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IMPROVED DOVETAILING MACHINE.

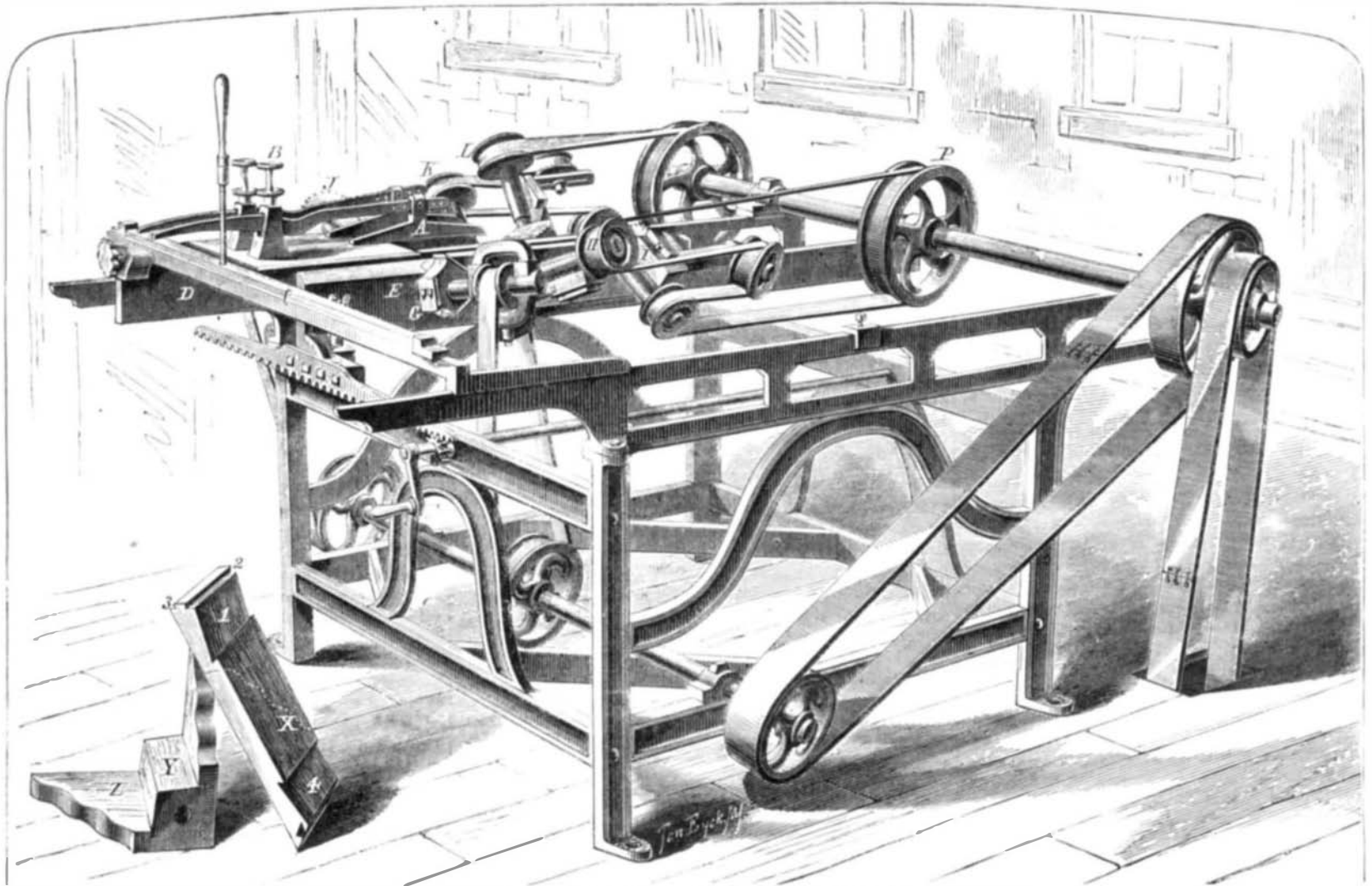
In 1839 Ari Davis obtained a patent for a machine for making a miter dovetail joint. Upon that device, within a few years, improvements were made and also patented. These were followed by other modifications, added by Mr. Asabel Davis, the brother of the inventor, each augmenting the capacity of the apparatus, and all ultimately uniting in the production, at the present time, of the machine which forms the subject of our engraving and of the following description.

are actuated by the pulley, P, which is arranged to slide freely along while revolving with its shaft.

The board being placed as we have described, is carried over the machine in the direction from left to right in the engraving; and during its passage both of its ends encounter certain cutters and saws, which form it in the shape represented in the portion, X, shown to the left, on the floor. To understand this operation, it is necessary to consider the action upon each end separately, and therefore we will begin with the upper extremity of the board, as represented be-

proper miter. A tool at K next forms the upper half of the female dovetail, and another saw, at L, finishes by making the lower half of the same. If now the piece, X, be cut diagonally in two, in the direction of the spiral dotted line, and its dovetailed ends fitted together, a third piece, Y, slipped into the inside dovetail, formed by 1 and 4, completes the joint, which appears as in the second sample piece, Z.

All the various heads belonging to the cutters which we have described are arranged with set screws, so as to be ad-



DAVIS' MITER DOVETAILING MACHINE.

In briefly summing up the capabilities of the device, we may state that it cuts to length and squares and dovetails both ends of the boards operated upon, at once, requiring them to be passed through but a single time. It can be changed for different length of stock while running, as easily as the guide on a saw bench. The dovetailing is accomplished on any bevel, angle, or flare, with great accuracy, and a rabbet or groove is also cut for an inside corner. It is claimed that the machine will prepare boards so as to make from six hundred to one thousand cheap boxes per day of ten hours, doing its work in cross-grained or knotty lumber as well as upon clear stuff, and with very little more expenditure of time. It is well adapted for casket and coffin work, ornamental box work, and for the manufacture of trays, hoppers, moldings, picture frames, cornices, patterns, and, in short, of all flared and many-sided objects.

Referring to our illustration, Fig. 1, at A are feet which serve to hold the board to be operated upon firmly in place. These are connected with levers which pass through standards, and the play of which is regulated by the set screws, B. In order to raise or lower the feet, so as to place or release a board, the outer lever arms are connected with a cam bar, C, to which a handle is secured. By carrying the latter from a vertical to a horizontal position, the bar, C, is turned, thus raising the lever arms, and so forcing the feet firmly down upon the work.

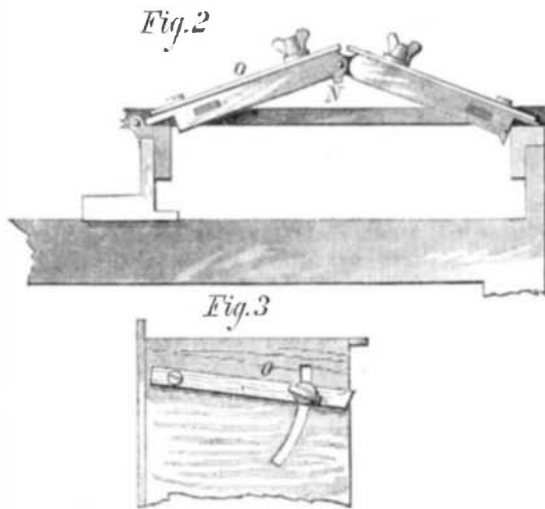
The board rests upon traveling ways, one of which, D, moves upon the outer portion of the frame of the machine. The other moves upon the frame, E, which is arranged upon a support having a motion transverse to the apparatus, so that the ways may be adjusted to suit varying lengths of boards to be cut. This adjustment is effected by means of a horizontal rack connected to the moving frame, in the teeth of which engages a pinion rotated by the crank, F. Upon the bar of the frame, to which the pinion is secured, is marked a suitable index, by means of which accurate adjustments may be made. The cutters and tools upon the moving frame

side the machine. This, it will be observed, has the male portion of the dovetail, which, when being cut, rests upon the traveling piece on the frame, E. As the stuff is carried along, it is first met by the cutter, G, which forms half the inside dovetail, which is marked 1, in the sample piece, X. A second cutter on the arbor, H, then makes the lower half of the male dovetail of the miter joint, marked 2. At I, a saw and cutter are so arranged that the former cuts off the

justable to cut the dovetails deeper or wider, and in order to compensate for wear.

In Figs. 2 and 3 is shown an attachment for guiding boards at suitable inclinations to the saws, so as to be mitered to any desired angle. This consists in a table, N, hinged in the middle, the angle formed by the parts of which becomes greater or less as the movable way is carried further from or nearer to the stationary one. The board laid upon the inclined surface is presented to the tool at the angle to which the table is adjusted. In order to cut the edge for flaring work, such as hoppers, caskets, etc., after the table, N, is placed in position, the location of the board may be altered so that the miter is made diagonally instead of straight along the end, by resting the piece against a guide, O, Fig. 3, which is locked in place by a set screw, which passes through a slot in the table.

The machine represented is claimed to be well adapted for the joinery of flasks, ordnance boxes, feet for furniture, and ice chests. For samples of the joint which it makes, the inventor refers to the refrigerators made by Messrs. L. H. Mace & Co., of this city, which may be found in the stock of almost every hardware dealer. The principal improvements of the machine were patented May 19, 1874. For further particulars, address Mr. Asabel Davis, 16 Middlesex street, Lowell, Mass.



board and thus determines the length of the male portion of the dovetail, while the latter, a thick tool, forms the other re entering portion, 3, thus finishing the end.

The other extremity of the board is first met, as before, by a cutter similar to G, which makes the other half of the inside dovetail, 4, then by a saw, J, which cuts the end to the

A POWER SUPPLYING COMPANY.—The Rochester (N. Y.) Hydraulic Company is an incorporated institution owning more than half a million of dollars' worth of real estate; it carries on no manufacture, but rents its buildings to various manufacturers, supplying the power to them from the water flowing in the river beside the shops. A short time ago the rock was cut so as to make a deep well, and two of the largest water wheels, yielding over 1,000 horse power, were placed therein. It is the intention of the owners to add another wheel, which will swell the power attained to over 1,500 horse power.—*Commercial Bulletin.*