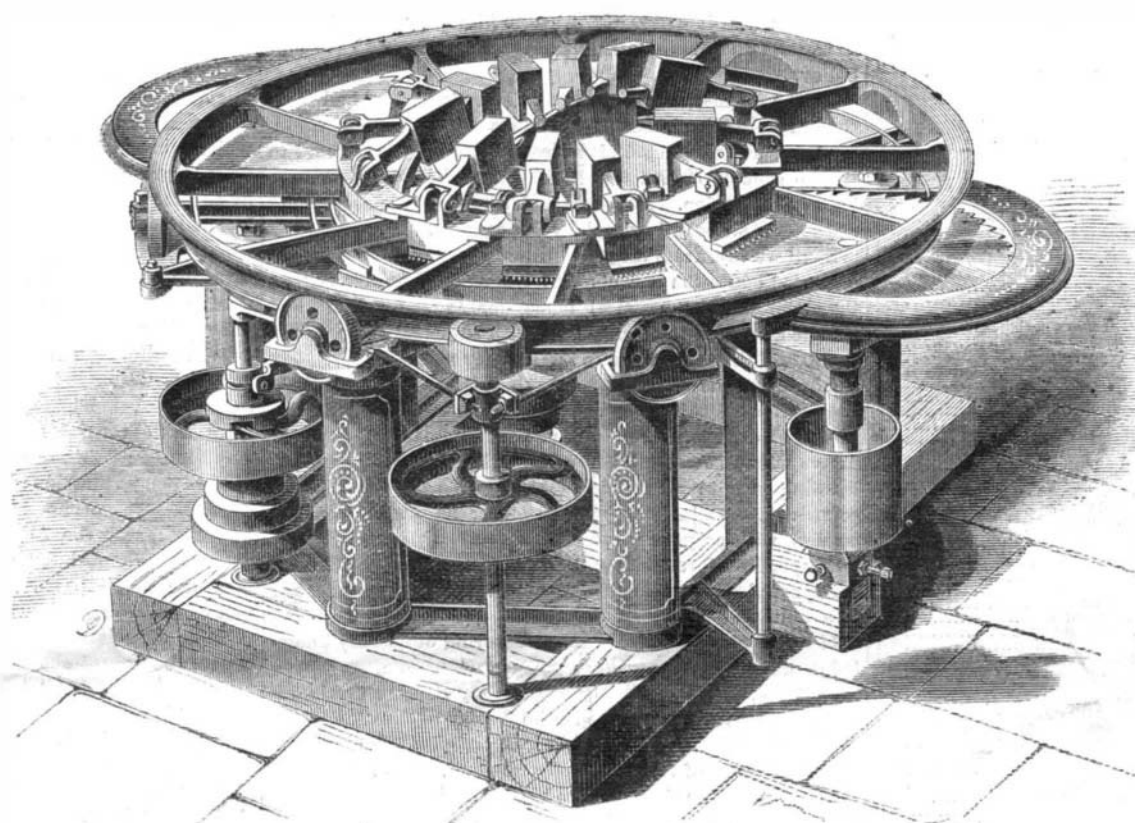
In addition to the foregoing, the manufacturers, Messrs. C. S. & S. Burt, of Dunleith, Ill., produce every kind of machine necessary for a complete outfit for making shingles and heading, including dog saws, saw bolting apparatus, knife or wheel jointers (double or single), knot or saw jointers with one or two saws, different styles of bunching machines, etc.

For further particulars regarding these various devices, address the Messrs. Burt, as above.

## Venus.

The Italian observers at Mad-dapore, in Bengal, to which party the eminent spectroscopist Tacchini belonged, besides observing all four contacts, ascertained an important fact respecting the atmosphere of Venus. The ring around the planet, which in the former transits, as in the present one, was visible around Venus both on and off the sun, indicates in the spectroscope that the atmosphere contains aqueous vapor.—*Nature*.

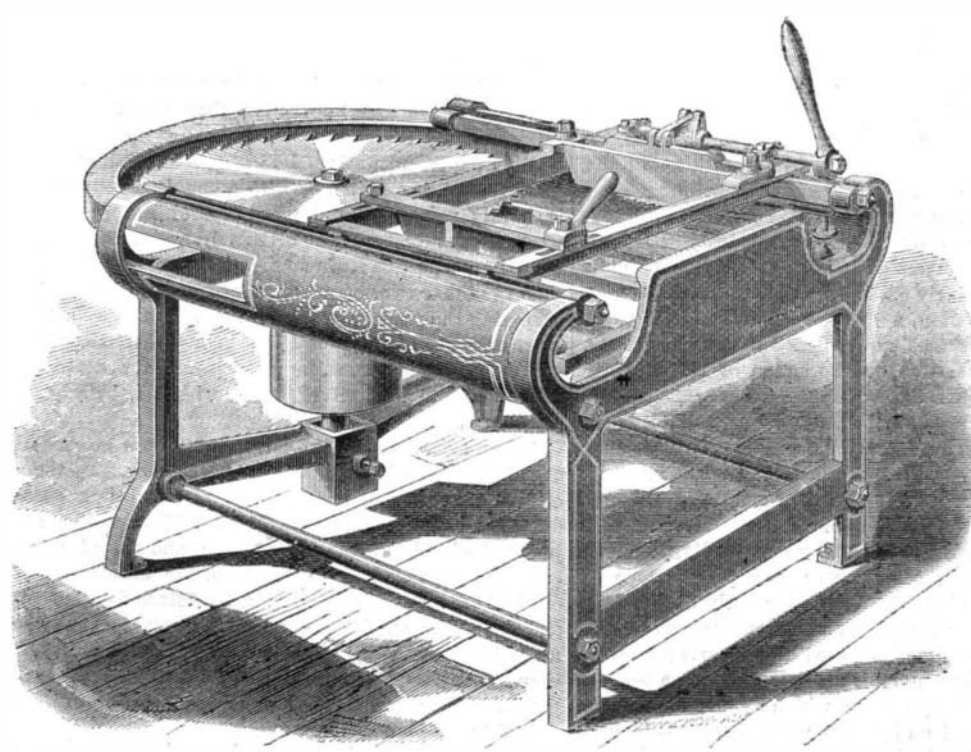
WHEN the stoves are taken down, see that the pipe openings in the wall are protected by good tin covers. Don't stuff rags in



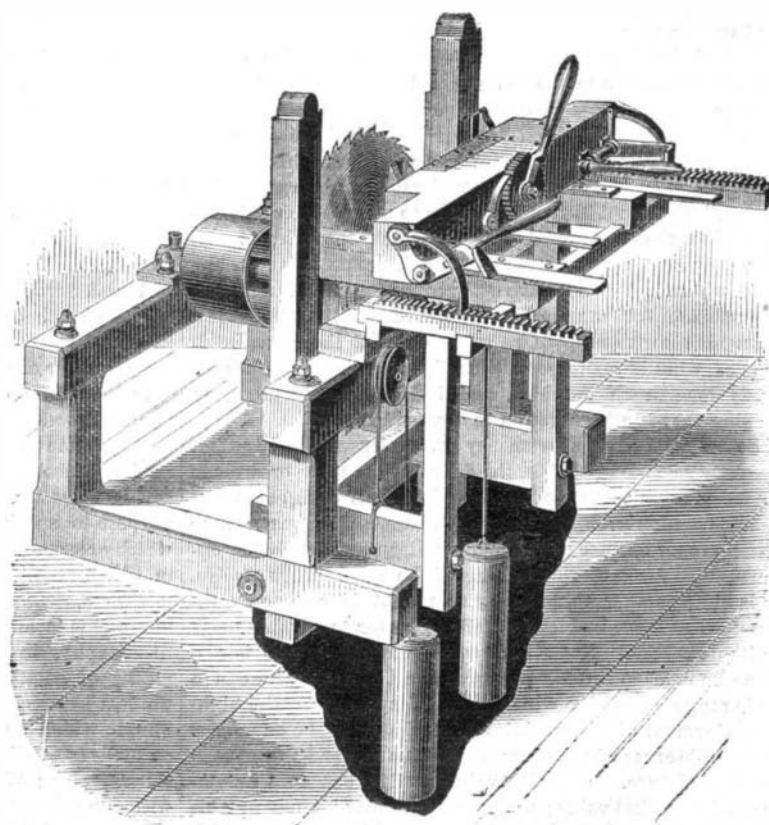
EVARTS' ROTARY SHINGLE MACHINE.

butt, can be made from 16 to 24 inches in length and up to 15 inches in width. No extra fixtures are required for sawing oak and other heading, it being possible, by suitable arrangements, to saw oak thick at the top and thin at the heart.

The machine is made with saws from 36 to 48 inches. The 36 to 40 inch saws are used principally for shingles, and the larger sizes for sawing heading, fruit box stuff, and other boards, up to 30 inches in length. The capacity of the apparatus is from 25,000 to 30,000 shingles per day in good



EVARTS' HAND FEED SHINGLE MACHINE.



LOW'S SHINGLE AND BARREL HEAD SAWING MACHINE.