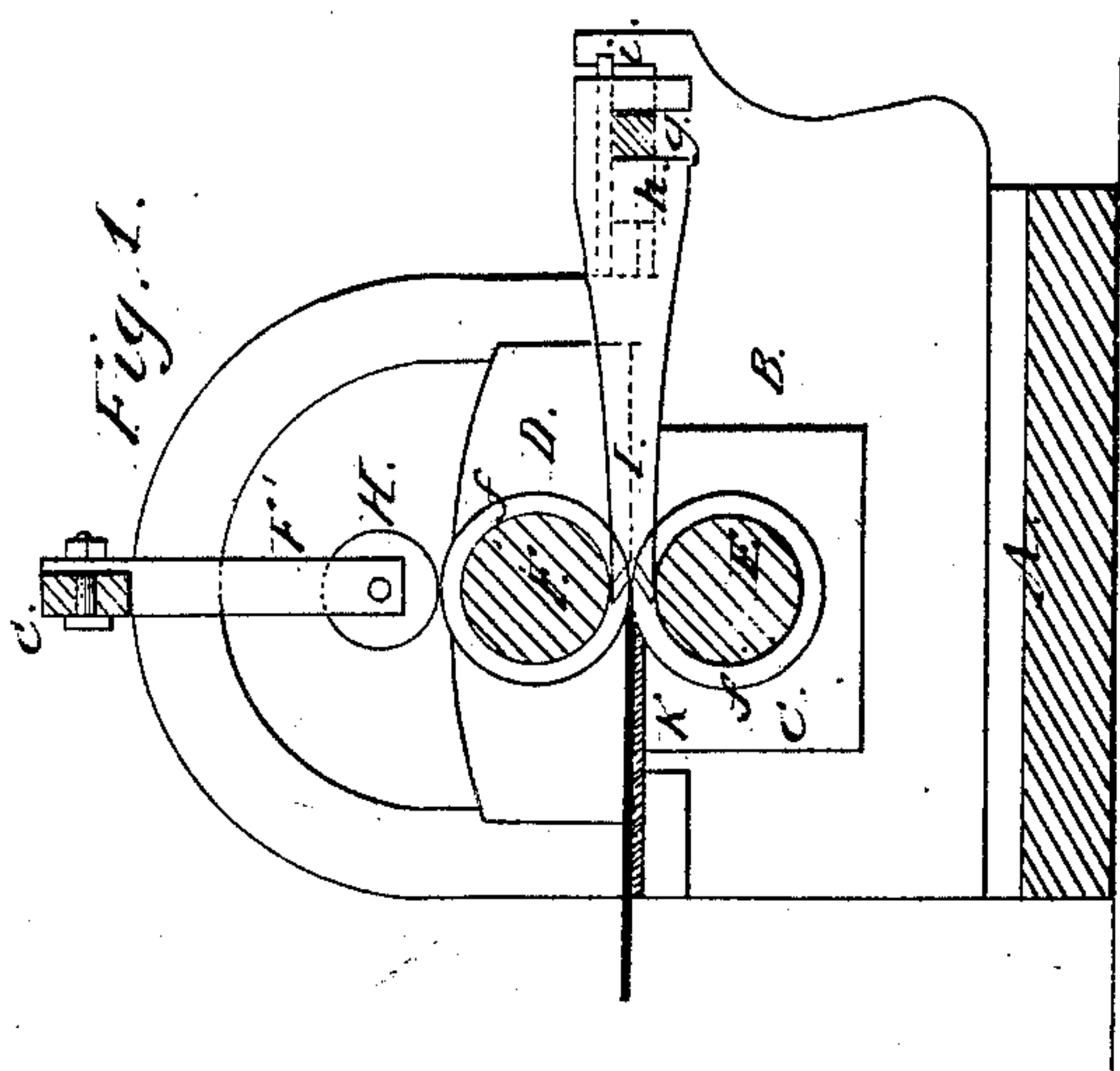
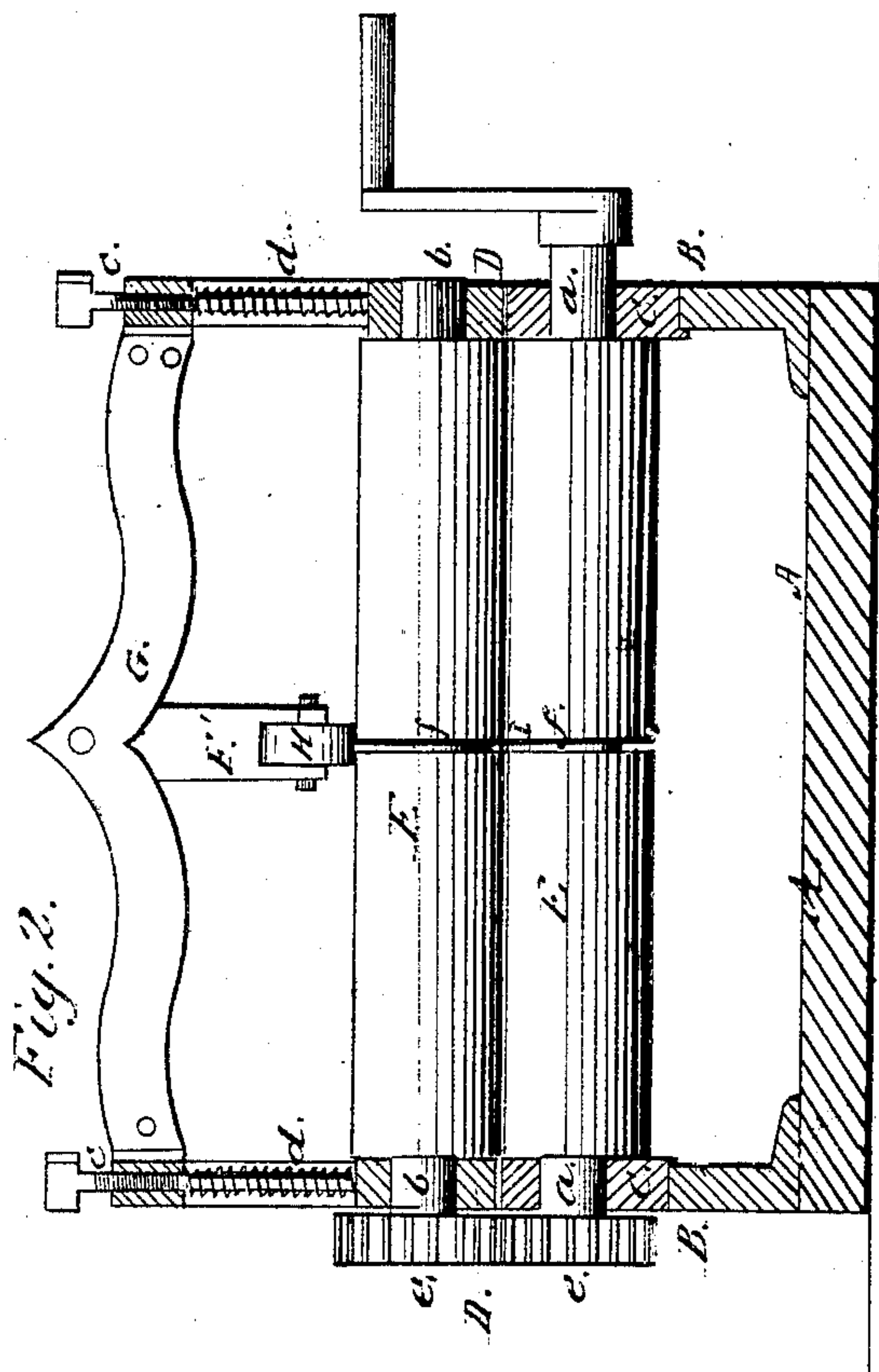


J. Burhaus.
Pasteboard Cutter.
Nº 17,723. Patented Jul. 7, 1857.



UNITED STATES PATENT OFFICE.

DENZLOW BURHAUS, OF BURLINGTON, IOWA.

MACHINE FOR CUTTING PASTEBOARD, &c.

Specification of Letters Patent No. 17,723, dated July 7, 1857.

To all whom it may concern:

Be it known that I, DENZLOW BURHAUS, of Burlington, in the county of Des Moines and State of Iowa, have invented a new and Improved Machine for Cutting Pasteboard and Leather; 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 transverse vertical section of my improvement, the plane of section being through the center. Fig. 2 is a longitudinal vertical section of the framing, the working parts not being bisected; the plane of section is through the center of the framing.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to a new and improved machine for cutting pasteboard and leather into various sized strips.

This invention consists in the employment in connection with grooved feeding rollers of double-edged or V-shaped cutters substantially as hereinafter set forth.

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

A represents a base or bed on which two plates B, B, are secured, one at each side.

In each plate B, two bearings C, D, are fitted, said bearings being placed one over the other and allowed to slide or work freely up and down in the plates B.

In the two lower bearings C, C, the journals *a*, of a roller E, are placed or fitted, and in the upper bearings D, D, the journals *b*, of a roller F, are placed or fitted. The rollers are in the same plane and their peripheries are in contact. The upper bearings D, D, have set-screws *c*, bearing upon them, said screws having spiral springs *d*, placed on them, the lower ends of the springs *d* bearing upon the upper surfaces of the bearings D.

F¹ represents a pendant or hanger attached to the center of a cross piece G. In the lower end of this pendant or hanger a roller H is fitted, said roller bearing upon the center of the upper roller F. The two rollers E, F, are connected at one end by gear wheels *e*, *e*.

At the center of each roller E, F, a groove *f*, is made circumferentially and in the two grooves *f*, the cutting edge of a knife I, is fitted. This knife has a slot *g*, cut in its

shank *h*, so that the shank may be fitted over a cross bar J, the ends of which are fitted in slots *i*, in the plates B, see Fig. 1. The cutting edge of the knife is of V-form, as plainly shown in Fig. 1, and is placed directly between the two rollers, the grooves *f* being made for the purpose of receiving the cutting edge of the knife.

On the side of the rollers E, F, opposite to the side where the knife I is secured, a feed board or plate K is secured, said feed board being in line with the point of contact of the two rollers, as plainly shown in Fig. 1.

From the above description of parts it will be seen that if the sheet of pasteboard or leather, shown in red, is placed on the board or plate K, and motion be given the rollers E, F, the pasteboard or leather will be drawn between the two rollers and will be cut by the knife I, the pasteboard or leather being forced against the cutting edge of the knife by the rollers.

One knife and one groove in each roller are only shown in the drawings, but it is designed to employ one or more knives so that the sheets may be cut into the desired number of strips at one operation. I would remark that the upper roller F may be adjusted by the set screws *c*, so that said roller may yield or give to suit the thickness of the stuff to be cut. The roller H, serves to prevent any vibration or tremor of the roller F. A similar roller may be employed for the lower roller E.

The above implement is admirably adapted for cutting pasteboard into strips of desired widths for the manufacture of boxes, and also for cutting leather into strips, for various purposes. The machine may be operated with a small expenditure of power and may be constructed at a small cost.

By forcing the paper against the V-shaped cutter I, in the manner described, both surfaces of the paper are cut inwardly, so that no bur is left on either of the edges of the paper after it is cut. The surfaces of the paper are cut first and the central part of the paper last.

An example of grooved feed rollers for feeding palm leaf against straight edged knives may be seen in C. McFarland's patent, 1841. I therefore do not claim broadly the employment of grooved feed rollers and straight knives. But to the best of my knowledge it is a new feature in pasteboard

cutting machines to employ double edged, or V-shaped cutters, so that both surfaces of the paper shall be simultaneously cut, and left smooth.

- 5 Where straight cutters are used and the edge allowed to pass clear through the paper, one surface is left with a rough bur, which is of great disadvantage in making boxes. Each edge of my knife cuts only half way
10 through the paper, and cuts inwardly, so that no bur is left. It is also new in paste-board machines to combine a steadying roller H with the upper feed roller F, as described.

Therefore I claim and desire to secure by 15 Letters Patent—

1. The employment in connection with the grooved feed rollers E, F, of a double edged or V-shaped cutter I, substantially as set forth. 20

2. I also claim the combination of the steadying roller H with the feed roller F, as and for the purposes described.

DENZLOW BURHAUS.

Witnesses:

A. G. ADAMS,
A. H. BURHAUS.