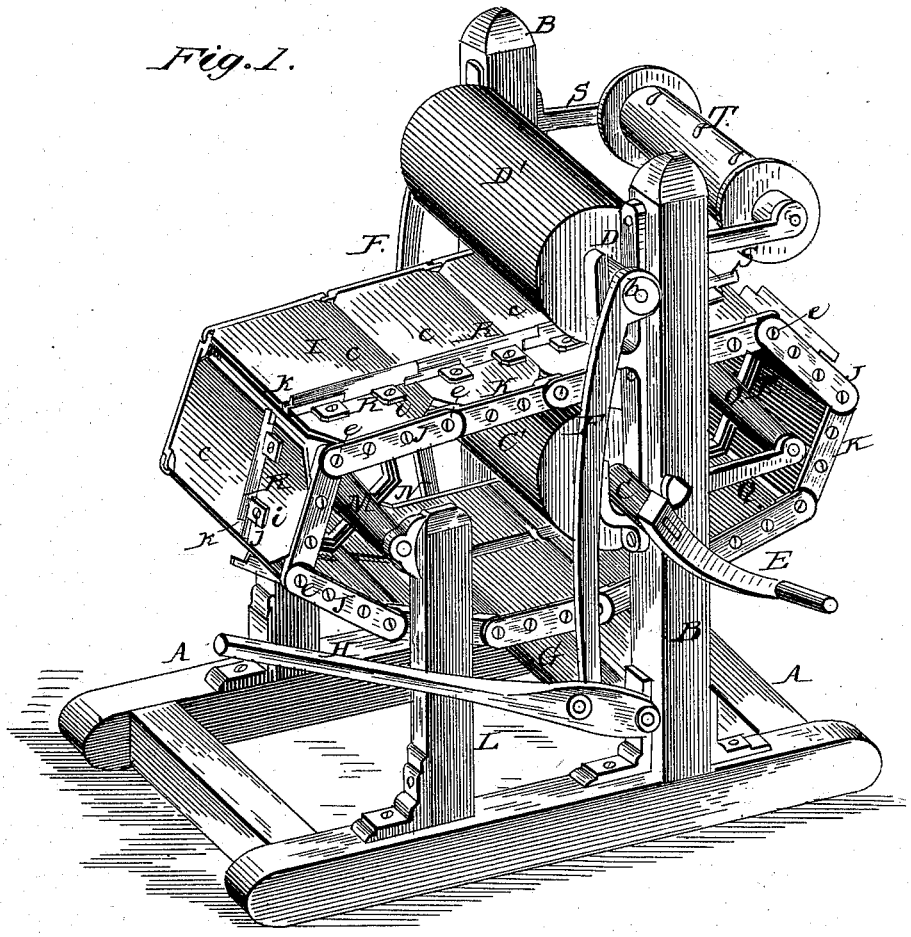
3 Sheets—Sheet 1.

E. BRALEY.

Machine for Cutting Patterns.

No. 219,205. **Patented Sept. 2, 1879.**

Fig. 1.



Witnesses;
Fred G. Dieterich
J. R. Littell

Inventor;
Ephraim Braley.
by
C. A. Snow & Co.
Atty's.

3 Sheets—Sheet 2.

E. BRALEY.

Machine for Cutting Patterns.

No. 219,205. **Patented Sept. 2, 1879.**

Fig. 2.

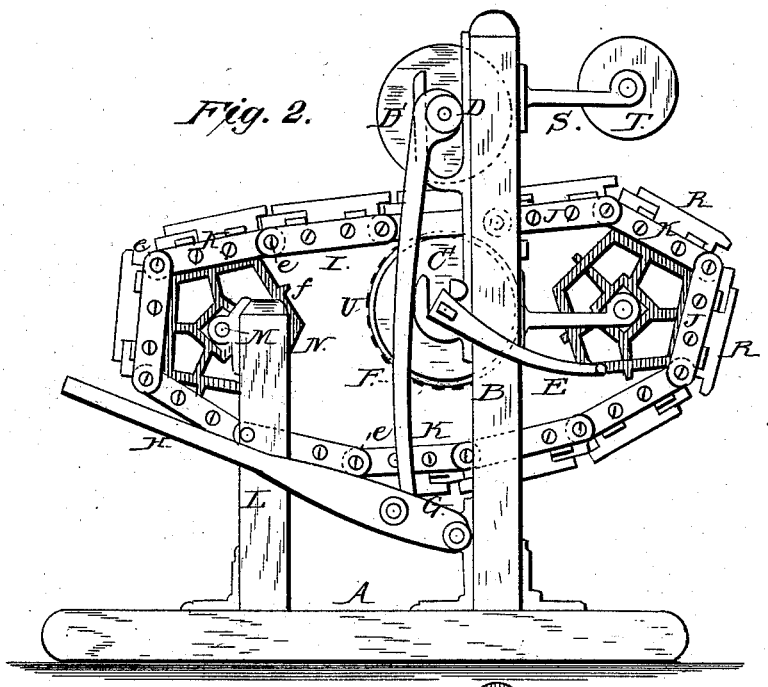
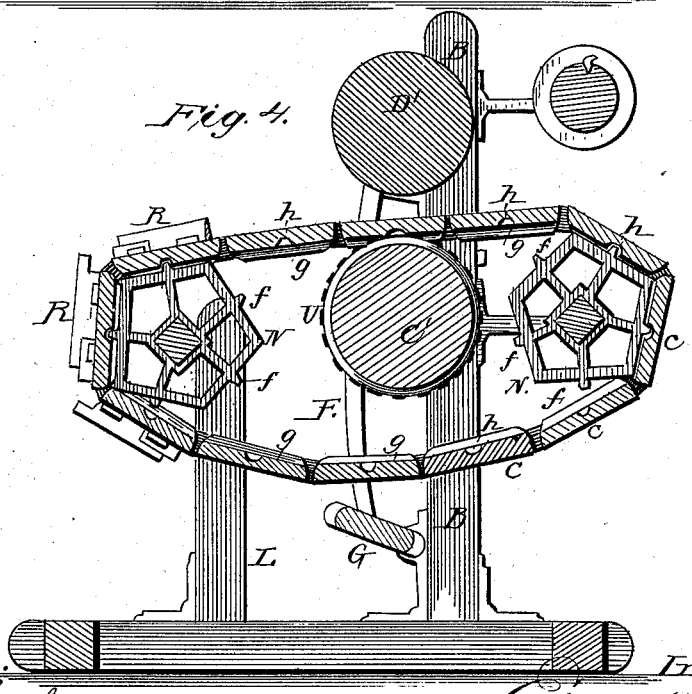


Fig. 4.



Witnesses:
Rud. G. Dieterich
J. R. Lisell.

Inventor:
Ephraim Braley,
by C. A. Snow & Co.
Atty's

3 Sheets—Sheet 3.

E. BRALEY.

Machine for Cutting Patterns.

No. 219,205. Patented Sept. 2, 1879.

Fig. 3.

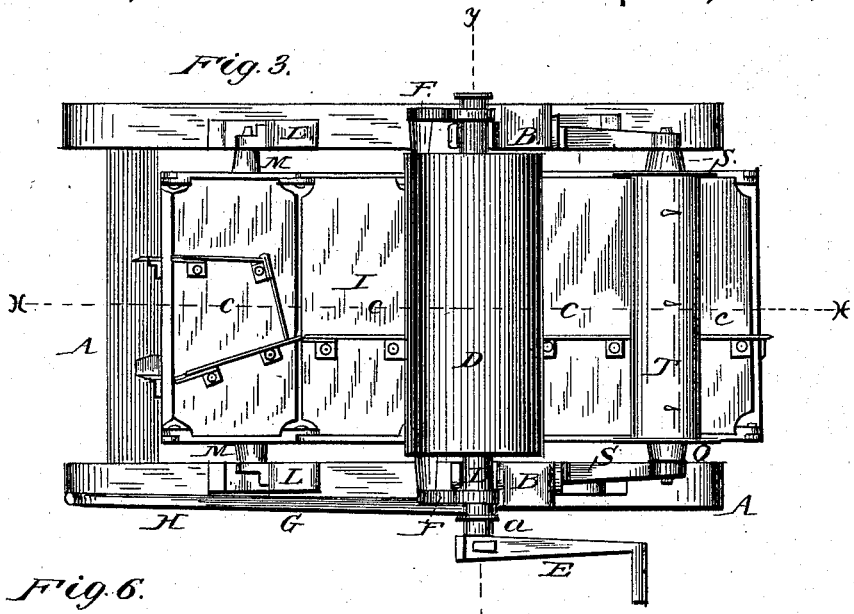


Fig. 6.

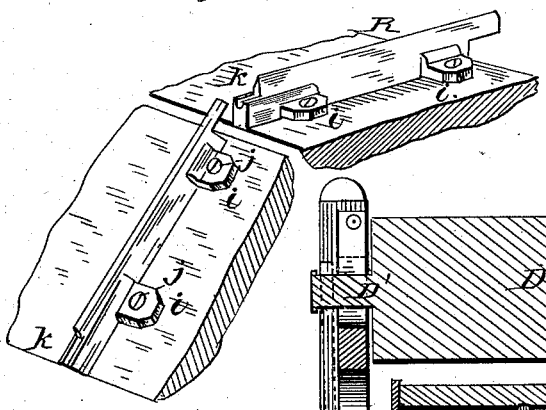


Fig. 7.

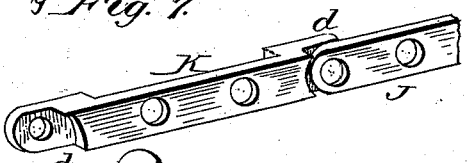
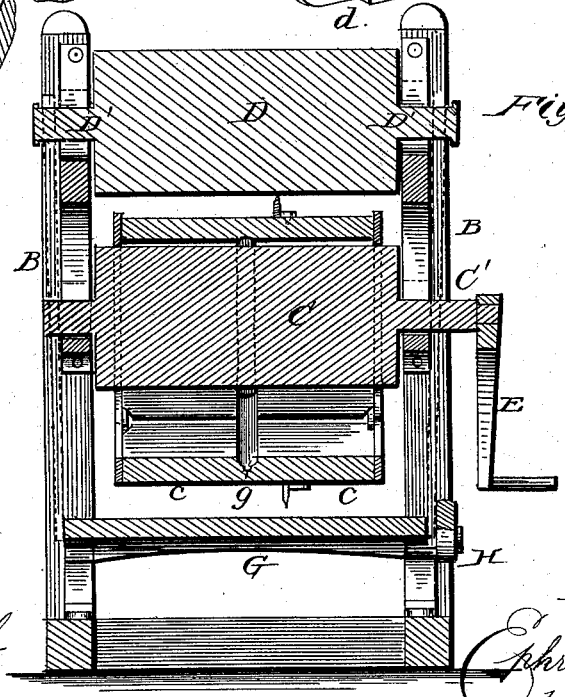


Fig. 5.



Witnesses;
Fred. G. Dieterich
J. R. Littell

Inventor;
Ephraim Braley,
by C. A. Snow & Co.
Attys.

UNITED STATES PATENT OFFICE

EPHRAIM BRALEY, OF WALTHAM, MAINE, ASSIGNOR TO A. P. BRALEY.

IMPROVEMENT IN MACHINES FOR CUTTING PATTERNS.

Specification forming part of Letters Patent No. **219,205**, dated September 2, 1879; application filed July 7, 1879.

To all whom it may concern:

Be it known that I, EPHRAIM BRALEY, of Waltham, in the county of Hancock and State of Maine, have invented certain new and useful Improvements in Machines for Cutting Patterns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view. Fig. 2 is a side elevation. Fig. 3 is a top plan. Fig. 4 is a longitudinal vertical section on the line *x x* in Fig. 3. Fig. 5 is a vertical cross-section on the line *y y*, Fig. 3. Fig. 6 is a detail view representing several of the knives or cutters detached from the machine. Fig. 7 is a detail view representing the links for connecting the parts of the bed of the machine.

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

This invention relates to an improved machine for cutting leather, cloth, sheet metal, and other material in various patterns for the manufacture of boots and shoes, garments, tinware, &c.; and it consists in the construction and arrangement of parts which will be hereinafter more fully described, and particularly pointed out in the claims.

In the drawings, A is a frame having uprights B B, provided with hangers or bearings for the shafts C D of two cylinders, C′ D′, which latter are arranged to slide vertically in the bearings. The lower cylinder, C′, may be rotated by the crank E, or by any other suitable means, by hand or other power. The projecting ends *a* of the shaft D of the upper cylinder pass through eyes *b* in the upper ends of downward-projecting arms F F, one on each side of the machine, the lower ends of which are pivoted to a bent lever, G, (shown in the drawings as a solid plate,) provided with a handle, H, by raising which the cylinder D′ may be raised or lifted in its bearings.

The bed I of the machine is formed of a number of slats, *c c*, jointed together so as to form an endless band or way. The connecting-links consist, respectively, of plain metal plates J and plates K, shouldered at the ends and provided with sockets *d*. The plates J are perforated at the ends to admit the screws or bolts *e*, which form the connections, and which are inserted into the sockets *d*, as shown. The plates J K are secured to the ends of alternate slats, and then pivoted together by means of the screws or bolts *e*, thus forming an endless bed of suitable dimensions.

The frame A is provided with two uprights, L L, having bearings for a shaft, M, carrying a wheel, N, having five (more or less) faces or sides and a corresponding number of projections or sprockets, *f*. The faces of the wheel correspond in width to the slats *c* of the bed I, which are grooved on the under side, as shown at *g*, and travel upon the wheel. The sprockets *f* fit in openings *h* in the under sides of the slats. A similar shaft, O, having wheel P, is arranged in bearings in brackets Q Q, projecting rearward from the uprights B B, thus forming supports for the bed I.

Upon the bed I are arranged the knives or cutters R R. The blades of these are provided with laterally-projecting ears or lugs *i i*, by which they may be secured to the bed of the machine by screws *j j*. Diagonally-opposite corners are cut off each of the cutters, as shown at *k k*, thus enabling them to be fitted closely together in such a manner as to form any pattern that may be desired. Each cutter may be made straight, curved, or of any other suitable shape.

In brackets S S, projecting rearward from the uprights B B, is journaled a reel, T, upon which the material may be wound after being cut.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation of my invention and its advantages will be readily understood. The material to be operated upon is placed upon the bed I under cylinder D′, which, by lever H, is forced down toward the bed. By operating the crank E the bed I is now caused to travel, with the material placed upon it, between the cylinders, thus causing the knives or cutters to cut the desired patterns out of the material.

To insure perfect and steady operation of the machine, the lower cylinder, C′, may be provided with a toothed circumferential band, U.

Having thus described my invention, I

claim and desire to secure by Letters Patent of the United States—

1. In a machine for cutting patterns, the combination of an endless bed or way having knives or cutters arranged thereupon with a supporting-cylinder and a pressing-cylinder operated by a lever, substantially as and for the purpose herein shown and specified.

2. In a machine for cutting patterns, constructed substantially as herein described, the combination of the cylinder D′, arranged to slide vertically in its bearings, with the pivoted arms F F, lever G, and handle H, substantially as and for the purpose herein shown and specified.

3. The knives or cutters R R, having laterally-projecting ears or lugs *i i* and diagonally-opposite recesses *k k*, by which they are fitted closely together, substantially as and for the purpose herein shown and specified.

4. The combination of the bed I, composed of slats *c c*, having grooves *g* and openings *h*, with the angular carrying-wheels M P, having sprockets *f*, substantially as and for the purpose herein shown and specified.

5. The herein-described machine for cutting patterns, consisting, essentially, of an endless bed or way provided with detachable and adjustable knives or cutters, a supporting and driving cylinder, a pressing-cylinder and mechanism for operating the same, angular carrying-wheels arranged on opposite sides of the supporting-cylinder, and a winding-reel, all arranged upon a suitable frame, substantially in the manner and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

EPHRAIM BRALEY.

Witnesses:

ALBERT S. PENNEY,

BELLE R. FOX.