

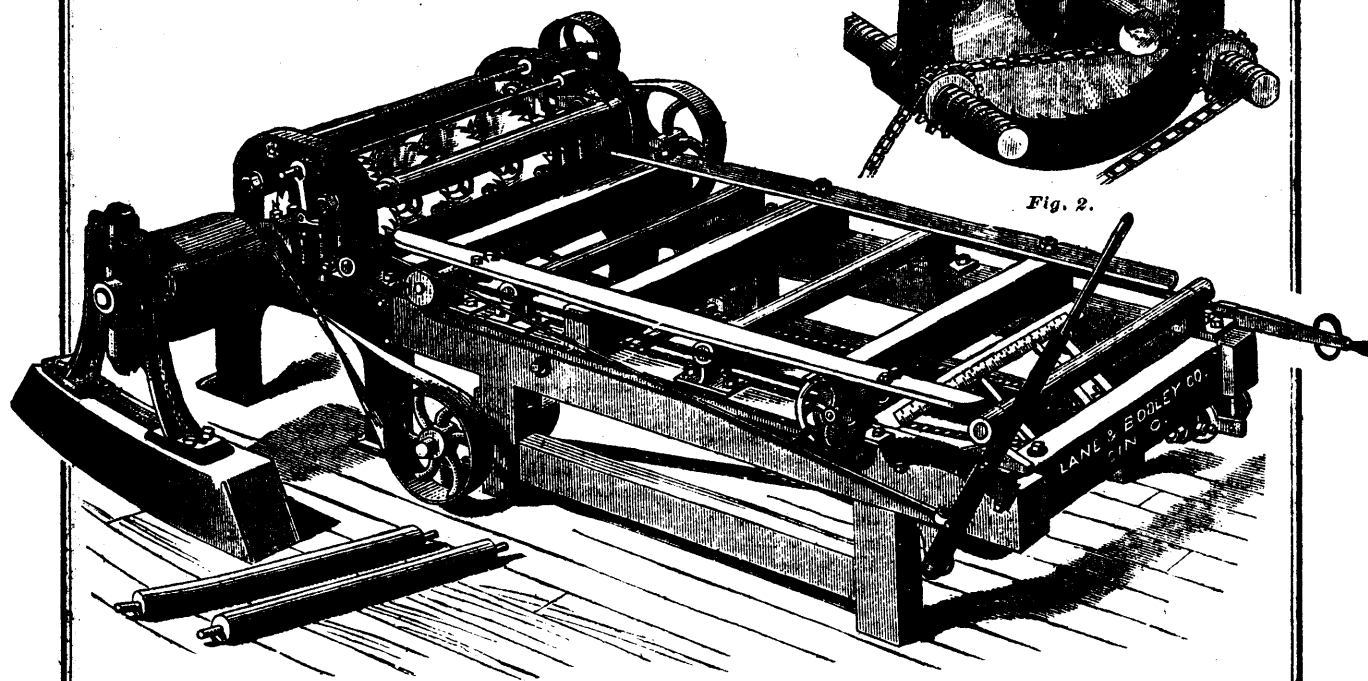


Fig. 1.—GANG-EDGER.

IMPROVED GANG-EDGERS.

Among the machines which have been evolved by modern progress in the production of contrivances for special purposes, are what are called "gang-edgers." They are intended to split wide boards, square their edges, rip scantling, car sills, and other framing timber from cants, and this with great economy of power and time, in comparison with the ordinary methods, as done with large mills. They consist of a power-feed with a movable bed carrying the stuff under a revolving shaft, provided with a number of adjustable revolving saws, and adjustable fences. The machines of this kind thus far made had defects, which have been overcome in the one represented in our engraving, and which is giving great satisfaction, judging from the very flattering testimonials which have fallen under our notice.

The main frame is of cast-iron, of simple design, and of great strength. The mandrel is 2 15-16 inches in diameter, and has three patent self-lubricating bearings, one of which is on a pedestal at the outside of the main pulley. A feather is secured to the mandrel for the pulley and the saw collars. The saws are from three to six in number, and fitted with means for adjusting their position when in motion.

The radical improvement is in the method of holding and moving the saws. All other devices thus far invented take hold of the saw collars in a groove. The result is much wear, while the unguided saw follows the grain of the timber as it may lead, to the extent at least of the last motion of this collar, and all links and joints to the confining notch, so that the products of such machines are very irregular in thickness, and no carpenter expects to get his framing timber within one-fourth of an inch of a uniform size—so universal has become the admission of the imperfection of gang-edger sawed stuff. This slack control of the saw makes a very heavy saw-plate a necessity, and it frequently happens that the mandrel is sprung, the saw spoiled, or the machine stopped, by the "running" of the saw from a true line. It has been the aim of the inventors to remedy this difficulty and also to supply a machine to run with a thinner saw and less power, and to make accurate lumber, so that the machine will be satisfactory to box makers.

Fig. 2 illustrates how this has been accomplished. The grooved collar and forks are abandoned, while the saw is held

between two pairs of fingers, or guides, at opposite sides of the saw, just as a man would take hold of the plate to slide it, were the saw not in motion. Thus the rim is guided, and the saw restricted at its cutting edge to the set line, and opportunity is given the center to right itself, if by heat it should expand and buckle.

The two guides have adjusting screws, and are at opposite ends of a yoke. Each end of the yoke carries a nut with sprocket teeth on the end flange. These nuts are supported at each end by coarse pitch screws, lying parallel with mandrel across the frame. A chain passes over the sprocket wheels on the nuts, to similar nuts and screws at the front of the receiving table, where a constantly rotating shaft, driven by a belt from the feed counter-shaft, communicates motion through the chain and nuts to either saw, and moves them in either direction, as either pulley of a friction reversing gear is engaged with the rotating shaft. Clutches are provided for throwing into gear either one of the chain-nuts, so that adjustment of one saw may take place without disturbing another.

The lower feed-rolls are driven by a pulley on end of each, and a single belt. A tightener is provided, under the control of the sawyer, for putting additional strain on the belt, as may be needed.

The upper rolls are carried in the ends of four short levers, pivoted near their center, and are raised by a link fastened to the free end of each pair, and connected by a rocking-shaft, cranks and rods, to the sawyer's stand.

The sawyer raises the rolls to receive stuff of greater thickness than the preceding piece, but the weight of the rolls gives sufficient resistance to the feed of the lower rolls, to carry through rapidly four-inch stuff, with all the saws cutting. The shaft of the stationary binding pulley on the feed-belt forms a brace for the top of the frame, and also a return-roller for assisting the return of boards, requiring a second passage through the machine. The front table is furnished with the machine. It has iron rollers, one stationary fence, and on the opposite side of table an adjustable one. This has a parallel movement by a screw at each end, connected by a chain, so that the sawyer can adjust it without leaving his place. These machines are manufactured by the Lane & Bodley Company, Cincinnati, Ohio, to whom we refer for details, prices, etc.—*Manufacturer and Builder.*