2 Sheets, Sheet 1.

C. Paine,

Paper Cutter

No. 112623. Patented. Mar. 14. 1871.

Fig. 1.

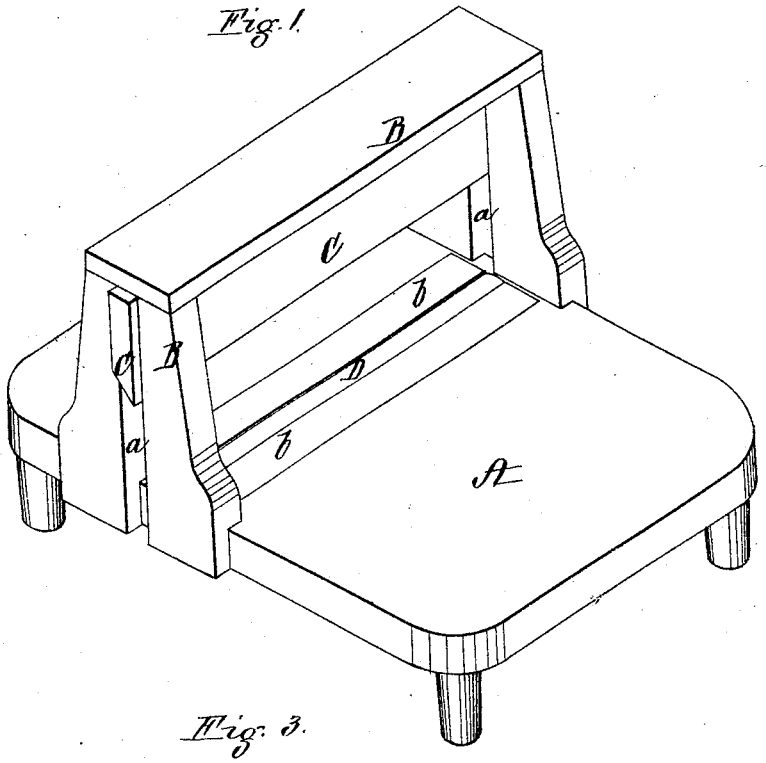
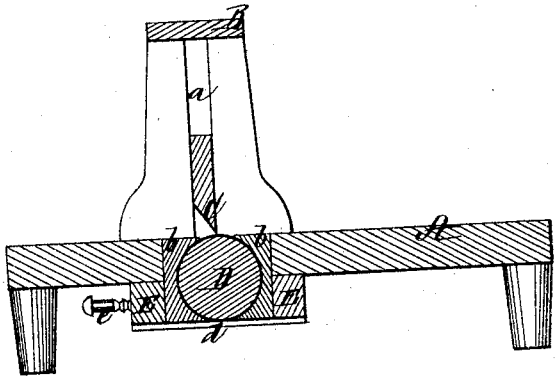


Fig. 3.



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2 Sheets, Sheet 2.

C. Paine,

Paper Cutter.

No. 112,623. Patented. Mar. 14, 1871.

Fig. 2.

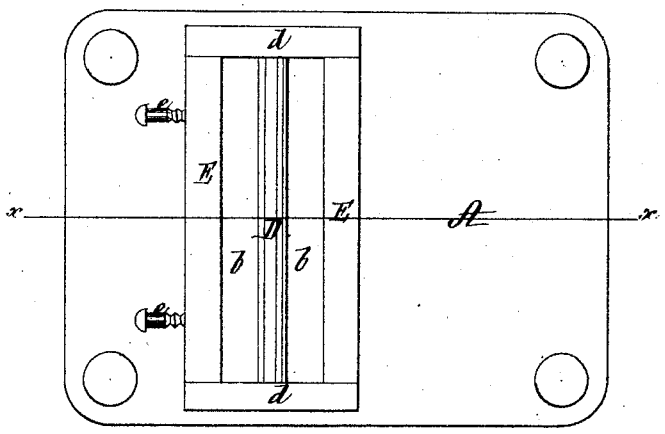
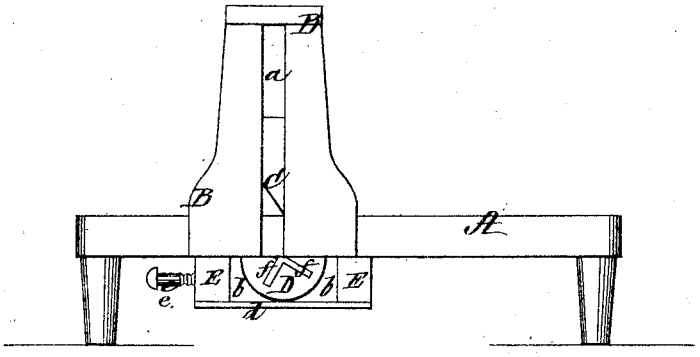


Fig. 4.



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United States Patent Office.

CHARLES PAINE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND CYRIL C. CHILD, OF SAME PLACE.

Letters Patent No. 112,623, dated March 14, 1871.

IMPROVEMENT IN PAPER-CUTTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES PAINE, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Adjustable Knife-Bed for Machines for Cutting Paper, Leather, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of a machine for cutting paper, with my adjustable knife-bed applied thereto.

Figure 2 is a plan of the under side of the same.

Figure 3 is a longitudinal section through the same, on the line *x x* of fig. 2.

Figure 4 is an elevation of one side of the same.

Heretofore the knife-bed of a paper-cutting machine, upon which the knife descends, has been composed of a rectangular strip of hard wood set into a slot or groove in the table.

After being used a short time a deep cut is made in the wood beneath the knife, which prevents the latter from severing the lower sheet or sheets of paper of the pile being cut.

When this occurs the wooden bed is removed and turned so as to bring the next side beneath the knife, and the four sides of the bed are thus utilized in succession. Notwithstanding this, however, the bed is soon rendered unfit for use and requires to be replaced by a new one, which involves expense and trouble.

My invention has for its object to overcome this difficulty, and consists in a revolving cylindrical knife-bed so arranged and applied that when grooved or cut it may be turned sufficiently to bring a new surface beneath the knife, thus causing it to last a much greater length of time than a knife-bed of rectangular form.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing—

A represents the table of a paper-cutting machine.

B, the frame, which supports the knife or cutter C, which slides in grooves, *a*, and is operated by mechanism, not shown.

D is the knife-bed, composed of a cylindrical block or roll of hard wood or other suitable material, which is partially inclosed between two guide-pieces *b b*, the inner side of each of which is grooved to correspond to the curvature of the circumference of the roll.

These guide-pieces, with the roll, fit into a slot in the table A, and when in place rest upon the end pieces *d d* of a frame, E, underneath the table, made sufficiently strong to resist the pressure exerted by the knife as it descends to make the cut, the upper surfaces of the guide-pieces being flush or nearly so with the surface of the table and the top of the knife-bed.

Instead of the frame E a heavy solid bar may be used, provided with a rectangular recess for the reception of the knife-bed and its guide-pieces.

When the parts are in the position seen in the drawing the cylindrical knife-bed D is clamped tightly between the guide-pieces *b b* to prevent any liability of its being moved by the knife, by turning the set-screws *e e*, which pass through one side of the frame E and exert a pressure upon one of the guide-pieces *b*.

As soon as a groove or furrow is worn in the bed D by the frequent descent of the knife upon it, the set-screws *e e* are loosened and the bed turned slightly by a screw-driver or other instrument inserted into one of the grooves *f* in its ends.

A new portion of the surface of the bed can thus be brought beneath the knife, and the operation can be repeated until the surface of the bed is covered with grooves in close proximity to each other; and a revolving bed constructed to operate as above described will last a great length of time, as it is only necessary to turn it about one-tenth of an inch each time in order to avoid the groove last made.

The knife-bed may be of wood, soft metal, or other suitable material, and instead of the two guide-pieces *b b* one only may be employed, the opposite side of the knife-bed fitting into a groove in the table itself; or both of the guide-pieces might be dispensed with and the under side of the table be grooved to receive the knife-bed, which would require to be supported by a suitable device beneath, while a narrow slot in the table would permit the knife to descend upon the bed.

Although my improvement is particularly applicable to machines for cutting paper, yet it is evident that it may be applied to machines for cutting materials other than paper, if found desirable.

Claims.

What I claim as my invention, and desire to secure by Letters Patent, as an improvement in cutting-machines, is—

1. The revolving knife-bed D, operating substantially in the manner and for the purpose described.

2. The combination of the revolving knife-bed D, one or more guide-pieces *b*, and the table A, substantially as and for the purpose set forth.

Witness my hand this 1st day of December, A. D. 1870.

CHARLES PAINE.

Witnesses:

P. E. TESCHEMACHER,

W. J. CAMBRIDGE.