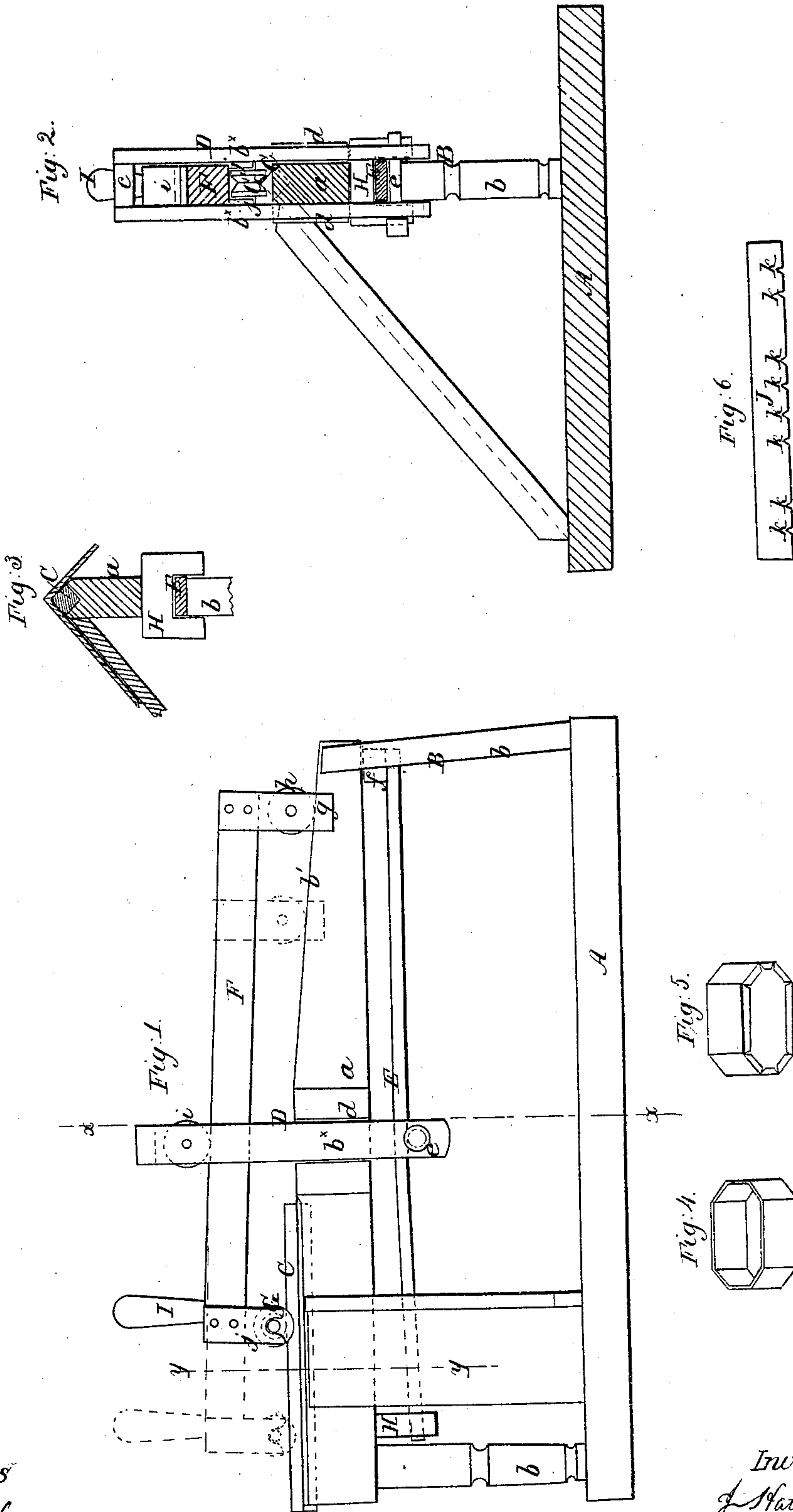


*J. Hatfield.*  
*Paper Molding Mach.*  
*No. 34,229.*      *Patented Jan. 21, 1862.*



Witnesses  
*J. W. Coombs*  
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# UNITED STATES PATENT OFFICE.

JEHU HATFIELD, OF TROY, NEW YORK, ASSIGNOR TO PERCY & KING, OF SAME PLACE.

## IMPROVEMENT IN MACHINES FOR MAKING PAPER BOXES.

Specification forming part of Letters Patent No. 34,229, dated January 21, 1862.

*To all whom it may concern:*

Be it known that I, JEHU HATFIELD, of Troy, in the county of Rensselaer and State of New York, have invented a new and Improved Machine for Manufacturing Angular or Polygonal Boxes of Paper-Board; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of our invention; Fig. 2, a transverse vertical section of the same, taken in the line  $xx$ , Fig. 1; Fig. 3, a transverse section of a portion of the same, taken in the line  $yy$ , Fig. 1; Figs. 4, 5, and 6, views of a strip of paper, showing the different stages in the process of bending or forming the same in manufacturing a box.

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

The object of this invention is to obtain a machine by which strips of paper-board may be very expeditiously bent and pressed into angular form for the manufacture of angular or polygonal paper boxes.

The invention consists in the employment or use of a stationary angular bed in connection with a grooved pressure-roller, the latter being arranged in a peculiar way and connected with a graduating-spring, substantially as hereinafter described, whereby the pressure of the roller may be varied according to the thickness of the paper and the manipulation of the machine rendered extremely easy.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a bed-piece or bed, which supports a framing B, the latter consisting of a wooden bar  $a$  and legs  $b$ . In the upper surface of the front part of the bar  $a$  there is fitted a metal bar C, which is of square form in its transverse section. An angle of this bar C is placed uppermost in the bar  $a$ , as shown clearly in Figs. 2 and 3. The back part of the upper surface of the bar  $a$  is inclined, as shown at  $b'$  in Fig. 1, and on the bar  $a$  there is placed a yoke D, which is formed of two uprights  $b^x b^x$ , connected by a cross-piece  $c$  at their upper ends. The uprights  $b^x b^x$  are fitted in grooves  $d$ , one at

each side of the bar  $a$ , and have a pin  $e$  passing through their lower ends.

E is a spring the back end of which is secured to a projection  $f$  underneath the bed  $a$ . This spring may be of wood or metal, and it passes through the lower part of the yoke D and bears upon the pin  $e$ .

F is a bar the back end of which has two pendants  $g g$  attached, between which a roller  $h$  is placed. This roller bears on the inclined surface  $b'$  of the bar  $a$ . The bar F passes through the upper part of the yoke D, and a friction-roller  $i$  in the yoke D bears upon F. At the opposite or front end of bar F there are attached two pendants  $j j$ , between which there is placed a metal roller G, having a grooved or V-shaped periphery, as shown clearly in Fig. 2, said groove corresponding inversely in form to the bar C. On the front or disengaged end of the spring E there is a slide H, which bears against the under side of the bar  $a$ , as shown in Figs. 1 and 2.

From the above description it will be seen that the spring E presses down the roller G on the bar C, and by adjusting the slide H the strength of spring E, and consequently the degree of pressure of the roller G, may be graduated as desired. The bar F is allowed to slide freely back and forth, and consequently the roller G may be shoved back and forth on the bar C, the hand of the operator being applied to a handle I on bar  $a$ .

The strip J of paper-board which is to form the side of the box is cut of a proper length and width and notched at its lower edge at the points  $k$  where it is to be bent. (See Fig. 6.) The operator grasps the strip and lays it transversely on the bar C and draws the roller G over it consecutively at points coinciding with the notches  $k$ , thereby bending the strip J and avoiding the necessity of creasing or cutting the strip in order to bend it in polygonal form, as shown in Figs. 4 and 5. The inclined surface  $b'$  of the strip J causes the pressure of the roller G to gradually increase as it is drawn forward, and thereby counteract any yielding upward movement of said roller toward the termination of its forward stroke.

The whole device is extremely simple, and a sufficient pressure may be obtained by the



roller G to effectually bend the strip J without requiring much power to operate it or move the bar F.

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

The sliding bar F, with the roller G at-

tached, in connection with the stationary bar or bed C, spring E, slide H, and bar *a*, arranged substantially as and for the purpose set forth.

JEHU HATFIELD.

Witnesses:

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