

IMPROVED SAWING MACHINE.

Much time is lost with circular saws in "gigging back" the stuff after one slab has been cut from the lumber, and the machine which is the subject of our engraving saves this time by cutting the lumber in whatever direction it is moving. It has also a trimming saw, so that edging or slitting and trimming may be performed at one operation.

In our illustration, which is a perspective view, A is the flooring of a mill in which the machine is placed, and B is an elevated frame-work on which rollers, *a*, are placed and allowed to move freely. These rollers may be grooved around to receive a projecting ledge on the under side of the feed table, C, which is formed of two pieces secured at one end by a yoke, *d*. D is a circular saw which is fitted on a mandrel, placed in a suitable frame in the center of the frame, B.

On the floor, A, a frame-work, F, is raised to some distance above the saw, and a pendant frame, G, is attached to it by a joint carrying a spout, H, that is placed obliquely, the largest end facing the saw and the smallest end projecting some little distance over the side of the feed table. The spout, H, is a little above the saw, and at one side.

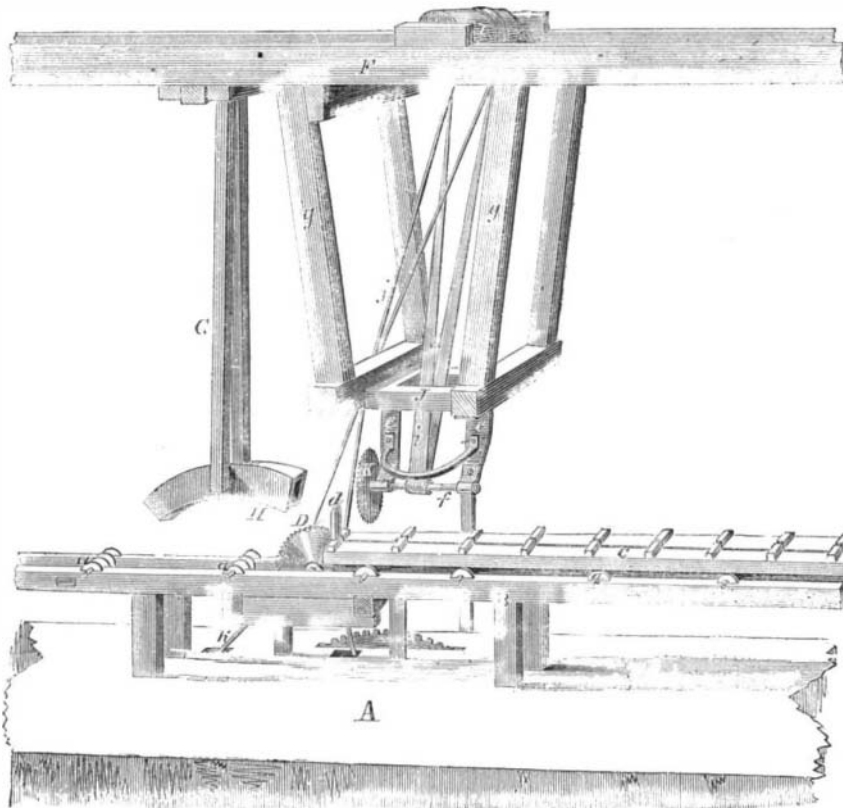
In the upper part of the frame a drum, I, is placed parallel to the mandrel of D, and depending from F is a frame, *g g*, which form guide-bars for a carriage, J, from which two hangers, *e e*, fall and form bearings for the mandrel, *f*, and saw, K, which is at right angles to the saw, D, which is driven by a belt, *h*, from mechanism below the flooring. The saw, K, is driven from I by a belt, *i*, the drum, I, receiving its motion from the saw-mandrel by a belt, *j*.

The operation of the machine is as follows:—In edging and trimming the attendants place the piece of lumber to be operated upon one part of the feed table, C, the feed table being at the end of its movement at one side of the saw, and the attendants adjust the stick on the table in a proper relative position with the saw, so that the latter will cut one edge of the piece of lumber. The feed table, C, is then moved by hand towards the saw, D, the latter entering the lumber, and when the end of the stick reaches a point opposite the saw, K, the feed table, C, is stopped and the carriage, J, is drawn along by hand between the guides, *g g*, and the saw, K, trims off the end of the piece of lumber at right angles with its sides. The saw, K, is then allowed to return back, by a weight or other means, to its original position, and the table, C, is again moved forward, the edging saw, D, operating as usual, and when the feed table has passed to the opposite side of the saw and one side of the lumber edged, it is turned on the other part of the table, so that its opposite side will be adjusted to the edging saw, D. The piece of lumber is then again moved toward the saw in the opposite direction, and when its untrimmed end reaches a point in line with the saw, K, the movement of the feed table, C, is stopped and the carriage, J, moved as before, so that the saw, K, will cut or trim off the other end of the piece of lumber. The feed table is then again moved, and the saw edges the opposite side of the piece of lumber. During this latter movement of the feed table the saw, D, cuts in an upward direction, and the spout, H, receives the dust and conveys it to one side of the feed table so that it cannot drop thereon, but will fall on the

floor at one side of it. This spout, therefore, by keeping the feed table free from dust, permits the lumber to rest steady on the feed table, so that it can be cut or edged, while fed to the saw, in either direction. This result could not otherwise be obtained. In slitting lumber the operation, of course, is substantially similar.

The inventor is Benjamin Barker, of Ellsworth, Maine, and he will be happy to furnish any further information. The patent is dated Feb. 8, 1859.

BARKER'S SAWING MACHINE



IMPROVED TOOL-HOLDER.

By the use of this invention the cutting edge or point of the tool can be turned to any angle horizontally, and at the same time the point can be elevated or depressed to suit the size of the material to be operated upon, thus giving to the gib lathe the same facility of directing the cutting tool which is now only attained by the weighted lathe.

In our illustrations' Fig. 1 is a perspective view and

be pushed more or less out of the posts as the occasion requires, and when in the desired position, horizontally and at the right angle, it can be firmly secured by the screws, M M, and it will cut without the least jar or motion, the bed being perfectly solid, as all the parts are in close contact. When it is desired to move the tool the screws, M M, are loosened, and all the points are free to be re-adjusted.

The inventor of this useful addition to lathes is Charles Peck, of New Haven, Conn., and he obtained a patent. June 28, 1859.

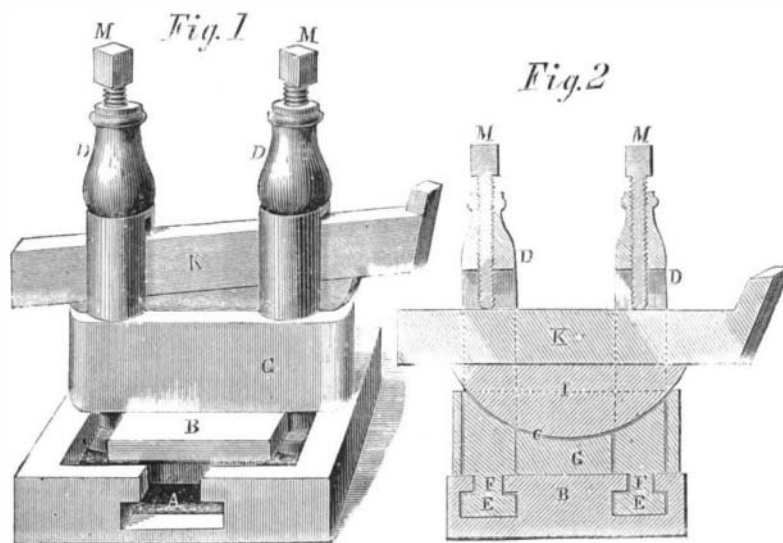
Any further information can be obtained by addressing Milo Peck & Co., of the same place.

THE WINANS' STEAMER.

The Baltimore *American* states that this novel vessel has made another experimental trip down the Chesapeake Bay with the happiest results. "Every trip yet made has been in pursuance of a plan laid down in the beginning, looking to the accurate ascertainment of all the points involved in the novel principles in course of development, with a view to arriving, not at merely satisfactory results, but at the very best results attainable under any possible state of circumstances. The form of the vessel, the pitch of screw, the number of the blades, their size and proportions, the application of steam, the quantity of fuel, the number of revolutions, have been all, in their turn, experimented on; sometimes giving more favorable results, sometimes merely indicating the direction in which improvement was to be looked for. It was one of these experiments, with a change in the pitch of the screw, and looking to the consumption of fuel, which was tried on Saturday; the vessel proceeded to Annapolis, and lay for a short time off the Naval School. The results were in every respect eminently satisfactory. A uniform speed of fifteen miles an hour, carefully timed by the buoys, was attained with 36 revolutions per minute, the boilers working to about one-third of their capacity; and it being, even to the inexpert in these matters, apparent that they were playing with their work. As the experiment was mainly directed to the question of fuel, under certain circumstances, no effort was made looking to speed alone, but quite enough was done to remove all doubt as to the ultimate and triumphant success of the principles involved in the propeller, and the power required to attain the maximum speed in this new form of naval architecture. The results in a sea way are yet, of course, to be tested."

[From all that has been published by our Baltimore cotemporaries about the steamer since its first trial trip, we have not been able to learn the real causes of its want of success, nor does the above give us a tangible idea of the changes which have lately been made to remedy previous defects. We hope Messrs. Winans will yet give a full public account of their entire experience with the cigar-steamer. Their enterprise commands our admiration, and we wish them success. If they have made miscalculations, that is no disgrace to them; the ablest inventors that ever lived have done the same. Their experience given to the public would be a beacon to inventors and engineers generally.—Eds.

The greater a man is, the less he necessarily thinks of himself for his knowledge enlarges with his attainments.



PECK'S TOOL-HOLDER.

Fig. 2 is a vertical section. The bed-plate, B, is made with a T-slot, A, the sides being equal distances apart. The tool-post, D, are of the ordinary form, with a button head, E, and thinned shaft, F, to fit in the slot, A. The tool-rest, G, is made with a semi-circular slot, C, in it, and the base of the slot in the tool-posts, D, is cut to correspond. In this slot the segment, I, rests, carrying on its level top the tool, K, both segment and tool, passing through vertical slots in the tool-posts. The tool has the usual back and forth motion, or in other words, it can