

(No Model.)

C. A. LIEB & C. L. HEINS.
IRONING MACHINE.

No. 330,032.

Patented Nov. 10, 1885.

Fig. 1.

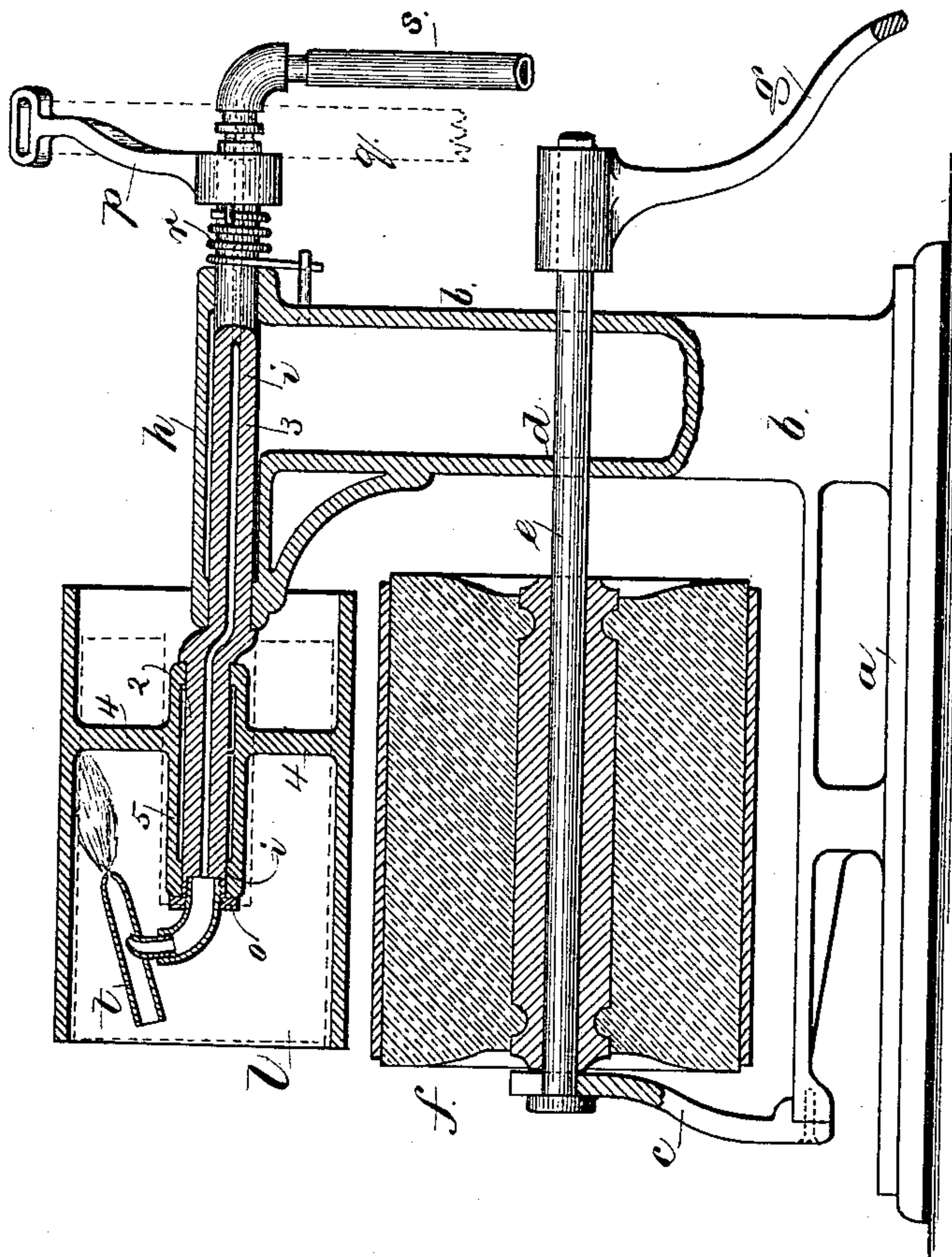
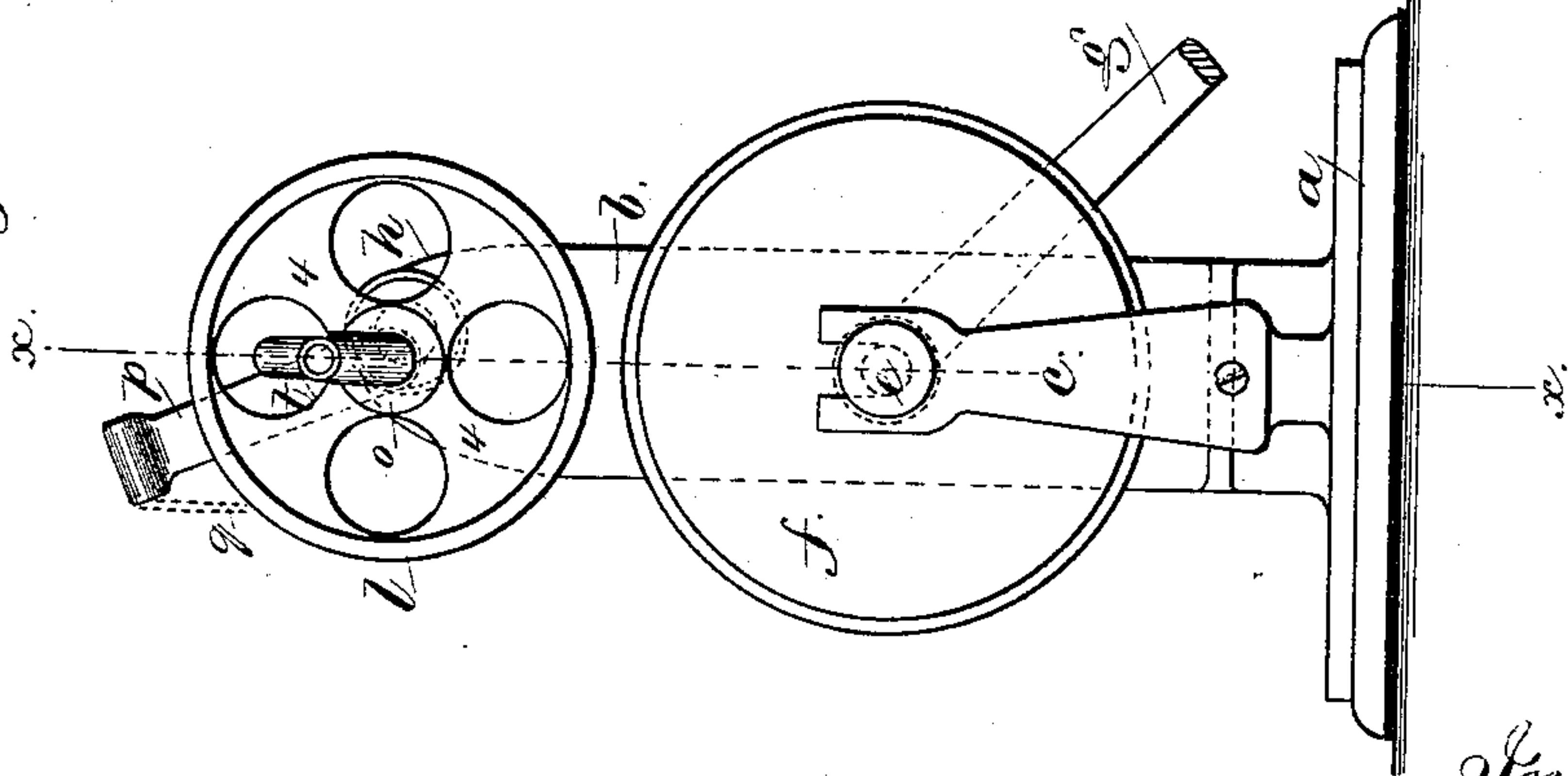


Fig. 2.



Witnesses
Harold Ferrell
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Inventors.
Charles A. Lieb - Charles L. Heins
per Lemuel W. Ferrell
att'y.

UNITED STATES PATENT OFFICE.

CHARLES A. LIEB AND CHARLES L. HEINS, OF NEW YORK, N. Y., ASSIGNORS
TO SAID HEINS, AND JOHN H. LEE, OF NORWALK, CONNECTICUT.

IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 330,032, dated November 10, 1885.

Application filed September 4, 1884. Serial No. 142,191. (No model.)

To all whom it may concern:

Be it known that we, CHARLES A. LIEB and CHARLES L. HEINS, of the city and State of New York, have invented an Improvement in Ironing-Machines, of which the following is a specification.

The object of this invention is to apply heat and pressure to the collar, cuff, or other article that is being ironed, and to simplify the construction and lessen the cost of the machine. There is a roller upon which the article to be ironed is placed, and said roller is operated by a crank and handle, and the roller or iron to be heated is cylindrical and mounted upon a hollow bent shaft, similar to a crank, in bearings in a stand, and said shaft and roller are operated by a lever upon the end of the shaft and a strap and stirrup from said lever which is depressed by the foot and returned to place by a spring around the shaft. Gas is supplied through the bent hollow shaft and is burned inside the ironing-cylinder.

Figure 1 is a partial elevation and a vertical longitudinal section at the line *xx* of Fig. 2 of our ironing-machine, and Fig. 2 is an end elevation of the same.

The base *a* is provided with a standard, *b*, and *c* and *d* are the bearings for the shaft *e* of the bed-cylinder *f*, and *g* is a crank by means of which the shaft *e* and cylinder *f* are revolved or oscillated.

Instead of making the bed-cylinder *f* of wood, which is liable to shrink and crack by the action of the heat, or making it of metal, which is difficult to cover with the cloth sleeve usually employed, we prefer to make said bed-cylinder of paper or wood pulp; and we prefer to form said cylinder by introducing the pulp into a mold and consolidating it by hydraulic pressure and afterward drying and turning the same off true, said cylinder being formed upon a suitable mandrel or shaft. This paper-pulp cylinder is not liable to shrink or crack, and it is a good non-conductor and does not abstract heat from the ironing-cylinder, and the sleeve or fabric, when used to form the surface of the cylinder, can easily be secured at the ends of the bed-cylinder *f*.

The tubular box *h* at the top of the stand-
ard *b* should be cored out to leave a bearing-

surface at each end, which is bored out for the reception of the shaft *i*, and this shaft is straight within said bearing; but outside the same there is an angle or offset, so that the part 2 is parallel with the part 3, but occupies the position of an eccentric or crank to the same. The ironing-roller *l* is made as a hollow cylinder, having arms 4, that connect the cylindrical portion with the tubular hub 5, which hub is bored out to fit upon the part 2 of the shaft *i* and revolve freely. The hole in this tubular hub is preferably cored and bored out at the ends, as shown. A nut, *o*, secures the ironing-roller upon the shaft, and at the other end of such shaft *i* there is a lever, *p*, firmly attached, and to the outer end of this lever a strap or rod, *q*, is fastened, leading down to a lever or stirrup, by which foot-power can be used to turn the shaft *i*, and by the crank portion thereof move the ironing-cylinder toward the bed-cylinder and press such ironing-cylinder firmly upon the article that intervenes and is being ironed by the movement given to the bed-cylinder.

A helical spring, *r*, around the shaft *i*, between the lever *p* and tubular bearing, has one of its ends fastened to the shaft *i*, and the other end sets into a notch or against a projection on the end of the tubular bearing *h*, and this spring *r* is wound up as the lever-arm *p* is brought down, and hence it partially rotates the shaft *i* and raises the lever-arm *p* and the ironing-cylinder when the weight upon the strap *q* is relieved.

The shaft *i* is tubular, and at one end a gas-pipe, *s*, is attached, the same, by preference, being flexible.

At the end of the shaft *i*, within the ironing-cylinder *l*, the Bunsen burner *t* is attached, the same being at an inclination. The air entering the open lower or back part of the burner and commingling with the gas will burn at the inner and upper end near the middle of the cylinder, and the flame spreading in each direction applies heat with uniformity and economy to the said cylinder *l*.

Where gas is not available, a slug of iron with fingers passing in between the arms 4 may be employed.

We are aware that it is not new to employ a

hollow ironing-cylinder adapted to receive heated slugs; and we are also aware that it is not new to use a turned wooden roller having a corrugated paper surface in a mangle or ironing-machine upon which roller, goods are pressed in ironing.

We claim as our invention—

1. The combination, with the bed-cylinder, shaft, and means, substantially as described, for rotating the same, of a hollow ironing-cylinder of metal adapted to be heated, a bent shaft upon which such ironing-cylinder may be revolved, a stationary bearing for such shaft, and a lever for pressing the ironing-cylinder toward the bed-cylinder by partially revolving the bent shaft, substantially as set forth.

2. The hollow ironing-cylinder having a central hub and arms, in combination with a tubular shaft, one portion of which is eccen-

tric, or formed as a crank, to the other, a stationary bearing for the said shaft, means, substantially as described, for partially turning such shaft, and a gas-burner within the ironing-cylinder and connected with the tubular shaft, substantially as set forth.

3. The combination, with the bed, roller, and the stationary standard, of the shaft *i*, the hollow ironing-cylinder, the lever *p*, and strap to move the shaft *i* in applying pressure by the ironing-cylinder, and the spring *r* to relieve such pressure by the movement of the shaft, substantially as set forth.

Signed by us this 26th day of August, A. D. 1884.

CHARLES A. LIEB.
CHAS. L. HEINS.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.