

No. 679,718.

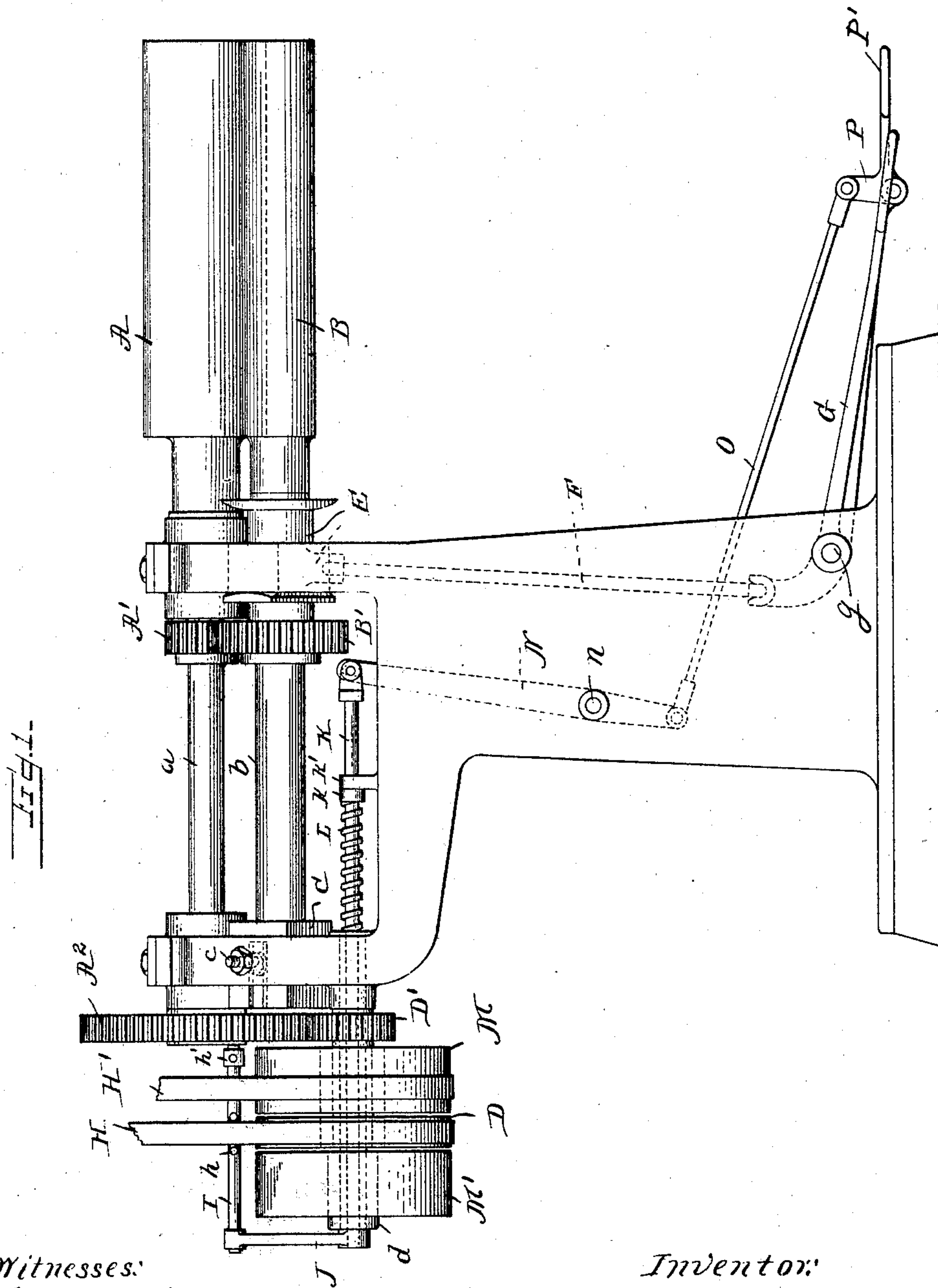
Patented Aug. 6, 1901.

W. M. BARNES.
IRONING MACHINE.

(Application filed Feb. 19, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
Jesse B. Heller,
M. J. Ellis

Inventor:
William M. Beecher
per Handcright Handing
Attorneys.

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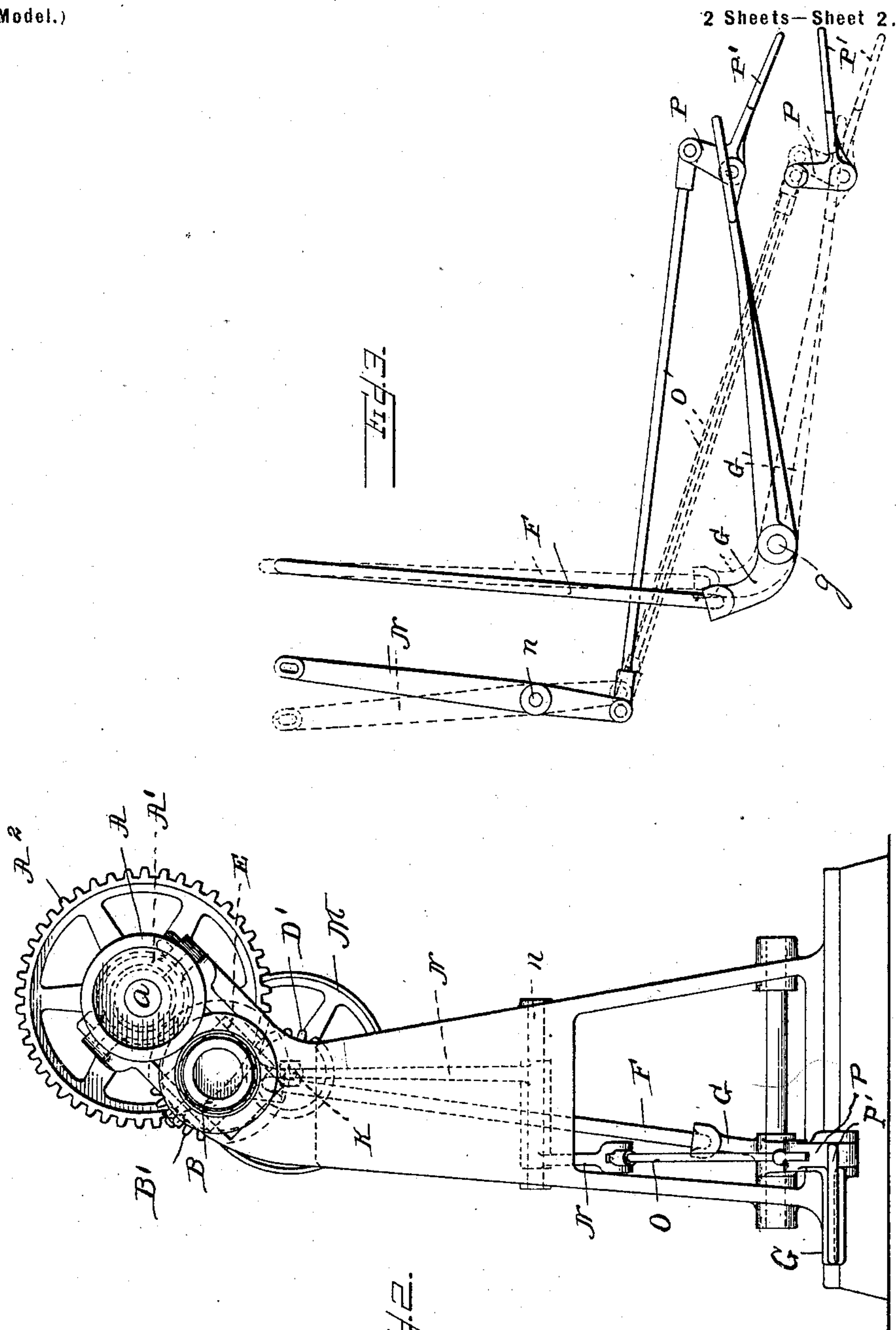
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Witnesses:
Jesse B. Heller
W. J. Ellis

Inventor:
William M. Barnes

per Harding & Harding

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM M. BARNES, OF PHILADELPHIA, PENNSYLVANIA.

IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 679,718, dated August 6, 1901.

Application filed February 19, 1901. Serial No. 47,906. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. BARNES, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Ironing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to ironing-machines, and particularly to that type of machine wherein one ironing-roller is normally out of operative relation with the other ironing-roller and is brought into operative relation therewith by foot-power and wherein reversal of the direction of rotation of the rolls while they are in operative relation with each other is also accomplished by foot-power. In machines of this type it is customary to have two independent foot-treadles, one connected with the roll-moving mechanism and operated by one foot and the other connected with the reversing mechanism and operated by the other foot. The manipulation of two independent foot-treadles is a matter of considerable difficulty and tends to unduly tire the operator.

The object of my invention is to so connect the roll-moving mechanism and the reversing mechanism together that they may be operated successively from the same foot-treadle.

Figure 1 is a front view of the machine. Fig. 2 is an end view, and Fig. 3 is a diagram showing different positions of the operating-levers for throwing into gear the ironing-rollers and for reversing.

A B are the ironing-rollers. The roller A is on a shaft *a* in fixed bearings in the main frame. The roller B is on a shaft *b*, having its bearing at the end opposite the rollers in a box C, through which extends a bolt *c*, secured to the main frame. The shaft *b* is thus pivoted at one end, and normally the roller end of the shaft drops down by its own weight, so that the roller B is out of operative position relatively to the roller A.

A' is a gear on shaft *a*. B' is a gear on shaft *b*. The two gears are thrown into engagement by lifting the shaft *b* into position to bring the roller B into operative relation with roller A. Any movement of rotation

imparted to the shaft *a* will therefore produce an equal and opposite rotation of the shaft *b*, and the article to be ironed is fed between the oppositely-rotating rollers A and B.

To drive the shaft *a*, there is provided the driving-pulley D, fast on the shaft *d*. The shaft *d* has the pinion D', engaging gear A² on shaft *a*.

To lift the shaft *b* so as to throw gear B' into engagement with gear A', I provide a box E, through which the shaft *b* extends and which is slidable in vertical guides on the main frame. Engaging one end of the box is one end of a rod F, the other end of the rod being in engagement with the short end of a lever G, pivoted between its ends to the shaft *g*. By depressing the long end of the lever G, which is shaped to form a foot-treadle, the shaft *b* is elevated and the gear B' moved into engagement with gear A'.

To reverse the rollers, so that the article to be ironed may be fed back and forth between the rollers, I provide the following mechanism:

M M' are loose pulleys on the shaft *d*, one on each side of the fast pulley D.

H H' are driving-belts driven from any convenient source of power in opposite directions. These belts extend through guides *h h'*, respectively secured to a rod I. The rod I is secured to an arm J, which is in turn secured to a rod K. The shaft *d* is made hollow, and the rod K extends through the shaft, the rod also extending through the main frame and being provided with a collar *k*.

L is a coiled compression-spring surrounding rod K and confined between the main frame and the collar *k*. The collar *k* is also shown as bearing against a fixed lug *k'* on the main frame. By this means the rod K is held normally in such position that the belts are held in the positions shown in Fig. 1, wherein one belt H engages the fast pulley D and the other belt H' the loose pulley M, thereby causing the ironing-rollers to rotate in the direction to carry forward the article to be ironed between the rollers.

N is a lever pivoted between its ends to the shaft *n*. The long end of the lever N is secured to the rod K, while the short end is secured to the link O. By pulling the link

O to the right the rod K is pushed to the left (the spring L being compressed) and the belts shifted so that belt H engages the loose pulley M' and belt H' engages the fast pulley D, the rollers thereupon being driven in the opposite direction to feed backward the article to be ironed.

P is a bell-crank lever, the short end being pivoted to the link O, while the long end forms a foot-treadle P'. This bell-crank lever is pivoted to the long end of lever G a short distance from its end.

When the machine is not being operated for the purpose of ironing, the belt H is in engagement with pulley D, the shaft *a*, roller A, and gear A' are revolving, and the shaft *b* has dropped so that gear B' is disengaged with gear A', and the parts F G N O P P' are in the positions shown in full lines in Fig. 3.

The first operation is to lift the shaft *b*. The operator places his foot upon the foot-treadle P'. The front part of the foot will thereby rest over the end of lever G. By throwing the weight of his foot on lever G the said lever is depressed, thereby bringing the lever G and rod F into the position shown in dotted lines in Fig. 3 and lifting the shaft *b*, moving gear B' into engagement with gear A' and causing both rollers to rotate. By depressing lever G no movement of the reversing mechanism is effected; but inasmuch as the bell-crank lever P is moved somewhat farther away from the lower end of lever N the short end of bell-crank lever P will be moved to the left and the foot-treadle P', while being bodily depressed, will be lifted relatively to the lever G to about a horizontal position, as illustrated in the diagram, Fig. 3, and as shown in Fig. 1.

During the rotation of the rolls, as just described, to feed the article to be ironed forward sufficient pressure is maintained on the foot-treadle to hold it in about a horizontal position. To reverse the rotation of the rolls, the entire weight of the foot is thrown on the foot-treadle P', thereby moving it downwardly on its pivotal connection with lever G to the position shown in dotted lines, Fig. 3, drawing the link O to the right, moving lever N from the position shown in full lines to the position shown in dotted lines, Fig. 3, thereby moving the belt H' into engagement with pulley D and the belt H into engagement with pulley M', as before described. The rollers now rotate in the opposite direction, and the article to be ironed is fed backward. The rollers may be again reversed, so as to cause the rollers to feed the article to be ironed forward by releasing the pressure on foot-treadle P' and maintaining the pressure on lever G. The spring L at once acts to shift the belts to their normal position and returns the foot-treadle P' to about a horizontal position. To stop the machine, the foot is taken off the treadle and the parts return to their normal position, the shaft *b* dropping by its own weight.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In an ironing-machine, the combination, with a stationary roller; a movable roller and driving means therefor, of mechanism for moving the movable roller into operative relation with the stationary roller, mechanism for reversing the direction of rotation of the rollers, a lever connected with and operating the roll-moving mechanism, and a lever connected with and operating the reversing mechanism, said levers being pivoted to each other on a horizontal pivot and having portions projecting beyond their pivotal connection forming foot-treadles, one treadle extending beyond the other, substantially as described.

2. In an ironing-machine, the combination, with a stationary roller, a movable roller and driving means therefor, of mechanism for moving the movable roller into operative relation with the stationary roller, mechanism for reversing the direction of rotation of the rollers, a lever connected with and operating the roll-moving mechanism, and a lever connected with and operating the reversing mechanism, the last-named lever being pivoted to the first-named lever on a horizontal pivot, each lever having a portion forming a foot-treadle projecting beyond said pivot and the treadle of the last-named lever extending beyond the treadle of the first-named lever, whereby the depression of the treadle of the first-named lever moves said movable roller into operative relation with the stationary roller and also depresses the treadle of the last-named lever and whereby the last-named lever may be moved on its pivot to reverse without affecting the position of the first-named lever, substantially as described.

3. In an ironing-machine, the combination, with a stationary roller, a movable roller and driving means therefor, of mechanism for moving the movable roller into operative relation with the stationary roller, mechanism for reversing the direction of rotation of the rollers, a lever connected with and operating the roll-moving mechanism, and a bell-crank lever connected with and operating the reversing mechanism the bell-crank being pivoted to the first-named lever, substantially as described.

4. In an ironing-machine, the combination, with a stationary roller, a movable roller and driving means therefor, of mechanism for moving the movable roller into operative relation with the stationary roller, mechanism for reversing the direction of rotation of the rollers, a lever connected with and operating the roll-moving mechanism, and a bell-crank lever connected with and operating the reversing mechanism, the bell-crank lever being pivoted to the first-named lever, a short distance from the end thereof, the free end of the bell-crank lever projecting beyond the free end of the first-named lever and forming a foot-treadle, substantially as described.

5. In an ironing-machine, the combination, with the ironing-rollers, mechanism for bringing them into operative relation with each other, a lever connected with and, by its depression, operating said mechanism, to bring said rollers into operative relation, mechanism for reversing the direction of rotation of the rollers, a bell-crank lever connected with and operating the reversing mechanism, said bell-crank lever being pivoted to the first-named lever and the free end thereof forming a foot-treadle, substantially as described.

6. In an ironing-machine, the combination, with the ironing-rollers, mechanism for bringing them into operative relation with each other, a lever connected with and, by its depression, operating said mechanism to bring said rollers into operative relation, mechanism for reversing the direction of rotation of the rollers, a bell-crank lever connected with and operating the reversing mechanism, the free end of said bell-crank lever forming a foot-treadle, and the free end of the first-named lever, when depressed, being contiguous to, and projecting beyond the pivot of the bell-crank lever, whereby the foot of the operator may engage both levers simultaneously, substantially as described.

7. In an ironing-machine, the combination,

with the stationary ironing-roller and its shaft, the movable ironing-roller, and its shaft, the last-named shaft being pivoted, a hollow driving-shaft, a driving-pulley on said shaft, driving connections from said shaft to the shaft of the stationary ironing-roller, a belt-shifter for reversing the direction of rotation of the driving-pulley, a spring-pressed rod extending through the hollow driving-shaft, a connection between said spring-pressed rod and the belt-shifter, a bearing for the pivoted shaft of the movable ironing-roller, a lever pivoted between its ends, a rod connecting one end of said lever with said shaft-bearing, a second lever pivoted between its ends, one end being connected to the spring-pressed rod, a bell-crank lever, and a link connecting the other end of the second lever with one end of the bell-crank lever, said bell-crank lever being pivoted to the other end of the first-named lever, substantially as described.

In testimony of which invention I have hereunto set my hand, at Philadelphia, on this 13th day of February, 1901.

WILLIAM M. BARNES.

Witnesses:

M. F. ELLIS,

M. M. HAMILTON.