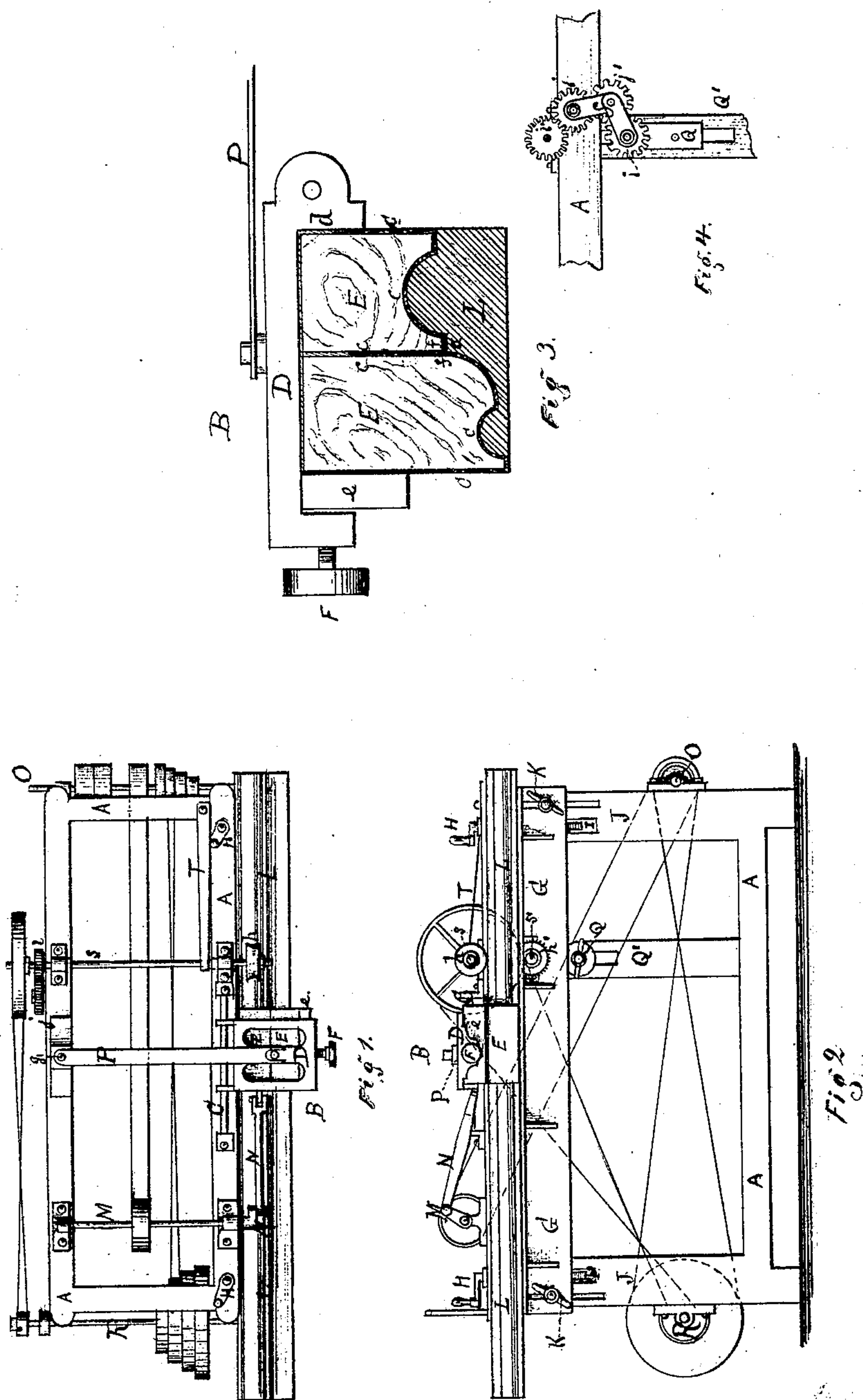


*F. G. Chapman,*

*Sand Papering Machine.*

*No. 103717.*

*Patented May 31, 1870.*



*Witness:*  
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# United States Patent Office.

FRANK G. CHAPMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO DENNIS BEACH,  
OF SAME PLACE.

Letters Patent No. 103,717, dated May 31, 1870.

## IMPROVEMENT IN MACHINE FOR SAND-PAPERING MOLDINGS.

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, FRANK G. CHAPMAN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Machine for Sand-Papering Moldings; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 is a plan view of my improved sand-papering machine;

Figure 2 is a side elevation of the same; and

Figure 3 is an end view of the polishing-block or sand-paper holder detached from the machine.

Figure 4 is a detail view, to be hereinafter referred to.

Similar letters of reference indicate corresponding parts in the several figures of the drawing.

My invention has for its object to improve the means for sand-papering moldings; and to this end,

It consists, first, in so constructing a sand-paper holder that, when the sand-paper is placed within it, the latter shall conform to the angles of the molding to be polished, for the purpose of preventing said angles from being rubbed or cut off.

It consists, secondly, in the means for holding the sand-paper holder upon the molding with a yielding pressure, to enable it to conform more readily to the configuration of the molding.

In the accompanying drawing—

A A A is the frame of the machine, carrying the operating parts.

B is the sand-paper holder, hung to the rod C, upon the top of the frame, in such a manner as to project over the side of the latter. It is composed of a metallic box, D, having its lower side removed, to receive the molding-blocks E, over which the sheets of sand-paper are stretched. These are retained within the holder by means of the clamping-screw, F, at its outer end.

G is a table, arranged upon the side of the frame, immediately beneath the sand-paper holder, and is designed to receive the molding to be polished. It is adapted for vertical adjustment upon the side of the frame by means of the vertical hand-screws H working through nuts cast upon the back of the table, and extending within vertical slots, I, formed in the legs J of the frame, as shown.

The table is locked or secured in the desired position by means of thumb-nuts, K, upon screw-bolts which pass through vertical slots near each end of the table, as shown in fig. 2.

L represents a molding to be polished.

The blocks E, over which the sand-paper is stretched, must, together, conform in shape to the configuration

of the molding, and different sets of blocks must, of course, be employed for different moldings.

The object in employing two or more blocks for each molding is to preserve the angles of the latter under the polishing operation; for example, in the molding shown in fig. 3, a right angle is formed at *a*. Now, if the two blocks shown in said figure were in one piece, and the sand-paper stretched over them, the paper would bear with such force upon the angle as to cut it off, and destroy the finish of the molding. To overcome this difficulty, the two blocks are employed, and two sheets of sand-paper, *c c*. The sheets are stretched, one over each block, the two proximate sides or ends being clamped between said blocks, and their other ends between the shoulder *d* of the holder and the blocks *e*, which forms a bearing-surface for the set-screw F.

By this construction, the sheets are firmly stretched over the blocks at *f*, and bear equally upon the molding upon each side of the angle *a*, without in the least cutting off or rounding the latter.

In the operation of polishing, the holder and blocks are adapted to slide upon the rod C, reciprocating motion being imparted to the same from the crank-shaft M, through the medium of the connecting-rod N.

This shaft receives its motion from the main driving-shaft O, located at one end of the frame, through belts and pulleys, or by other suitable means.

The polishing-blocks are held upon the molding with a yielding pressure by means of the flat spring P, pivoted at one end to the center of the holder upon the upper surface, and at its opposite end to the frame of the machine, as shown at *g*.

When it is desired to change the blocks, the end of the spring is removed from the holder, and the latter swing upward upon the rod C.

The molding is fed forward beneath the polishing-blocks by means of the wheels *h h'*, located upon transverse shafts *s s'*, one above the other, in front of the polishing-blocks.

The upper roller *h* is encircled by an elastic band, to prevent the roller from marking or disfiguring the molding.

This roller is designed to operate as a pressure-roller, and holds the molding upon the roller *h'*, which is milled or toothed, to feed the work forward.

This latter roller works through a slot formed in the table G, and is adjusted higher or lower, with said table, in the following manner:

The shaft has its bearings at one end in the block Q, which is adapted for vertical movement in the upright, Q', of the main frame, as shown in fig. 4.

The end of the shaft projecting through this block is provided with a pinion, *i*, and immediately over it is located the pinion *i'*, upon the shaft of the pressure-roller *h*.



This latter shaft receives its motion from the end shaft, R, of the main frame, through the medium of the belts and pulleys, as shown.

Now, as the shaft of the roller *h'* is driven from the shaft of the upper roller, and as the former must be capable of adjustment vertically, it is necessary that the medium for communicating motion from one to the other must be also adjustable. For this purpose, the intermediate pinions *j j'* are provided, the former pivoted to the frame A in such a manner as to engage with the pinion *i'*, while the latter is hung at the angle of a pivoted arm, S, and engages with *i* and *j*.

As the pinion *i* is adjusted, it will readily be understood that the jointed arm permits the adjustment, and, at the same time, engages constantly with the pinions *j j'*.

T is a flat spring, located upon the top of the frame, and pressing upon the shaft of the friction-roller *h*, for

the purpose of regulating the motion of said roller.

Having thus described my invention,

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

1. A sand-paper holder for polishing moldings, composed of two or more blocks, held within a suitable clamping device, and over whose face the sand-paper is stretched, in such a manner as to conform to the angles of the molding, to prevent the same from being cut or worn off during the operation of polishing, substantially as described.

2. The reciprocating sand-paper holder B, held upon the molding to be polished by means of the vibrating spring P, arranged as described, for the purpose specified.

Witnesses:

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