

HUGH HAMILL.

Machines for Ironing and Polishing Cloth, &c.

No. 125,289.

Patented April 2, 1872.

Fig. 1.^a

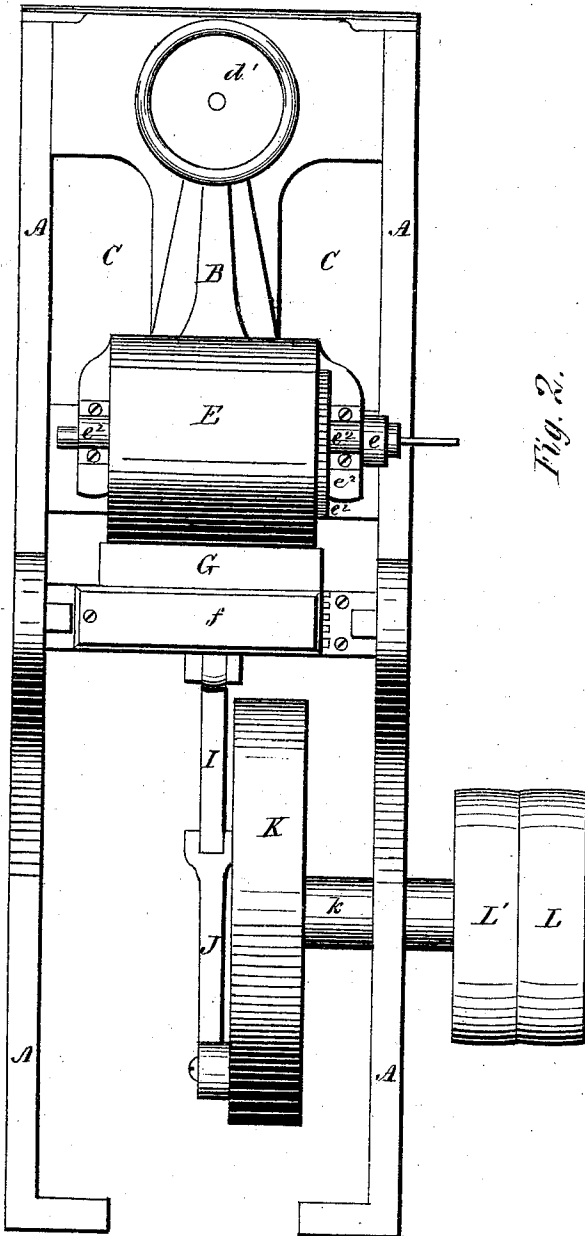


Fig. 2.

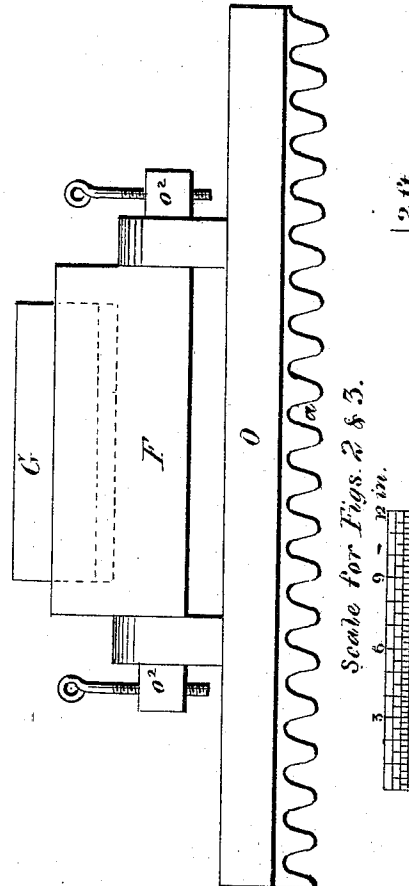
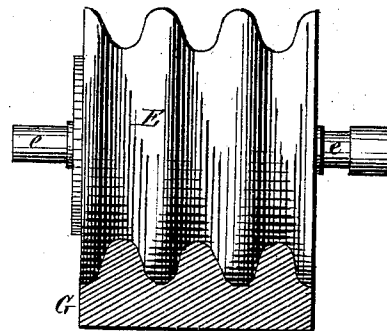


Fig. 3.



Witnesses.

J. B. Staples
Geo. W. Fox.

Inventor.

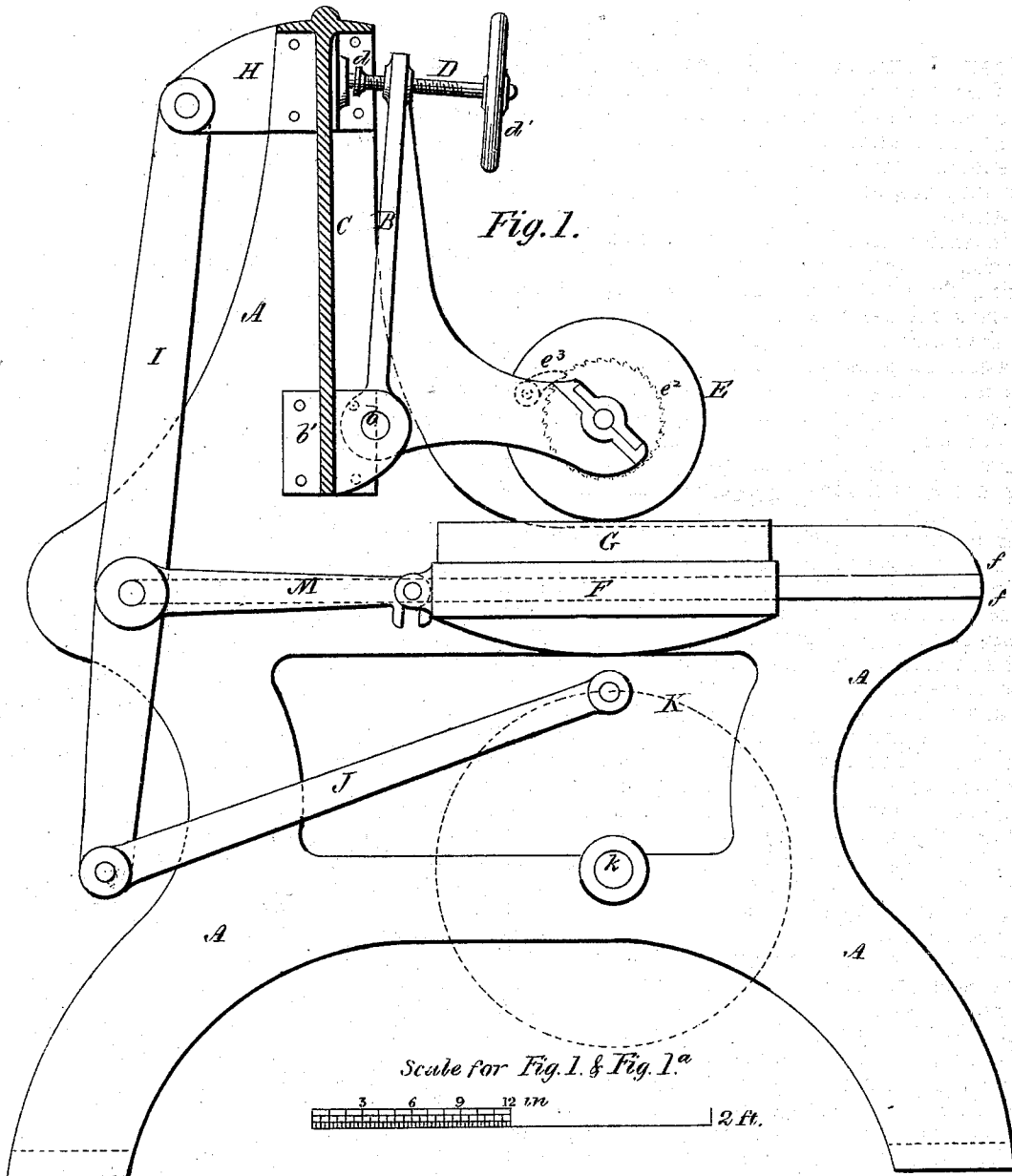
Hugh Hamill

HUGH HAMILL.

Machines for Ironing and Polishing Cloth, &c.

No. 125,289.

Patented April 2, 1872.



Witnesses.

J. B. Staples
Geo. W. Fox.

Inventor.

Hugh Hamill

UNITED STATES PATENT OFFICE.

HUGH HAMILL, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR IRONING AND POLISHING CLOTH, &c.

Specification forming part of Letters Patent No. 125,289, dated April 2, 1872.

I, HUGH HAMILL, of the city, county, and State of New York, have invented Improvements in Machines for Ironing, Polishing, and Glossing, and Fluting Cloth and Clothing, and for Calendering and Glossing Paper, and other similar purposes, of which the following is a description:

My invention and improved machine consist: First, in the manner of constructing and arranging the ironing, finishing, glossing, or calendering roller-carrier or hanger, so as to adjust the roller upon the material to be acted on by a suitable pressure, in combination with a horizontal sliding and reciprocating ironing-table, by which the roller is operated. Secondly, in the combination and arrangement of the parts by which the horizontal reciprocal sliding motion of the ironing-table is effected. Thirdly, in combination with the roller, the manner of constructing and arranging the table or bed and the roller, so that their parts may be removable, and admit the different forms for ironing, finishing, calendering, and glossing, or fluting, as may be desired.

In the accompanying drawing, Figure 1 represents a side view or elevation of the working parts, and of one side of the frame of the machine. Fig. 1^a, represents a front end elevation of same. Fig. 2 represents a side elevation of a movable bed with ironing or calendering or glossing box and table, graduated as to height and position by screws, and having a rack underneath, which may be operated by a pinion. Fig. 3 is a top view of the roller or ironing-wheel, adapted to fluting, and the fluted bed underneath.

My machine is constructed upon a frame of suitable strength to sustain the strain and pressure, one side of which is shown in side elevation in Fig. 1 at A, and the two sides in end elevation in Fig. 1^a. In the upper part of the frame is hung the bent roller-carrier or hanger B, having its two arms at nearly a right angle to each other. It is provided with journals, *b b*, at its angle which turn in suitable openings or boxes in the two side plates *b' b'*, firmly secured to the frame. C is a vertical standard plate, firmly secured to the frame at its upper and lower ends. The upright arm of the roller-carrier B is adjusted to the upright standard C by the male screw D passing through a corresponding female screw

in B, into a socket, *d*, on the standard C, where it forms a swivel-joint in the socket at one end, and at the other end is provided with a turning-wheel, *d'*, by which the roller-carrier can be moved and adjusted by turning the screw to right or left. The horizontal arm of the roller-carrier B is forked at its outer end so as to form two parallel arms, between which the roller is hung upon gudgeons or journals turning in suitable boxes or openings. E is the ironing, calendering, glossing, or fluting roller. *ee* are the journals, which are arranged in the boxes or openings, so as to admit of the roller being taken out and changed as required for the different operations of the machine. The adjustable plates *e' e'*, secured by screws over the journals, hold the journals and roller in place, and provide for the easy removal and change of the roller, when required. F is an oblong rectangular box or holder, open at the top to receive the table or bed upon which the material to be acted upon is placed and held during the operation. It rests upon bearings which support and guide it in its horizontal reciprocating movement. These bearings may be in the nature of a tongue and groove under the box and on the floor or bed of the frame, as at *f f*; or there may be projections upon the sides of the holder and running in parallel slots or grooves in the sides of the frame, so that an even and regular horizontal movement of the table shall be preserved. Within this box is placed the ironing, polishing, or fluting table G. It is made to closely fit within the box so as to be held securely in its place, and it may be placed into the box from the top, or slid in at the end by the swinging door or front *f'*, as shown at *f'*, (front elevation,) Fig. 1^a, and which door is fastened or loosed by a latch, screws, or any similar suitable device. The movable table G must be adjusted in its dimensions to the width of the roller F, and to the length of the alternate movement of the table when in operation. Between the table G and the bottom of the box F an elastic substance, such as India rubber, or steel springs of elliptical or corrugated form, may be interposed in order to preserve an elastic and constant pressure between the roller and the table upon the article to be operated upon. By turning right or left the adjusting-screw D the space between the acting surface of the

roller E and that of the removable table G may be adjusted to any required degree. Projecting from the top of the frame, at the back, is the fixed horizontal bracket H, in which is hung the vertical vibrating lever I, its lower end being jointed to the connecting-rod J, which is jointed or keyed to a rotary pulley, K, (or a crank) having on its spindle *k* a fast and loose pulley, L L', for operating the machine by power from any prime mover. The box F is connected with the vibrating lever I by the horizontal rod M, jointed at one end to the lever I, and at the other is keyed and jointed to the inner end of the box or table F. By the rotating of the wheel K a reciprocating horizontal movement of the table F and ironing-bed G is produced, and which, by the pressure upon the material between them, causes the ironing-roller to rotate.

For glossing, finishing, or smoothing, the rotary movement of the roller is arrested by means of the ratchet *e*² upon the end of the roller, and the pawl *e*³ jointed upon the arm B, at each outward movement of the roller and table F G.

This device and construction for the alternate rotation and arresting of the roller being described and claimed as my invention, in my specification for Letters Patent now on file, and which has been allowed, is not herein claimed.

The length of stroke may be regulated by a radial slot in the wheel K, as shown by dotted lines, so as to allow the wrist-pin of the rod J to be brought near to the center of the wheel, by which the stroke is shortened, and when moved outward, is lengthened. The ironing-roller is heated by steam or flame of gas, or other suitable means.

From the foregoing description of the manner of constructing the box F, and removable table or bed G, and the hinged or adjustable cover of the journals of the roller E, it is obvious that rollers having faces of any suitable form may be inserted in the machine, and that tables or beds G, the faces of which must be made to coincide with the faces of the rollers,

may also be introduced, so as to perform the various operations of fluting, crimping, glossing, as desired.

In Fig. 3 of drawing is shown a top view of the fluting-roller E, and table or bed G underneath, into which the flutes mesh. In Fig. 2 of drawing is shown in side elevation a movable platform, O, upon which are four supporting and adjusting vertical screws, *o*¹, at each angle, and which pass through female screws in the ends of the frame pieces *o*², which project from the body of box F, and slide up and down in vertical guiding slots on the transverse bed-pieces P P. The rack Q may be used in connection with a pinion for giving the required movement.

The machine as above described is intended for large operations, and for steam or water power; but smaller machines for family use, upon the same plan, may be constructed to be operated by hand-crank, or by a treadle.

Having thus described my improvements, and the manner of constructing the same, what I claim therein as my invention, and which I desire to secure by Letters Patent, is—

1. The construction and arrangement of the adjustable roller-carrier or hanger B, in combination with the horizontally-reciprocating ironing-table F, operating in the manner and for the purposes described.

2. I claim the combination of the bracket H, vibrating arm I, connecting-rod J, and adjusting-rod M, and pulley K, and reciprocating holder F, constructed, arranged, and operating in the manner and for the purposes described.

3. In combination with the adjustable roller E, I claim the holding and adjusting box F, for changing and carrying the different-shaped ironing-beds for fluting, crimping, glossing, &c., arranged and operating in the manner and for the purposes described.

HUGH HAMILL.

Witnesses:

J. B. STAPLES,
GEO. W. FOX.