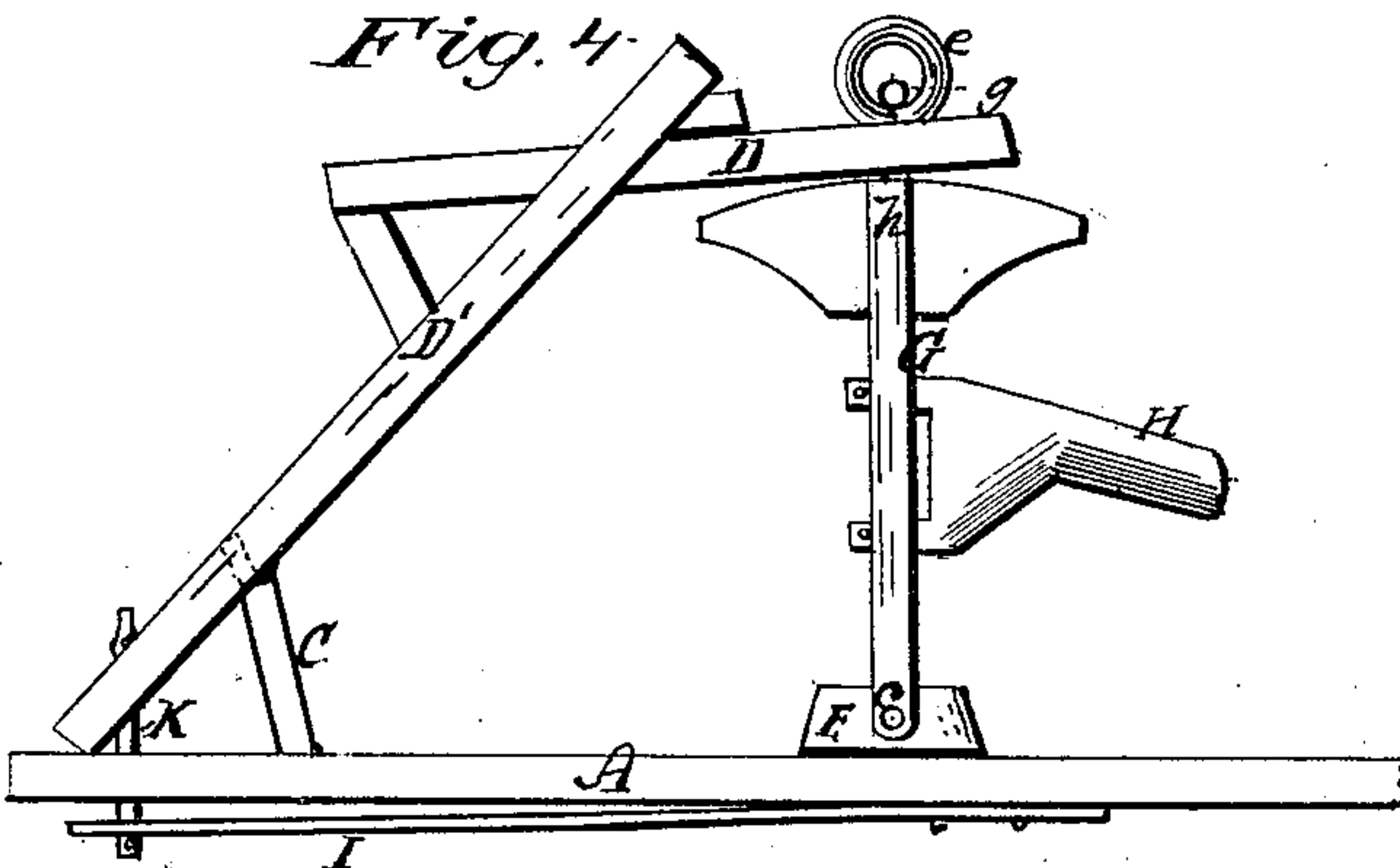
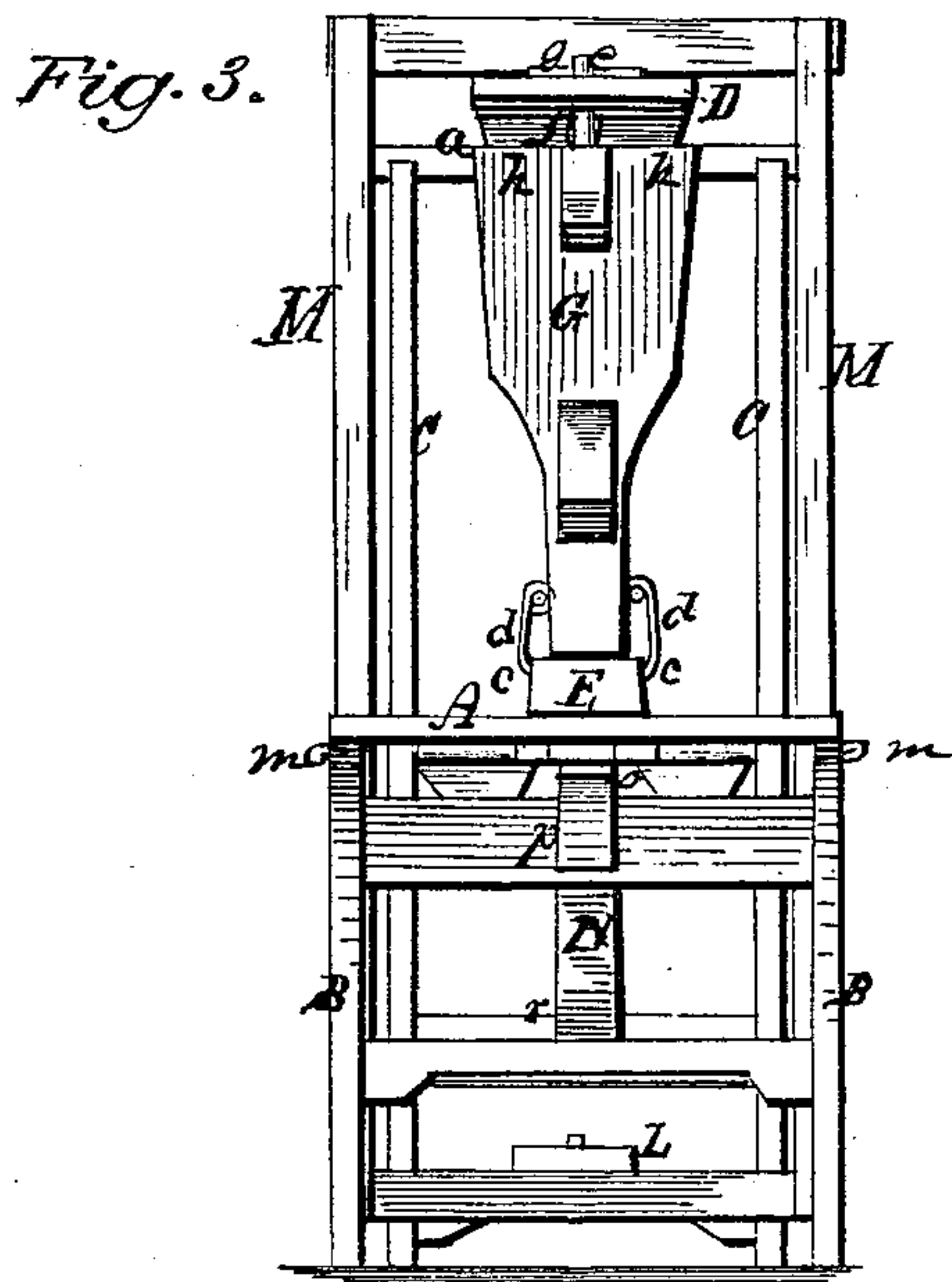
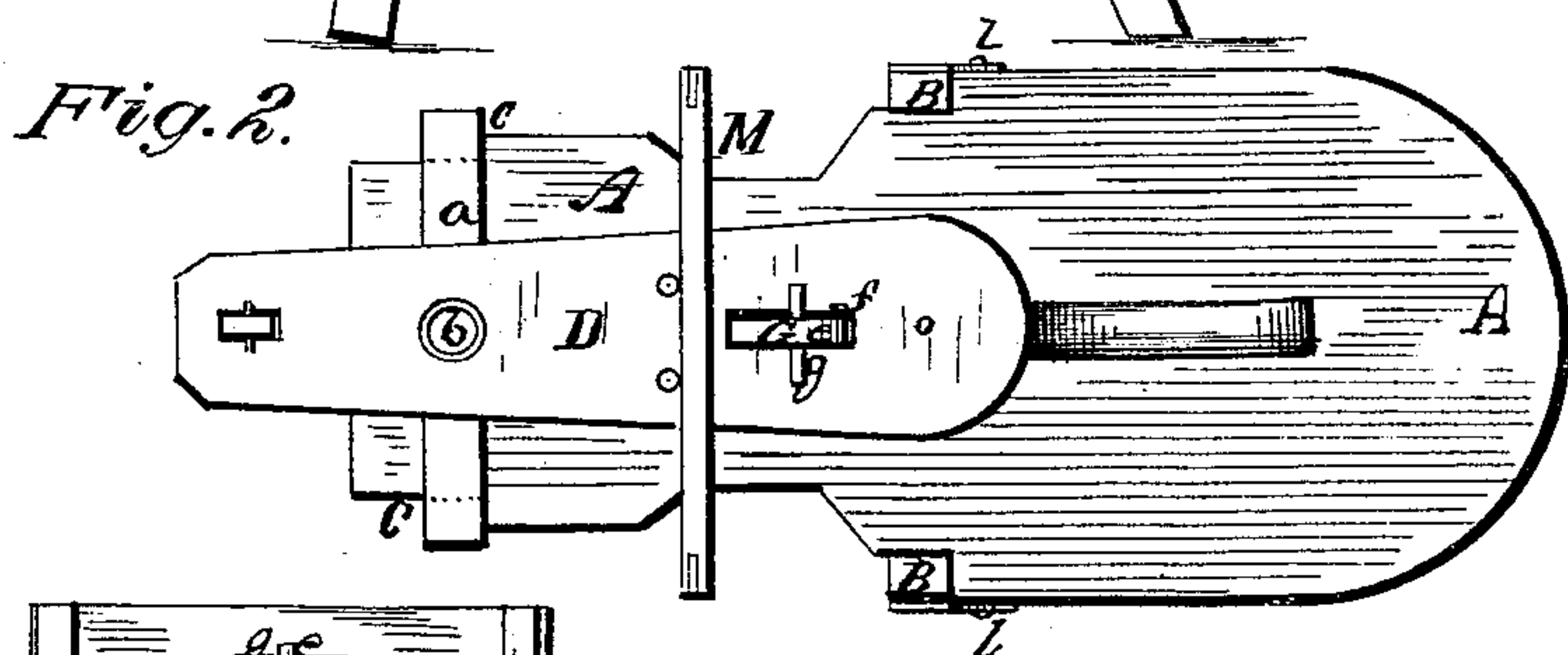
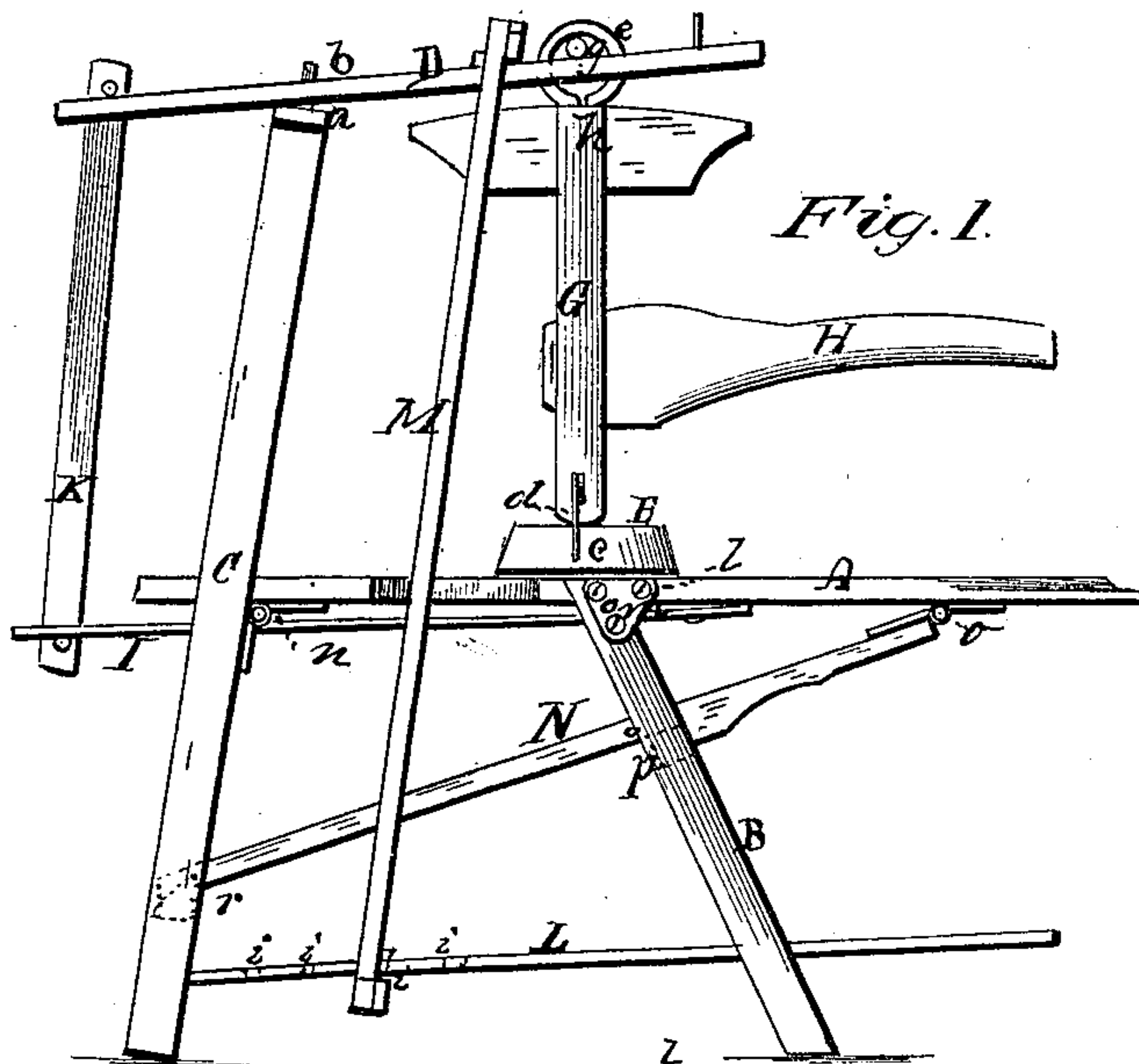


J. K. ONEIL.
Ironing Machine.

No. 230,961.

Patented Aug. 10, 1880.



Witnesses
Fred. G. Dietrich
Albert H. Krause.

Inventor,
John K. O'Neil,
By his Attorney,
J. S. Brown.

UNITED STATES PATENT OFFICE.

JOHN K. O'NEIL, OF TROY, NEW YORK.

IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 230,961, dated August 10, 1880.

Application filed February 9, 1880.

To all whom it may concern:

Be it known that I, JOHN K. O'NEIL, of Troy, in the county of Rensselaer and State of New York, have invented an Improved Ironing-Machine; and I do hereby declare that the following is a full, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a side view of an ironing-machine constructed with my improvements; Fig. 2, a top view of the same; Fig. 3, a front view thereof; Fig. 4, a side view of a modified construction of the machine.

Like letters designate corresponding parts in all of the figures.

The features of this machine will be herein specified successively.

The ironing table or board A is supported by a pair of legs, B B, at the front, inclining forward from a position near the middle of the table, where they are joined thereto, down to the floor, so as to firmly support the front end of the table, while that end is left free to receive skirts and other articles of clothing around it; and the rear end of the table or board is supported by a pair of legs or standards, C C, connected to form a frame, and extending above the table, substantially as shown in the drawings, for the purpose of also sustaining the lever-cap D, from which the smoothing-iron E is suspended, and by means of which the proper pressure on the said smoothing-iron is applied.

The cap D, which constitutes the first feature of my invention, is supported by a fulcrum-bar, a, extending between the two rear standards, C C, near their upper ends, so as to have a free vibratory up-and-down movement of its two ends upon the said fulcrum-bar, and it is pivoted upon the said fulcrum-bar around a vertical pin, b, projecting upward therefrom, so as to have a free horizontal swinging movement. The aperture through the cap, which receives the fulcrum-pin b, is made somewhat oblong, in order to allow the vertical vibratory motion of the cap.

The smoothing-iron E is suspended from the forward end of the lever-cap D by an arm, G, of peculiar construction and operation, which constitutes the second feature of my invention. The said smoothing-iron (which may

most conveniently, but not necessarily, be a hollow metallic case made to receive the heated removable iron or stone, to be replaced by a newly-heated one as fast as each gets too cool for use without removing or displacing the said suspended case) is pivoted at a center, c, to a shackle-link, d, or its equivalent, which also is pivoted to the lower end of this suspending-arm, whereby the smoothing-iron is rendered free to retain a horizontal position, or one parallel with the ironing table or board, however much the suspending-arm may swing out of a vertical position.

The said suspending-arm is itself suspended by or secured to the cap D by a pin or rod, e, extending through a slot, f, in the cap and terminating in a head or eye to receive a pivot above the cap, and kept from falling out or being withdrawn by a cross-pin, g, or otherwise; but, however secured in place, the connection between the cap and suspending-arm must be free or loose enough to allow a free rocking or swinging movement of the arm forward and backward.

The upper end of the suspending-arm G is widened or extended from front to back, and is of arc or convex form, concentric with the pivot center c, or thereabout, between the arm and smoothing-iron, so that, however much the suspending-arm swings or rocks under the cap D, the smoothing-iron will retain a uniform distance from the cap and will move without restraint upon the ironing board or table under any pressure which may be exerted upon the smoothing-iron by the cap.

To keep the suspending-arm G in a firmly upright position laterally (which is essential) while it rocks beneath the cap to give the forward and backward movement to the smoothing-iron, and while swinging the cap horizontally to give the lateral movement, a central rocking ridge, h, is formed at the upper end of the suspending-arm, extending at right angles to the rocking arc or curve laterally on both sides thereof, being shaped so as not to interfere with the rocking motion of the arm. A handle, H, extends forward from the arm G, so as to be conveniently reached by the operator, by which to move the iron backward and forward and guide its lateral motions.

The forward end of the cap D and the iron

E and its suspending-arm G are held balanced and suspended, when downward pressure is not applied thereto in ironing, by means of a counter-spring, I, secured under the table A and extended backward therefrom under the rear end of the cap D, with which it is connected by a connecting-rod, K, the length of which and that of the spring allowing the requisite lateral movement of the cap in ironing.

10 The downward pressure of the smoothing-iron upon the ironing table or board with the foot is effected by means of the following device: A foot-lever, L, is pivoted or fulcrumed on a cross-bar of the rear legs or standards, and reaches forward to a proper position to be reached by the foot. A sash or connecting frame, M, takes under this foot-lever, extends upward outside of the ironing table or board, and its upper cross-bar reaches across over the cap D, substantially as shown. A pin in the lower cross-bar of this connecting-frame enters one of a number of holes, *i i*, in the foot-lever at different distances from its fulcrum to enable the leverage to be adjusted at pleasure. 25 A similar adjustment of the cross-bar on the cap also is or may be made, and thus not only the leverage is varied, but the height of the movable end of the foot-lever is adjusted to suit different persons. This means of applying the pressure not only relieves the arms of the labor of applying the pressure, but the arrangement of the connecting-frame, extending downward and backward, the motion of the cap D in the same direction enables the foot to materially assist the hand in the backward and principal movement of the smoothing-iron, and in lifting the foot in the backward movement thereof the counter-spring I assists the arm in drawing back the smoothing-iron. As soon as the pressure of the foot is taken off the said counter-spring immediately raises the smoothing-iron from contact with the cloth, thus obviating all danger of scorching the same.

The motions of the smoothing-iron are perfectly free, both forward and back and laterally, except such resistance as the pressure-friction offers. The connecting-frame M, being wide, allows all the lateral movement of the suspending-cap D required.

50 The entire machine is made portable and compact by the method of uniting the parts.

Thus the front pair of legs, B B, is pivoted to the table at *l l* and locked by pins *m m*, or their equivalent, and the rear legs or standards, C C, are pivoted or hinged to the table at *n*, so that both pairs of legs are enabled to be folded close to the table. Then the legs are locked and braced in standing position by a brace, N, hinged at *o* to the under side of the table, and locking into notches in cross-bars *p* and *r*, respectively running across between the legs B B and C C. The remainder of the parts are either arranged in position adjacent to the table, or are separable, so as to pack therewith.

Nearly every part of the apparatus, except the smoothing-iron itself, may be made of wood, and quite inexpensive.

In Fig. 4 I have shown a simplified form of the apparatus to be applied to an ordinary table. In this case I of course dispense with supporting-legs, and I may dispense with the foot-power, though, since such power is very desirable, a foot-lever and connecting-frame may obviously be applied here without any change of construction. In this arrangement the only notable change is in adding an inclined extension, D', to the cap-board D, so that no supporting-standards are required above the table.

The corresponding letters of the drawings show the several parts and their arrangement.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The suspending-cap D, fulcrumed on a cross-bar, *a*, of the supporting-standards, to allow it a vertical oscillating movement, and pivoted on a pin, *b*, to allow it a lateral horizontal movement, substantially as and for the purpose herein specified.

2. The suspending-arm G, having a rocker form at its upper end, pivoted loosely to the under side of the cap D, having a lateral ridge, *h*, to keep it laterally upright, and provided with a handle, H, substantially as and for the purpose herein specified.

The foregoing specification signed by me this 14th day of January, 1880.

JOHN K. O'NEIL.

Witnesses:

JAS. K. AVERILL,
THOMAS J. PITTS.