

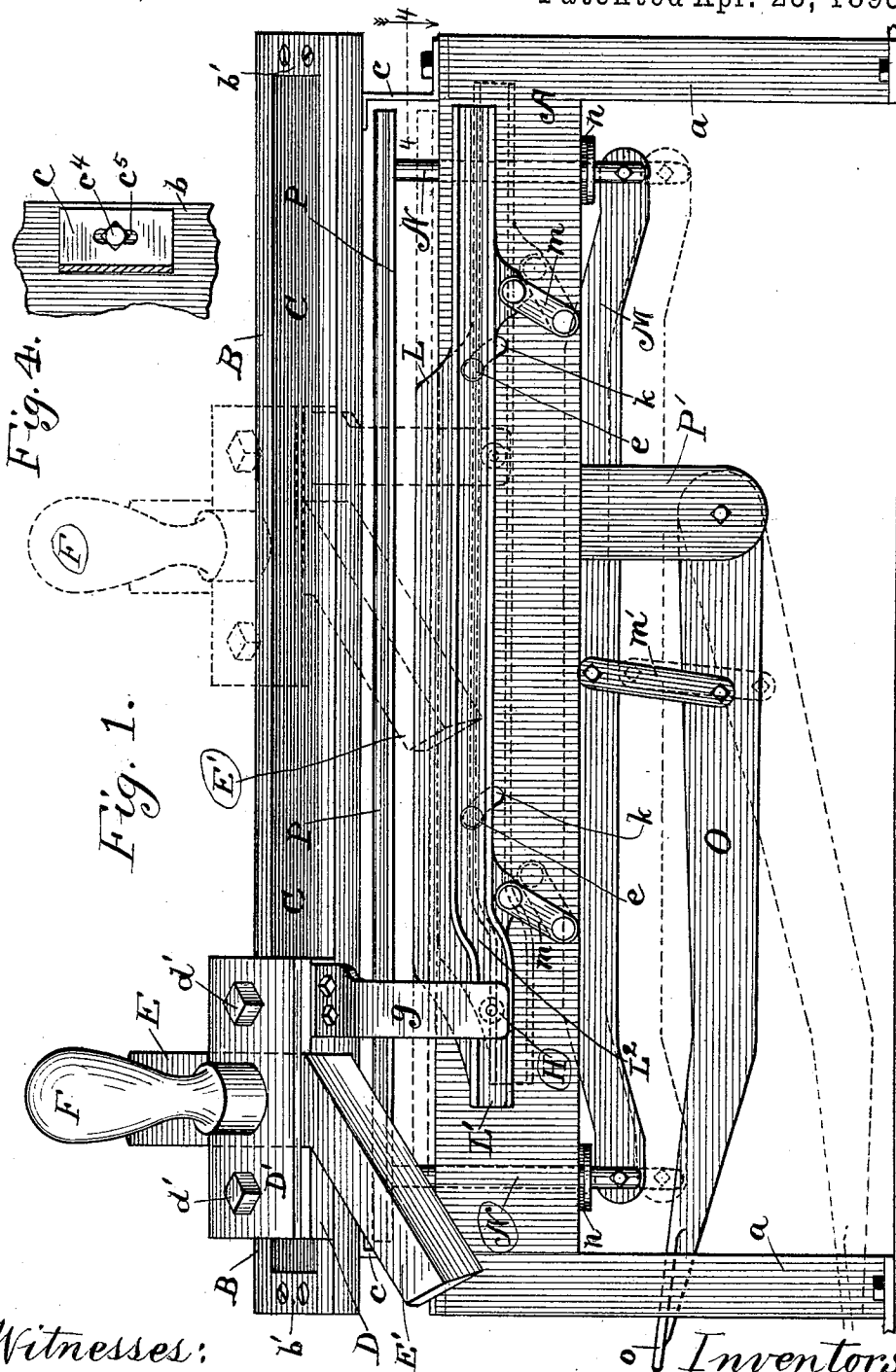
(No Model.)

2 Sheets—Sheet 1.

R. GILLMORE & O. & A. RAPP.
BOOKBINDER'S BEVELING MACHINE.

No. 496,054.

Patented Apr. 25, 1893.



Witnesses:
R. J. Jaeger,
C. A. Ruggan.

By

Inventors:
Ross Gillmore,
Oscar Rapp, and
Anton Rapp.
Chas. C. Tillman Atty.

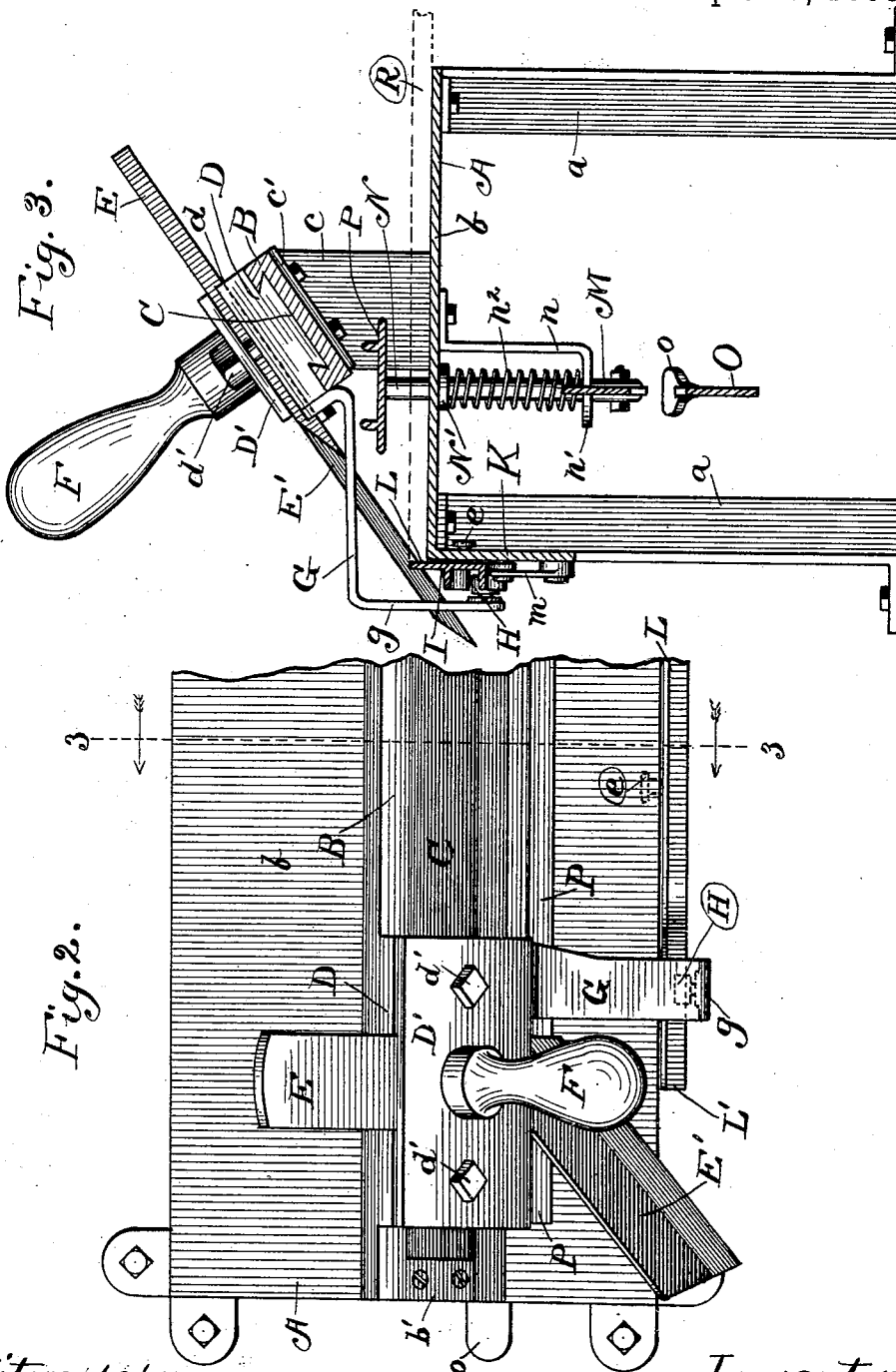
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UNITED STATES PATENT OFFICE.

ROSS GILLMORE, OSCAR RAPP, AND ANTON RAPP, OF CHICAGO, ILLINOIS.

BOOKBINDER'S BEVELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 496,054, dated April 25, 1893.

Application filed December 15, 1892. Serial No. 455,249. (No model.)

To all whom it may concern:

Be it known that we, ROSS GILLMORE, OSCAR RAPP, and ANTON RAPP, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bookbinders' Beveling-Machines, of which the following is a specification.

This invention relates to beveling machines, and while it is more especially adapted to be used for beveling the boards of books, yet it may be employed for beveling other articles; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of our invention are first, to provide a beveling machine, which shall be simple and inexpensive in construction, effective in operation, yet strong and durable; second, a machine for such a purpose in which the bevel may be altered as desired; and third, a beveling machine in which the knife which produces the bevel is so secured that when that portion of it which contacts with the board, becomes dull, it can be so adjusted, that it will present its sharpened portion to the board, thus rendering the operation of sharpening the knife less frequent.

In order to enable others skilled in the art to which my invention pertains to make and use the same, we will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1, is a view in front elevation of our machine, as it appears when ready for operation. Fig. 2, is a plan view of a portion of the machine. Fig. 3, is a cross-sectional view, taken on line 3, 3, of Fig. 2; and Fig. 4, is a sectional view, taken on line 4, 4, of Fig. 1, looking in the direction of the arrow.

Similar letters refer to like parts throughout the different views of the drawings.

A, represents the main frame of our machine, which is made of any suitable size, form, and material, but preferably in the form of a rectangular table, having, supporting legs *a*, which may be bolted or otherwise secured to the floor, and a flat top or table *b*, to the upper surface and near each end of which

is secured brackets or arms *c*, the upper portions of which are cut-away at an angle, as is clearly seen in Fig. 3, and to which is secured a guide-piece *B*, which is formed with a longitudinal groove *C*, which groove extends the entire length of the guide-piece, and is closed at each end by two blocks *b'*, which are fastened in said groove or mortise by screws or otherwise.

By reference to Fig. 3, of the drawings it will be seen that this groove is of a dove-tail form in cross-section, and that the follower or knife-carrier *D*, is formed with a corresponding tenon to fit and operate therein.

The upper surface of the knife-carrier or follower *D*, is preferably formed with a mortise or depression *d*, which extends cross-wise of the follower and at about its middle. This mortise or depression is formed to receive the shank *E*, of the knife *E'*, which knife is made of a suitable piece of metal, and is preferably formed as shown in the drawings, with a blade or cutting edge extending at an angle from the shank. The knife is firmly secured within the mortise or depression *d*, by means of a plate *D'*, which is secured to the follower by means of screws *d'*, which pass through suitable openings in the plate *D'*, and engage with the follower. The plate *D'*, is also provided at about its middle with an opening for the reception of the handle *F*, by means of which the knife is forced forward and backward in the operation of beveling.

As before stated the arms or brackets *c*, have their upper portions cut-away or formed inclined, or at an angle, as at *c'*, which angle or incline extends toward the front side of the frame, or toward the portion thereof upon which the cutting is done. As the guide-piece *B*, is secured to the top of the brackets *c*, it, as well as the follower *D*, will assume the same incline, and as the knife is secured in the follower as before set forth, it will also have the forward incline. To the lower edge of the follower *D*, is secured an arm *G*, which extends horizontally and transversely from the follower to a distance slightly beyond the front side of the main frame, and is then bent downward, as at *g*, to a suitable distance, and has journaled near its free end and on the inner side of the arm, a roller *H*, which

roller is adapted to operate in a suitable groove on the gage-board L, as will be presently explained.

As shown in Figs. 1, and 3, the front side of the main frame is provided with a longitudinal board or plate K, which extends from one end to the other of the main frame, and unites with the table b, and the supporting legs. At suitable points the board or plate K, is formed with diagonal slots k, within which fits and operates the securing bolt e, of the gage L, which extends longitudinally along the main frame adjacent to the board or plate K, and when in its normal position rises slightly above the top surface of the table b, as is clearly seen in Figs. 1, and 3. The outer surface of the gage L, is formed with a longitudinal groove L', which extends from one end to the other of the gage, and is formed near one of its ends with a downward curve L². Just below the groove L', and near each end thereof, are pivotally secured arms m, which arms are loosely secured at their other ends to the outer surface of the board or plate K.

Near each end of the table b, and to the lower surface thereof, is secured depending brackets n, which are provided at their lower portions with horizontal portions n', which are formed with vertical openings for the reception and retention of suitable pins or bolts N, which pass through suitable holes or openings in the table-top b, and project slightly above the same. To the upper ends of the pins N, is secured a press or clamp-plate P, which extends horizontally with the table-top b, between said top and the guide-piece B. Just below the top b, the pins or bolts N, are provided with annular flanges N', which prevent said pins being forced upward too far through the top b, by means of the spiral springs n², which encircle the pins between the flanges N', and the horizontal portion n', of the brackets n.

By reference to Figs. 1 and 3, it will be seen that the pins N, extend through and slightly below the lower portions of the brackets n, and have secured to their extended portions, or lower ends a bar M, to the middle of which is pivotally secured an arm m', which arm is similarly secured at its other end to a foot lever O, which lever is provided at its free end with a foot rest o, and is fulcrumed at its other end to a depending arm P', which is suitably secured at a proper point to the main frame.

In Fig. 4, we have shown a portion of the table-top, and one of the arms or brackets c. These brackets are formed with slots c³, through which are passed screws c⁴, which engage with the top b, which arrangement allows the arms c, to be moved forward or backward, thus adjusting the knife so as to regulate the bevel on the boards.

The operation of our device is simple, and as follows: The various parts of the machine are in their normal position, and ready to re-

ceive the board to be beveled, as illustrated in Fig. 1, by continuous lines. The board R, which is shown by dotted lines in Fig. 3, is placed on the top b, so as to lie flatly thereon, when its front edge will rest against the gage L. The foot of the operator is then placed on the pedal or foot-rest o, which may be pressed downward, when the press or clamp-plate P, will be caused by reason of its connecting pins N, and the bar M, which is connected to the foot lever O, by means of the arm m, to press down or firmly clamp the board R, to the table b. The operator then grasps the handle F, and pushes forward the knife and its carrier, in which operation the roller H, engages in the groove L', of the gage L, and will pass into the curved portion L², of the guide L', and cause the gage L, to be lowered to the position indicated by dotted lines in Fig. 1, when the knife is free to cut the board. The foot is then removed from the foot lever, and the knife-carrier is drawn back to its original position, when the gage by reason of its cam or curved groove will be caused to assume its normal position, and the press or clamp-plate P, will be raised to its normal position by means of the springs n², which are placed around the pins N, for this purpose.

From the above it will be seen and understood, that normally the gage L, extends slightly above the upper surface of the table b, and prevents the board R, being passed too far forward, and as soon as the operation of cutting or beveling is begun, the gage will be lowered by movement of the knife-carrier, out of the way of the cutting edge of the knife. As the knife will become dull by continuous usage, at the point of contact with the board, its position may be changed by loosening the plate D', and sliding the shank of the knife either up or down in the mortise or depression d, where it may again be secured by tightening the said plate.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a beveling machine the combination of a main frame with a guide-piece for a knife-carrier secured to its top, the knife-carrier or follower adapted to operate on said guide-piece and having a handle and knife and means to adjustably secure the knife, the arm G, having the roller H, to engage the groove of the gage, the gage operated by the movement of the knife-carrier, the clamp-plate having spring connections with a foot-lever, and the foot-lever to operate the clamp-plate, substantially as described.

2. In a beveling machine the combination of a main-frame, with a guide-piece for a knife-carrier adjustably secured to its top, the knife-carrier or follower adapted to fit and operate in a groove in the guide-piece, and having a transverse mortise for the reception and retention of a knife, and a securing plate and handle, a knife having a shank to fit in said mortise, the arm G, having the roller H, to

engage the groove of the gage, the said gage operated by the movement of the carrier, the clamp-plate having spring-connections with a foot-lever, and a foot-lever to operate the clamp-plate, substantially as described.

3. In a beveling machine the combination of the main frame A, having a top *a*, and side plate or board K, having the slots *k*, with the guide-piece B, having the dove-tailed groove C, the arms *c*, having the slots *c*⁴, and inclined upper ends to which is secured the guide-piece, the knife-carrier D, having a dove-tailed tenon to operate in the groove of the guide, and a mortise to receive the knife, the plate D', secured to the carrier and having the handle F, the knife E', having the shank

E, the arm G, secured to the carrier, and having the roller H, the gage L, having the groove L', provided with the curve L², and the pins *e*, to operate in the slots *k*, the clamp-plate P, having the spring-actuated pins N, the bar M, secured to the lower portion of the pins N, and having the connecting arm *m*', the lever O, fulcrumed to the arm P, and engaging with the bar M, by means of the arm *m*', substantially as described.

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