J. B. MARGESON.

Stair-Rail Molding-Machines.

No. 144,402. Patented Nov. 11, 1873.

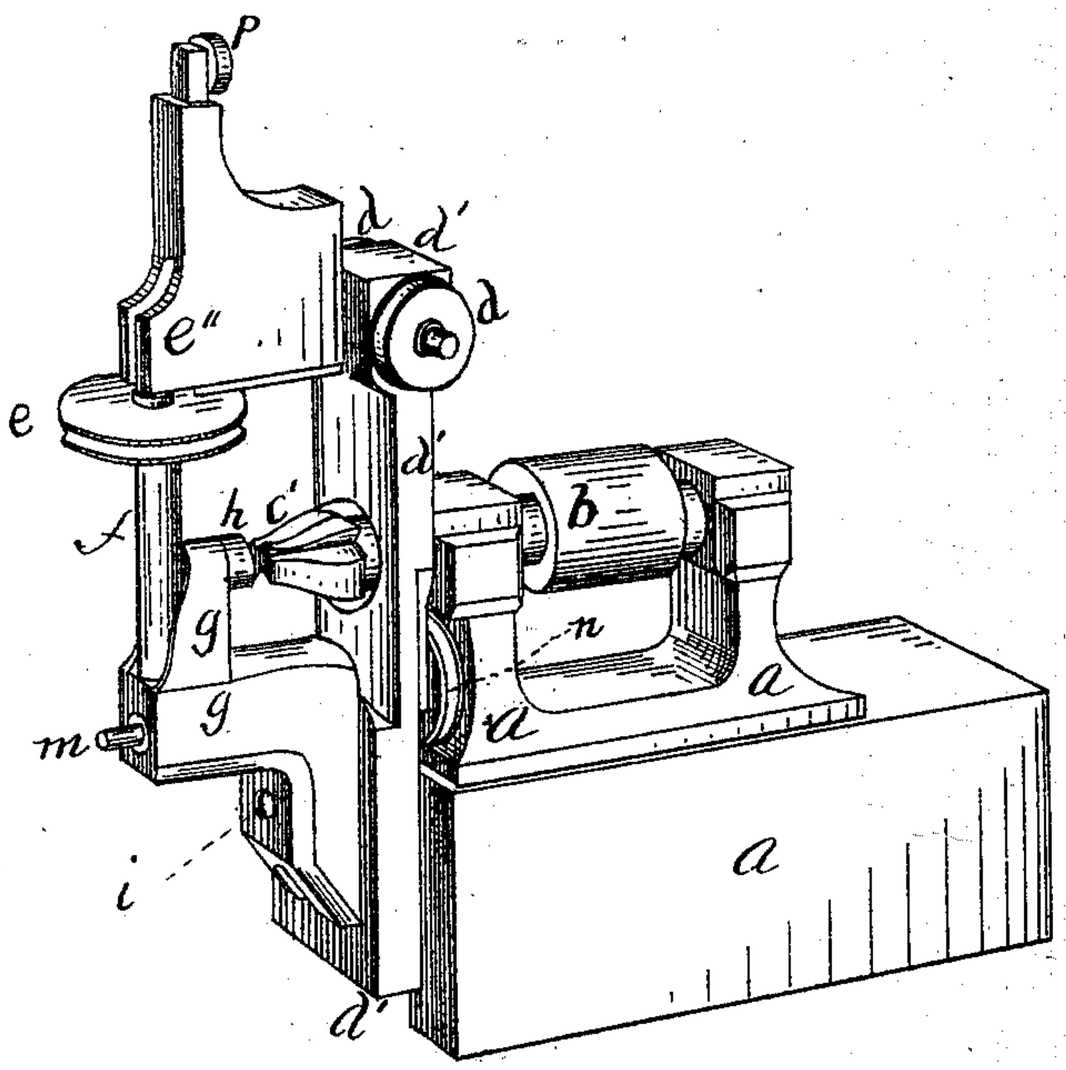

Fig. 1.

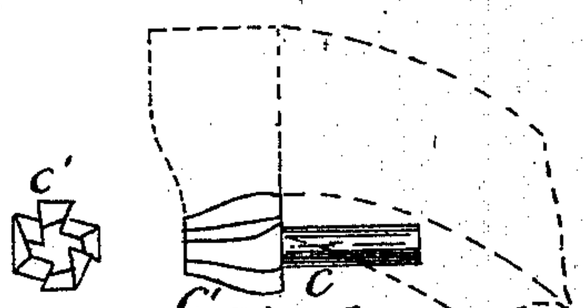

Fig. 4. Fig 3

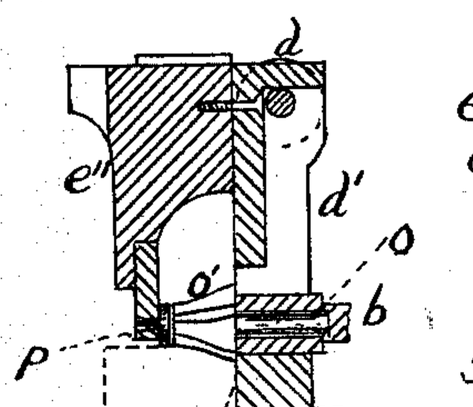

Fig. 5.

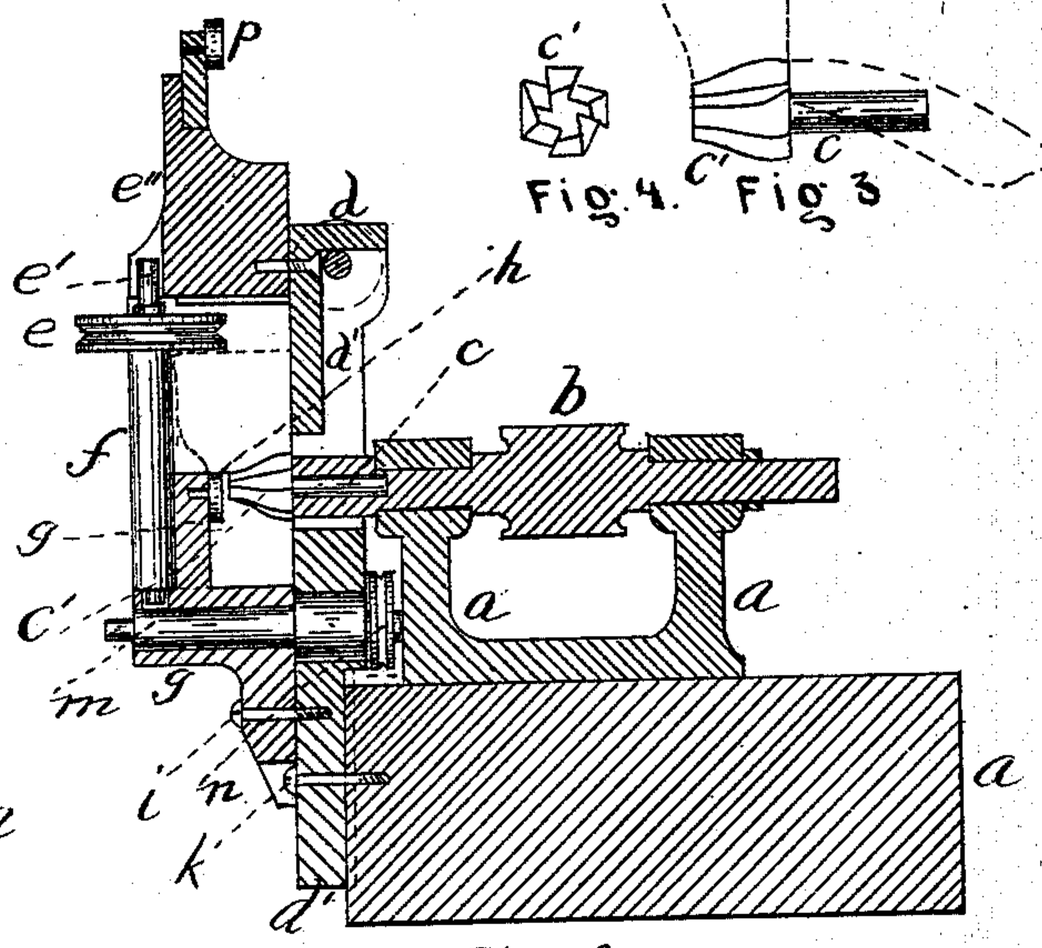

Fig. 2

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN B. MARGESON, OF SWAMPSCOTT, MASSACHUSETTS.

IMPROVEMENT IN STAIR-RAIL-MOLDING MACHINES.

Specification forming part of Letters Patent No. **144,402**, dated November 11, 1873; application filed January 15, 1873.

To all whom it may concern:

Be it known that I, JOHN B. MARGESON, of Swampscott, in the county of Essex and State of Massachusetts, have invented an Improvement in Stair-Rail-Molding Machines, of which the following is a specification:

My invention is intended to mold crooked stair-rails, the rail itself being passed through the machine.

As nearly every flight of stairs, and consequently nearly every stair-rail, is more or less bent, the advantage of such a machine, if practical, is obvious.

The nature of my invention is fully described below.

Figure 1 is a view, in perspective, of my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a side view of one of the cutters. Fig. 4 is an end view of the same. Fig. 5 is a vertical section of a portion of the machine when in a different position from that shown in Figs. 1 and 2, and cutting another side of the rail.

The broken lines in the different figures show the positions of the rail.

Similar letters of reference indicate corresponding parts.

a is the frame. *b* is a wheel, around which the belt passes which supplies the power. *c* is a piece fixed in the wheel or shaft *b*, which attaches the cutter to the shaft *b*. *c'* is the cutter. *d d* are wheels supported by the upright. *d'* is the upright attached to the frame *a*, supporting the main portion of the machine, and through an opening in which the cutter *c'* passes. *e* is a wheel attached to the feed-roller. *e'* is the bearing of the feed-roller. *e''* is the support for the bearing *e'*. The lower end or bearing of the roller *f* rests in the support *g*. *f* is the feed-roller. *g* is the lower support for the feed-roller *f*, and also the support of the wheel *h*, and is attached to the upright *d'*. *h* is a small wheel supported by the bracket *g*, and intended to steady the rail as it passes over the cutter *c'*, and to keep it from pressing upon the cutter beyond a proper distance. The feed-roller *f* is coated or wrapped with rubber or some other article, in order to increase its friction. A belt or cord, or its equivalent, passes from a counter-shaft, down over the wheel *d*, around the wheel *e*, and back and up over the other wheel *d*, to turn the feed-roller *f* in such a direction that the rail will be fed in the opposite direction from that toward which the cutter *c'* revolves.

The machine, as seen in Figs. 1 and 2, is now ready to mold the under side of the rail. The rail is placed in the position shown in Fig. 2. The under side lies upon the cutter *c'* and the wheel *h*. The "tap" presses against the feed-roller *f*, raising it slightly from the support *e''*. The opposite side presses against the upright *d'*, the upper side, as seen in the figure, being free, and not coming in contact with any portion of the machine. As the feed-roller is raised a little from the support *e''*, the belt passing over the wheels *d e d* presses the feed-roller against the rail, and feeds the rail through the machine, and, with the assistance of the person operating, against the cutter *c'*. Now, when the tap of the rail is to be cut, the machine assumes the position shown in Fig. 5.

By removing the screw *i*, the support *g* is taken off, and a brace, *l*, is placed and fastened over the screw *k*, and serves to support the feed-roller *m*. *m* is the feed-roller, arranged in the same manner and serving the same purpose as the feed-roller *f*, as far as "feeding" is concerned. *n* is a wheel, which, by means of a belt connecting with the shaft above, supplies the power to the feed-roller *m*. *o* is a piece fixed in the shaft or wheel *b*, attaching the cutter thereto. *o'* is a cutter, of different shape from the cutter *c'*, one being more tapering than the other. *p* is a small wheel, serving the same purpose as the wheel *h*, and attached to the support *e''*, which turns down in order to put the said wheel in proper position.

The rail is now placed in position, the tap pressing against the cutter *o'* and wheel *p*, the "under side" against the upright *d'*, the opposite side from the tap pressing against the feed-roller *m*, and the other side free.

It will thus be seen that this machine is capable of molding all sides of a stair-rail by means of the different cutters.

The upright *d'* can be easily arranged so that it can be raised or lowered to suit different-sized rails.

Reverse cutters can be used so as to work with the grain of the wood all round the curved portion of the rail.

I am aware that Letters Patent of the United States were granted to Thomas Rogers, January 3, 1854, for an improvement in molding-machines. I do not claim anything shown and described in his Letters Patent.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the wheels *d e d*, support *e''*, feed-roller *f*, support *g*, and wheel *h*, substantially as and for the purpose above described.

2. The combination and arrangement of the shaft *b*, upright *d'*, cutter *c'*, wheel *h*, and support *g*, substantially as and for the purpose hereinbefore specified.

3. The combination and arrangement of the support *e''*, wheel *p*, upright *d'*, and feed-roller *m*, substantially as specified.

4. The combination and arrangement of the wheel *n*, feed-roller *m*, brace *l*, and upright *d'*, substantially as hereinbefore set forth.

JOHN B. MARGESON.

Witnesses:

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