

UNITED STATES PATENT OFFICE.

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ASSIGNORS TO THE KELSEY PRESS COMPANY, OF SAME PLACE.

MACHINE FOR CUTTING AND MITERING PRINTERS' RULES.

SPECIFICATION forming part of Letters Patent No. 413,522, dated October 22, 1889.

Application filed May 14, 1889. Serial No. 310,709. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. KELSEY and RICHARD ATWATER, of Meriden, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Cutting and Mitering Machines for Printers' Rules; and we do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in machines for cutting and mitering printers' rules in which a lever-blade is employed to perform the operation of mitering or beveling the end of a rule as well as the cutting of rules to given lengths; and our object is to produce a simple and economical machine capable of performing the two operations easily and quickly.

Our invention consists in the construction and combination of parts, as hereinafter described, and pointed out in the claims.

In the drawings which accompany and form a part of this specification, Figure 1 is a perspective view of the machine complete. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation looking from the direction of the arrow in Fig. 2, and Fig. 4 is a cross-section of the lever blade or knife on line $z z$ of Fig. 3.

Similar letters of reference indicate corresponding parts in the several views.

The base X, having suitable means for securing it to a bench or table or which may be of sufficient weight to require no fastening, is formed with a straight portion having the rule-bed x , and with a quadrant-shaped portion x' , having an arc slot x^2 and a hole or recess x^3 at the center of the arc. At the corner of the base where the straight side of the arc-bed meets the farther side of the rule-bed a bearing x^4 is formed for the pivot-pin or fulcrum F of the lever-blade A. This lever-blade, having the handle a , has two cutting-edges a' and a^2 , the former when the lever is down being opposite the end of the rule-bed x , and the latter being opposite the point of the arc-bed where the recess x^3 is located.

Both of these cutting-edges are parallel with the length or longitudinal axis of the lever A, thereby causing a shear cut to be made. At the portion of the lever-blade where the cutting-edge a^2 is located is a lug B. This lug, as shown, projects from the outer side of the lever down and under said lever to a point nearly under the edge a^2 . The face b of this lug is beveled from its lowest point upward, and is for a purpose hereinafter explained.

The swinging gage C of the arc-bed has at one end a downwardly-projecting pin c to enter the hole or recess x^3 in the bed, and which serves as the center of motion for the said gage. A suitable clamp is provided for holding the gage in any of its adjusted positions, said clamp consisting, for instance, of a thumb-nut c' , fitting a bolt c^3 , which passes through a lug c^2 on the side of the gage C and through the slot x^2 , the head of the bolt (not shown) taking under the sides of the slot x^2 on the under side of the bed.

A laterally-projecting lip D is provided at the top of the gage C. The object of this lip is to prevent a strip of rule that is being mitered from being tipped up by the force of the mitering operation, which is as follows: The angle of miter is determined by the angle at which the gage C is set. The strip of rule to be mitered is placed on edge with its flat side resting against the gage C, and being held there by one hand of the operator, the top edge of the rule fitting under lip D. The lever A is slightly elevated and the rule pushed along until its end at the upper corner rests against the lug B. The lever then is depressed and the cutting-edge a^2 shaves off the metal. The lever is raised and again lowered and the operation repeated until the desired amount of cutting is produced. The lever is only raised sufficiently each time so that the upper corner of the rule end will abut against the lug B, the beveled face b of which serves to bear off the knife from the rule, preventing too heavy a cut. The brace E is supported and held by a heavy bolt G a short distance from the straight edge of the arc-bed, sufficient to allow the lever to drop between the brace and said edge. This brace, at the other end from the bolt G, is supported

by one end of the fulcrum-pin F, the other end of the pin being supported by the bearing x^4 . This brace serves as a strong binding connection for the fulcrum-pin, which there-
 5 by bears great straining-power when cutting heavy rules. The arch between the cutting-edges a' and a^2 rests upon the bolt G, which thus serves as a stop for the lever when it is forced down.

10 When it is desired to cut a rule to a given length, the rule is laid on the rule-bed x and the knife a' cuts off the end, the length or distance of the cut from the end being determined by the end of the rule before cutting
 15 being placed against the gage H, which is carried at the end of a screw-threaded rod J, said rod passing into a tapped hole in the base, thereby giving a fine screw adjustment in moving the gage H in and out. We also
 20 secure a second screw adjustment by use of a small screw h passing through the gage H, against which the rule may abut.

Having now described our invention, what we claim, and desire to secure by Letters Pat-
 25 ent, is—

1. In a rule-mitering machine, a base having a lever pivoted thereto, said lever being provided with a cutting-edge on one side
 30 parallel with the longitudinal axis thereof, and a lug extending under the lever nearly to the vertical plane of the cutting-edge, said lug having a beveled face, substantially as described.

2. In a rule-mitering machine, a base having a lever pivoted thereto and a swinging
 35 rule-gage, said lever being provided with a cutting-edge on one side parallel with the longitudinal axis thereof, and a lug extending under the lever and having a beveled face, substantially as described. 40

3. In a rule cutting and mitering machine, the combination, with a base having a rule-bed and a swinging rule-gage, of a lever pivoted to said base and having two cutting-edges opposite the ends of the said bed and
 45 gage, substantially as described.

4. In a rule-cutting machine, the combination, with a base having a cutting-lever pivoted thereto, of the brace E, connecting the end of the lever-fulcrum with a portion of
 50 the base distant from said fulcrum, said brace being parallel to the lever when down, substantially as described.

5. In a rule-cutting machine, the combination, with the base, of the gage H, having a
 55 screw-threaded rod J, entering a tapped hole in the base, and the screw h , passing through gage H, substantially as described.

In testimony whereof we affix our signatures in presence of two subscribing witnesses. 60

WILLIAM A. KELSEY.
 RICHARD ATWATER.

Witnesses:

WILBUR F. DAVIS,
 N. F. GRISWOLD.