

MILTON W. CLARK.

Improvement in Cutter Heads for Moulding Machines.

No. 118,907.

Patented Sep. 12, 1871.

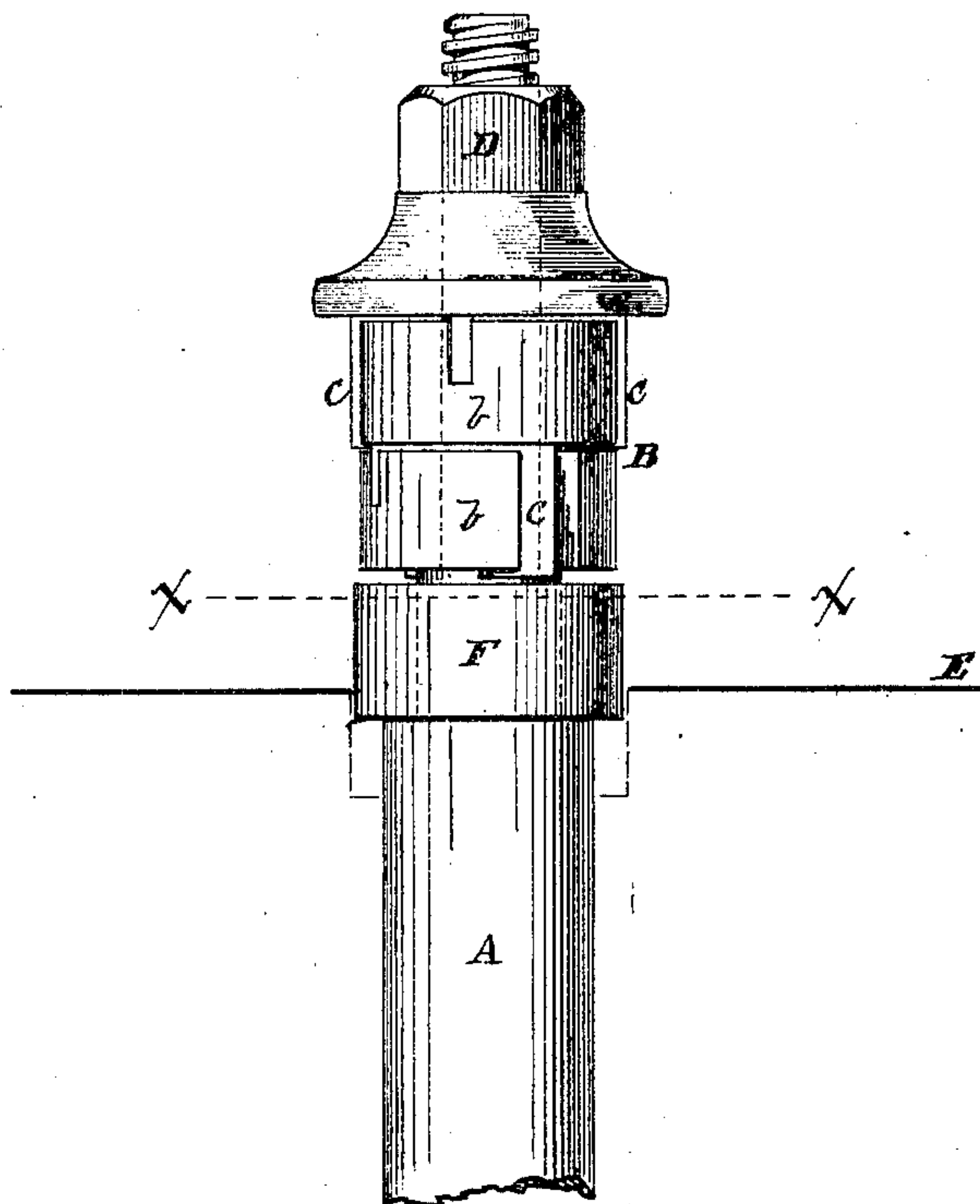


FIG. 1

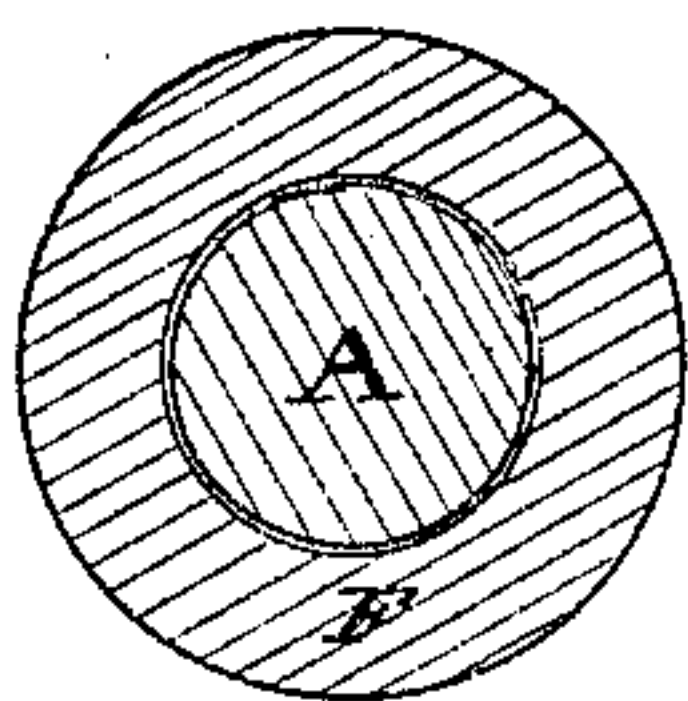


FIG. 2

Witnesses,

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MILTON W. CLARK, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO R. BALL & CO., OF SAME PLACE.

## IMPROVEMENT IN CUTTER-HEADS FOR MOLDING-MACHINES.

Specification forming part of Letters Patent No. 118,907, dated September 12, 1871.

*To all whom it may concern:*

Be it known that I, MILTON W. CLARK, of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Upright Molding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification, and in which—

Figure 1 represents such portions of an upright molding-machine as are necessary to illustrate my invention. Fig. 2 represents a transverse horizontal section at line *x x*, Fig. 1.

To enable others skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

This invention relates to that class of machines known as upright molding or shaping-machines, which are employed for cutting moldings upon or working irregular-shaped edges or surfaces, the work being attached to and guided by a suitable pattern. My invention consists in the combination with the revolving spindle and cutter-head of a loose collar or pattern-guide, as hereinafter described.

In the drawing the part marked A represents the revolving spindle, B indicates the cutter-head, composed of the sections *b b*. C indicates the cutting-knives; D, the holding-nut, by means of which the sections of the cutter-head are secured to the spindle A; and E indicates the line of the top surface of the work-table. Upon the spindle A, below the cutter-head B, I arrange a collar, F, which is fitted loosely upon said spindle, so that it can easily be revolved in either direction. The spindle is provided with a shoulder to support the collar F, and also with a separate shoulder to support the section *b b* of the cutter-head B, as indicated by dotted lines in Fig. 1, so that the cutter-head B can be clamped firmly in position upon the spindle A by means of the nut D without interfering with the action of the collar or pattern-guide F.

In the operation of the machine, the edge of

the pattern whereon the work is supported is run against the collar or guide F to give the proper direction to the work, and the collar, acting as a roll, turns with the motion of the pattern, independent of the motion of the cutter-head B. By this means the friction between the pattern and the spindle A is but slight in comparison to the amount of friction produced where the pattern is run directly against the lower end of the cutter-head, so that the pattern can be pressed firmly against the collar to hold the work up to the cutter without retarding the motion of the spindle A, while at the same time the pattern and work can be moved forward with ease. The collar or pattern-guide F can be removed from the spindle when desired, and exchanged for one of greater or lesser size, to correspond with the different sizes of the cutter-heads, which may be used; or by using two sizes of collars with the same size of cutter-head different forms, having a proportional similarity, can be cut with a single pattern. It will be noticed that, as the collar F rests upon a shoulder upon the spindle to which the head is rigidly secured, there is no danger or liability of the pattern-guide or collar chattering, or giving the pattern an irregular or jarring motion. The cutter-head B may be made in any of the well-known forms, and any desired mechanism can be employed for adjusting and operating the spindle A, which mechanism it is not necessary to herein illustrate and describe.

Having described my improvements in upright molding-machines, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

The combination, with the spindle A, provided with separate shoulders for the head B and collar F, of the cutter-head B and loose collar F, said parts being constructed and arranged, in relation to each other, substantially as shown and described.

MILTON W. CLARK.

Witnesses:

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