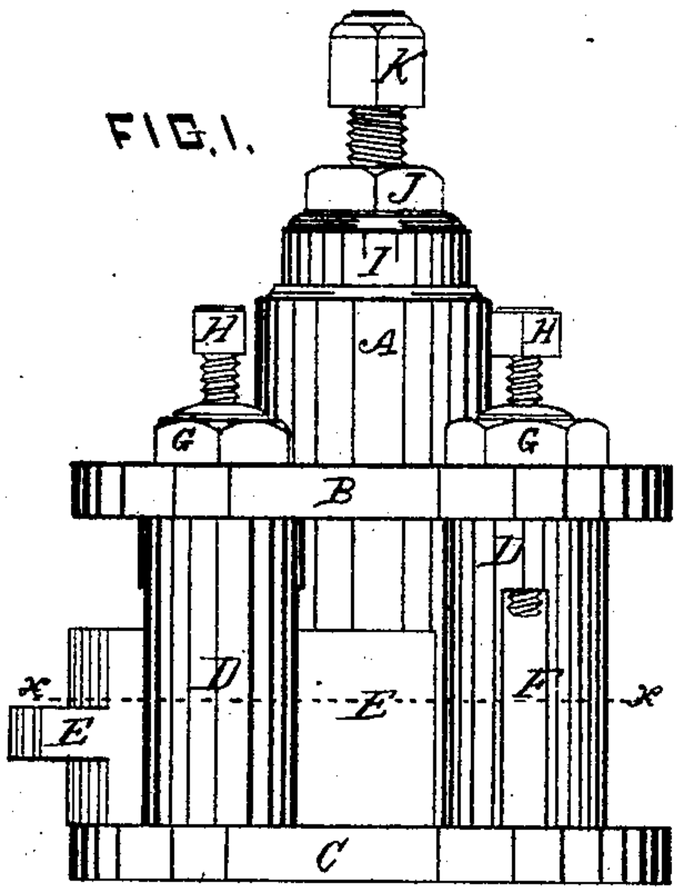
EDWIN BENJAMIN.

Improvement in Cutters for Moulding Machines.

No. 121,447. Patented Dec. 5, 1871.

FIG. I.



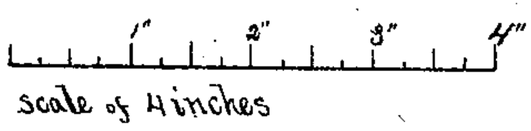


FIG. II.

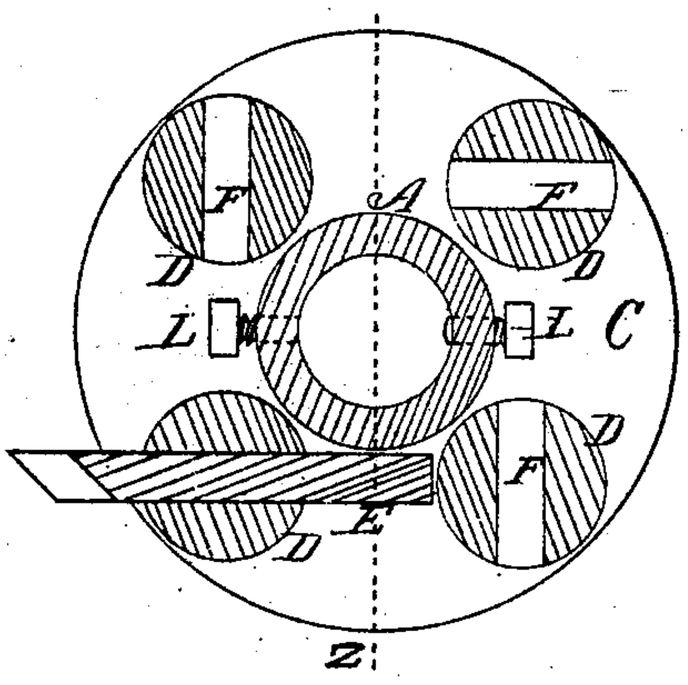
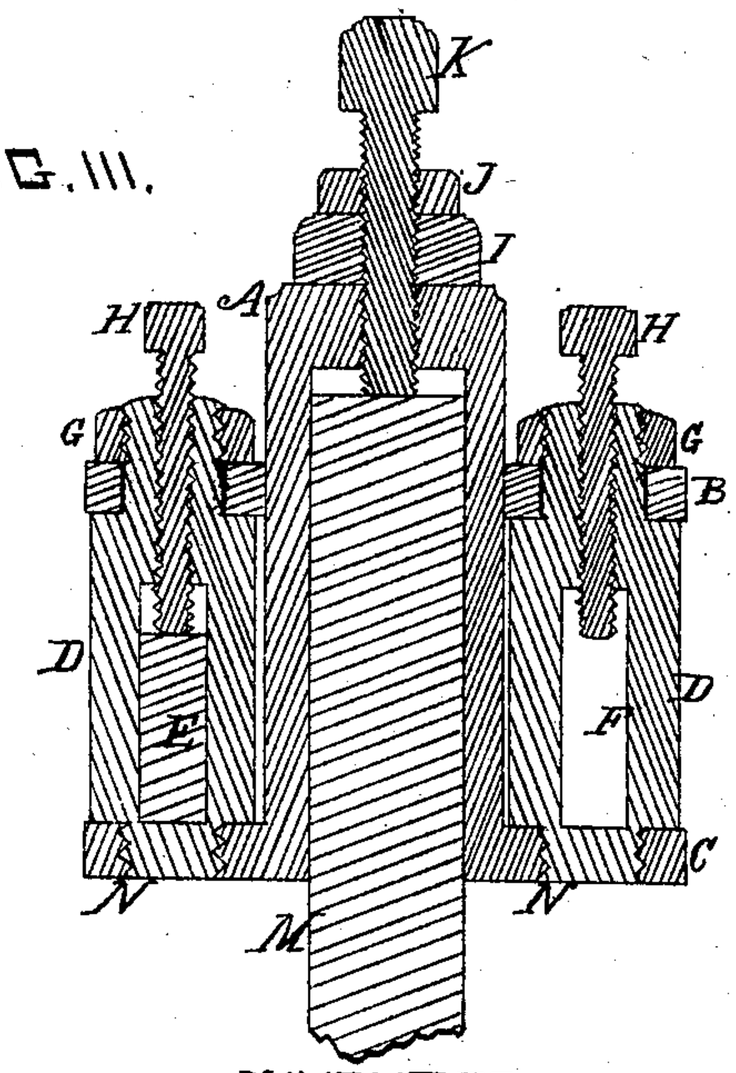


FIG. III.



WITNESSES

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121,447

UNITED STATES PATENT OFFICE.

EDWIN BENJAMIN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN CUTTERS FOR MOLDING-MACHINES.

Specification forming part of Letters Patent No. 121,447, dated December 5, 1871.

To all whom it may concern:

Be it known that I, EDWIN BENJAMIN, of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Cutters for Molding-Machines, of which the following is a specification:

The present invention relates to an improvement in mechanism for carrying the knives used to cut tongues and grooves and moldings; and its nature consists in the novel construction of the clamps for holding the knives, said clamps being adjustable, so that the knives can have any required pitch; and in the combination of the adjustable clamps with the annular plates, whereby the knives are always brought to the same relative positions when the set-screws are brought upon them; and in the combination of the annular plates, clamps, and center-sleeve with the several adjusting-devices hereinafter fully described and shown.

In the drawing, Figure 1 is an elevation of my improved cutter-head detached from the drive-shaft; Fig. 2, a horizontal section of Fig. 1 taken on line *x x*; Fig. 3, a vertical section of Fig. 1 taken on line *z*, Fig. 2.

A represents a sleeve which fastens to the drive-shaft M, Fig. 3, by means of set-screws L L, Fig. 2, and which fastens to a lower annular-plate, C, either by being cast solid to it or turned into it by means of a screw, as most convenient to the manufacturer. The upper end of the sleeve A is provided with a set-screw, K, and nuts I J, so that the cutter-head may be adjusted to any desired height on the shaft M and held in position, so that no motion of the shaft will change the height of the knives. The sleeve A is held to rotate with the shaft M by means of set-screws L L tapped into its opposite sides, as shown at Fig. 2. D D D D represent the clamps, which are securely fastened to the plate C by screw-threads, as shown at N, Fig. 3, and they are provided with mortises F to receive the knives, one of which is shown at E E in all of the figures. The lower ends of these slots are a little below the top sides of the plate C so that the lower edges of the knives E will bear on said plate and always come in line with each other. This arrangement is important, inasmuch as the knives require no leveling or chipping-up. The knives are held in the slots F by means of set-screws H, which are tapped through the upper part of the clamps D. B represents an upper annular plate which passes over the sleeve A and has bearings on the shoulders of the clamps D, nuts G clamping the plate B to the said clamps D. I am not particular that all of the several parts be fastened together in the same manner or by the same means, the object being to hold the knives to the plates C and in the clamps D so that they may have different tangent-lines relative to the edges of the board to be matched. To set the knives E on different angles the nuts G should be loosened. This will allow the clamps D to be turned on their screw-bearings in the plate C, after which the nuts can be tightened and the head will be ready for use. In this construction the size of the head will admit of four knife-clamps, while heads now of similar size only admit of three knives. This, of course, is a material advantage, inasmuch as better and more work can be done in a given time. Another advantage consists in the heads being evenly balanced, whereby a great velocity can be attained without damaging the mechanism or causing it to jar or tremble.

I claim—

The combination of the tools E and clamping devices D G H with the sleeve A provided with the disks B C, adjusting-screw K, and nuts I J, substantially as and for the purpose set forth.

EDWIN BENJAMIN.

Witnesses:

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G. P. POPE.

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