

ADJUSTABLE DIE FOR BENDING MOLDBOARDS.

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S. S. Mabee
Geo. W. Mabee

J. H. Franklin
 PER Munn & Co
 Attorneys.

United States Patent Office.

JONATHAN H. FRANKLIN, OF AVOCA, WISCONSIN, ASSIGNOR TO HIMSELF
AND J. P. McCALLISTER, OF SAME PLACE.

Letters Patent No. 107,032, dated September 6, 1870.

IMPROVED ADJUSTABLE DIE FOR BENDING MOLD-BOARDS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JONATHAN H. FRANKLIN, of Avoca, in the county of Iowa and State of Wisconsin, have invented a new and useful Improvement in Adjustable Die for Mold-Boards; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvement in that class of dies whose main or distinguishing feature is an arrangement of screws, between which the plate to be bent or shaped is placed.

The invention consists in an arrangement of hinged bars or plates, of which the upper one is stationary, both provided with screws and guide-rods passing through their free ends, and with cam-levers and connecting-rods, for elevating the lower jaw, all as hereinafter set forth.

The machine is an improvement upon that for which Letters Patent of the United States were issued to John Watchman, June 7, 1843. In his case, screws and bevel-gears are employed to operate the upper die-plate, which is guided by the four posts of the frame. This construction renders his machine comparatively cumbrous, slow-acting, and expensive, while I particularly aim at simplicity and ease, rapidity, and convenience of operation, and am thus enabled to supply a want felt among mechanics and manufacturers, to which his invention is illy, if at all, adapted.

In the accompanying drawing—

Figure 1 represents an end view of the die.

Figure 2 is a top view.

Similar letters of reference indicate corresponding parts.

A and B represent two plates, of metal or other suitable material, and of proper size, which are hinged together at one end, as seen at C, but separated by means of blocks attached to each part, so that they stand about parallel when the mold-board is formed.

The upper bar or jaw is designed to be secured or fixed in its place, while the lower one is elevated by devices hereinafter described, but is disengaged or moved away from the upper by its own gravity.

D and E are two strong bars, which are attached to the outer sides of the plates crosswise, as represented.

F F are rods, which pass through the ends of the bars.

These rods are secured by screw-nuts on the under side of the lower bar E, as seen at G. Their up-

per ends extend up through the bar D, and are connected by pins, *h*, which form fulcrums for the eccentric-levers I I, as seen in fig. 1.

J J are rods, which connect the top ends of the rods F F together.

K K are guide-rods, which pass through both the plates A B, and also through the mold-board plate at the bottom of the curve, (where there is no lateral motion,) which keep the mold-board (or the plate of which it is formed) in place during the pressure to which it is subjected in the die.

L represents the screws which pass through the plates A B, (from the outsides,) as seen in the drawing.

The ends of the screws are made to form the die, (by turning them,) so that they approach each other, and the mold-board is formed between them, as represented in fig. 1.

All the screws in each of the plates are adjustable, and may be screwed in or drawn back, so that any curve may be given to the mold-board.

When the screws are once adjusted to give the required curve and shape, holes are made in the plate for the two guide-rods, and the plate of steel is placed in the die. The eccentric-levers I I are then turned down, as seen in fig. 1, which forces the plate into the desired shape.

The shape or curve given by the die may be varied, so as to form mold-boards for different soils or kinds of plowing.

It will, of course, be understood that the mold-board is made of steel plate, and put into the die in a heated state, very little time being required to bring down the eccentric-levers. The operation of forming the mold-board is almost instantaneous, and the mold-board is sufficiently hot for tempering after it is formed and still in the die.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination of the fixed jaw D and movable jaw E, hinged together at C, the die-plates A and B, screws L, guide-rods K, and the vertical rods F, provided with screw-nuts G, the connecting-rods J, and pivoted eccentric-levers I, all constructed and arranged as shown and described, and for the purpose specified.

JONATHAN H. FRANKLIN.

Witnesses:

A. GROTE,

B. J. FRANKLIN.