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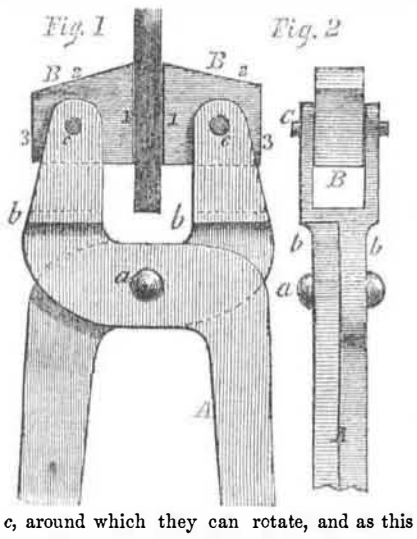
Hart's Improved Tongs.

When a substance of a taper form, or any shape that is not exactly square, is attempted to be grasped by an ordinary pair of tongs, they will not hold it very securely, because they are not adapted to conform to the irregularities of its surface. This is a serious objection to these useful implements, with the aid of which so much good work is done. The inventor of the tongs represented in our engravings—William Hart, of Mayville, Wis.—obviates this difficulty by providing an adjustable piece to each prong, so that they will grasp a body of taper or other form of much greater range of size than the usual tongs.

Fig. 1 shows a front view of this invention, and Fig. 2 a side view. A A are the two arms, hinged at *a*, and each carrying a block of metal, B, in a recess cut in the short part of the arm, *b*, seen in Fig. 2. These blocks of metal are pivoted to the arms, *b*, by a pivot,

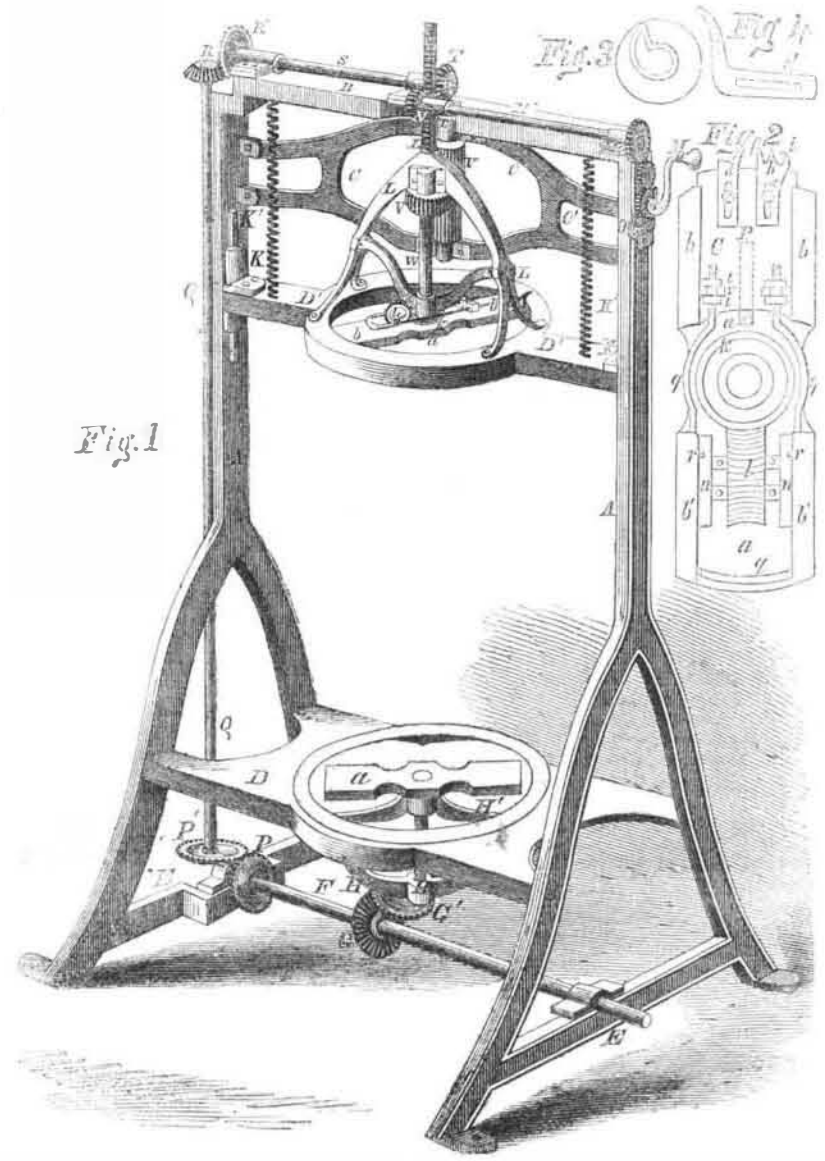


c, around which they can rotate, and as this is not in the center of B, by turning them round, they will accommodate diffierent sized articles; these corresponding sides may be numbered as shown in our illustration, so that they may easily be brought in unison. By their being able to revolve, they can easily grasp a substance of any angle, and although the principle is especially intended for blacksmith's tongs, it is applicable to many other purposes and tools.

These tongs were patented Dec. 29, 1857, by the inventor, who, on being addressed as above, will give any information that may be desired.

A SUIT was recently brought against a Maine railroad for lumber accidentally burned in transit, and the road had to pay up. Why not? Railroad companies contract with parties for carrying freight, and if it is destroyed by fire in transit, or stolen from the cars or stations, the company should be held to a strict accountability.

MATTISON'S BARREL MACHINE.



That highly important branch of mechanic art, the manufacture of barrels, is almost daily, we are happy to say, receiving some new contribution from the inventor and machinist, each doing their share; the one conceiving the idea, and the other constructing, out of wood and iron, new and useful machines for the production of those most useful articles for containing liquids or solids.

In the accompanying engravings we exhibit an improved machine for cutting the chamfer and croze of barrels at one operation, which we will now describe.

Fig. 1 is a perspective view, showing the machine in working position. The improvements in this machine consist, first, in the arranging of certain devices for traversing the chamfering and crosing tools out slowly, and drawing them in suddenly as required, to remove the barrel, and save the time of the operator attending the machine. Second, in making the edges of the rims, D and D′, as shown, to hold the barrel properly without removing the truss hoops, which hold the staves in place. Third, in making the crozing tool of such form that it shall not clog, by placing the points, *f* and *h*, one before the other, while the hooked chisel, *i*, clears the score, leaving it square, that being the proper form for tight work. Fourth, in graduating the feed as desired (by differently-formed cams) to the work. Fifth, in working both ends at the same time, by the use of the long gear, R Q P′. In the above illustrations, A A are posts connected by the top bar, B B, yoke, C C, and bottom hoop or rim, D, forming a strong frame, the bottom of each post having two legs, which are connected to each other by cross bars, E E. F is a shaft turning in boxes on the bars, E E, (the shaft may be provided with pulleys for the belt which is to operate the machine,) and carrying the wheel, G, which operates G′, and turns the shaft, H, in the frame, H′, fastened to the rim, D. The shaft, H, carries an apparatus for chamfering and crozing, as is shown in Fig. 2. The rims, D and D′, are made with a rebate, so as to hold the ends of the barrel without removing the truss hoops, this being a great advantage.

The rim, D′, is connected to brackets, K K, that can traverse on the ways, K′ K′, fastened to the posts, A A. This rim, D′, has the frame, L L, attached to it, and is connected to the rack, L′, by which the rim is raised and lowered as the crank, M, is turned, thus rotating the shaft, M′, moving in boxes fastened to the top bar, B, and carries the pinion, N, moving the rack, L′. The panel, O, holds the rim down while the barrel is being worked, and the springs, O′ O′, suspend it when not in operation.

The gear, P, on shaft, F, drives the wheel, P′, and shaft, Q, carrying the cog wheel, R, and gives motion to the gear, R′, and the shaft, S, turning in boxes fastened to the top bar, B, and carries the wheel, T, driving T′, and long toothed wheel, V, fixed in journals fastened to the yoke, C, and imparting motion to V′ and shaft, W, which turns in the frame, L, and carries the chamfering and crozing apparatus for the upper end of the barrel.

The grooving apparatus is shown in Fig. 2. It consists of a plate, *a*, fastened to the end of shafts, W and H, provided with dovetailing ledges, *b b*, between which the carriage, C, is traversed, carrying the chamfering knife, *d*, made in the form shown, (Fig. 4) and the crozing tool, *e*, which is made with spurs, *f* and *h*, to cut the upper and under sides of the score, and the hooked chisel, *i*, that removes the wood cut off by the spurs, and completes the croze to receive the edge of the head. To traverse the carriage the male screw, K, is fastened to the frame, L, so that the shaft, W, turns freely in it, and carries the gear, *l*, around it, so as to be rotated by it, and turn the cams, *n n*, on the same shaft with the gear, which shaft turns in bearings fastened to bar *a*. The form of the grooves in the cams is shown in Fig. 3, also *n*, Fig. 1. They are so shaped as to move the tools out gradually, and draw them in suddenly, (by the action of spring, *p*, Fig. 2,) to remove the crozing apparatus up out of the barrel as the rim, D′, and frame, L, are raised as before described.

The carriage, C, is traversed by the bridle, *q q*, (Fig. 2,) which is made so that its edges move under ledges, *b′ b′*, and a projection, *r r*, from the rack arm of the bridle enters each of the cams to give it motion. The ends of the arms pass through two lugs, *t t*, each on the carriage, C, with a screw nut, *v*, between them, to adjust the bridle as desired. Different sized barrels may be worked in the same machine, by using different sized rims, D and D′, and adjusting the bridle by the screw nut, *v*. The rims, D and D′, are made enough smaller than the common truss hoop used to force the ends of the barrel to take the shape of the rims. It is a great advantage to retain the truss hoops until the barrel is chamfered and crozed, as they keep the ends of the staves in their proper place. The two plates, *a* and *a′*, work in different directions, or in opposition to each other, making but little force necessary to hold the barrel firmly in its place.

It was invented and patented by J. H. Mattison. Further information may be obtained by addressing Mattison & Welch, care of J. L. Pool, Scriba, Oswego co., N. Y.

The Fine Weather and Railroads.

The Albany (N. Y.) *Evening Journal* says: "Though there is a large falling off in the freight and passenger receipts, on our railroads, during the months of December and January, the expenses have been so largely diminished that the net receipts are nearly if not quite equal to those of last year. The deep snow and severe weather of the last winter, besides the expense of keeping tracks clear, was destructive alike to engines and cars. The New York Central and the Hudson River Railroads have gained more in reduced expenses, during the last six weeks, than they lose in the falling off in gross receipts."

The Leviathan—What Next?

A correspondent of the New York *Daily Times*, with a sagacity which is quite surprising, proposes that the *Leviathan* be filled with coal gas, which, he says, will take away halfher weight, and she may then be launched with ease. We have no doubt that Mr. Brunel will feel very grateful for this suggestion, but we scarcely think that he will have any occasion to act upon it, as we expect from the accounts received by the *Canada*, that she is now floating in her proper element.

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