(No Model.) 3 Sheets—Sheet 1.

A. R. SELDEN.

IRONING MACHINE.

No. 513,687. Patented Jan. 30, 1894.

Fig. 1.

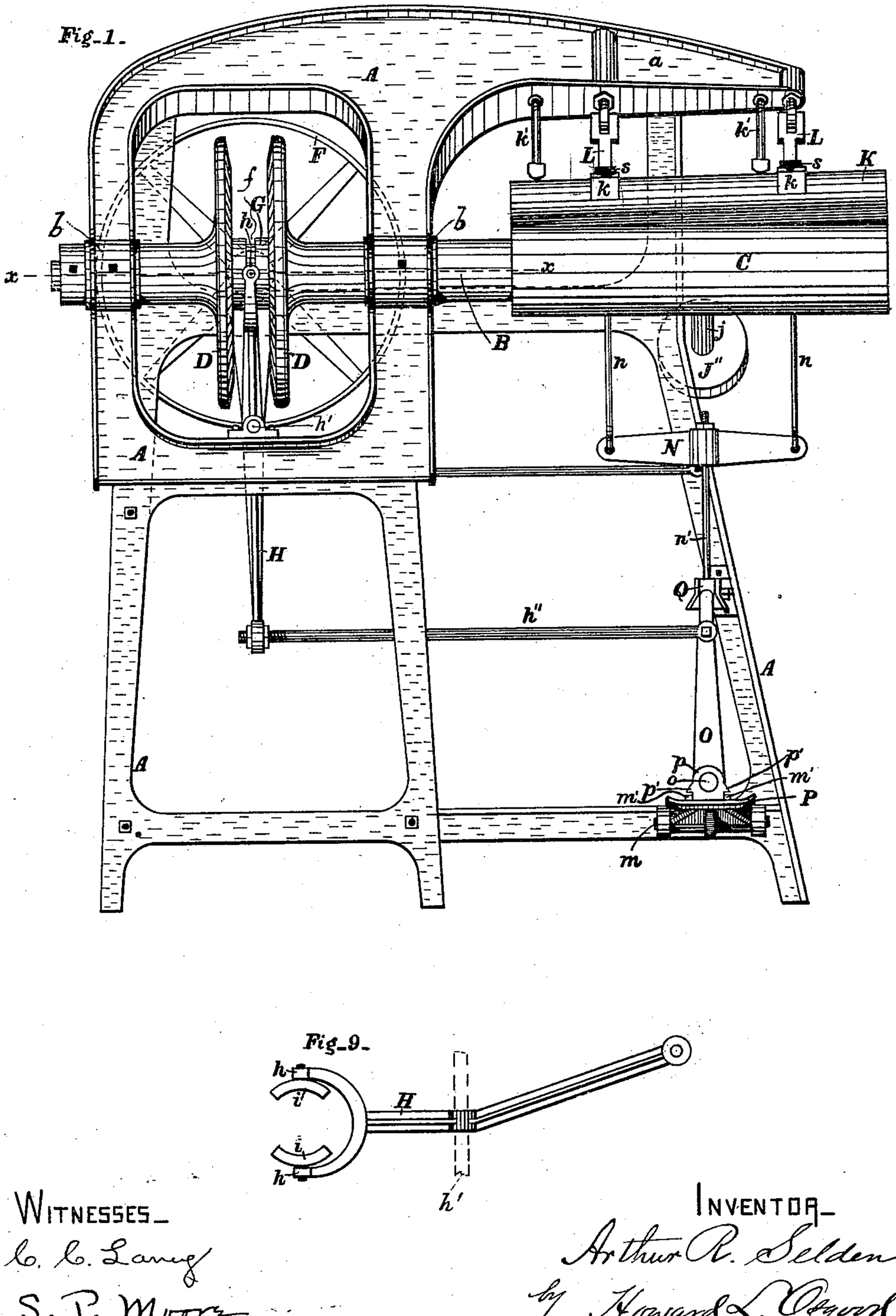

Fig. 9.

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Fig. 2.

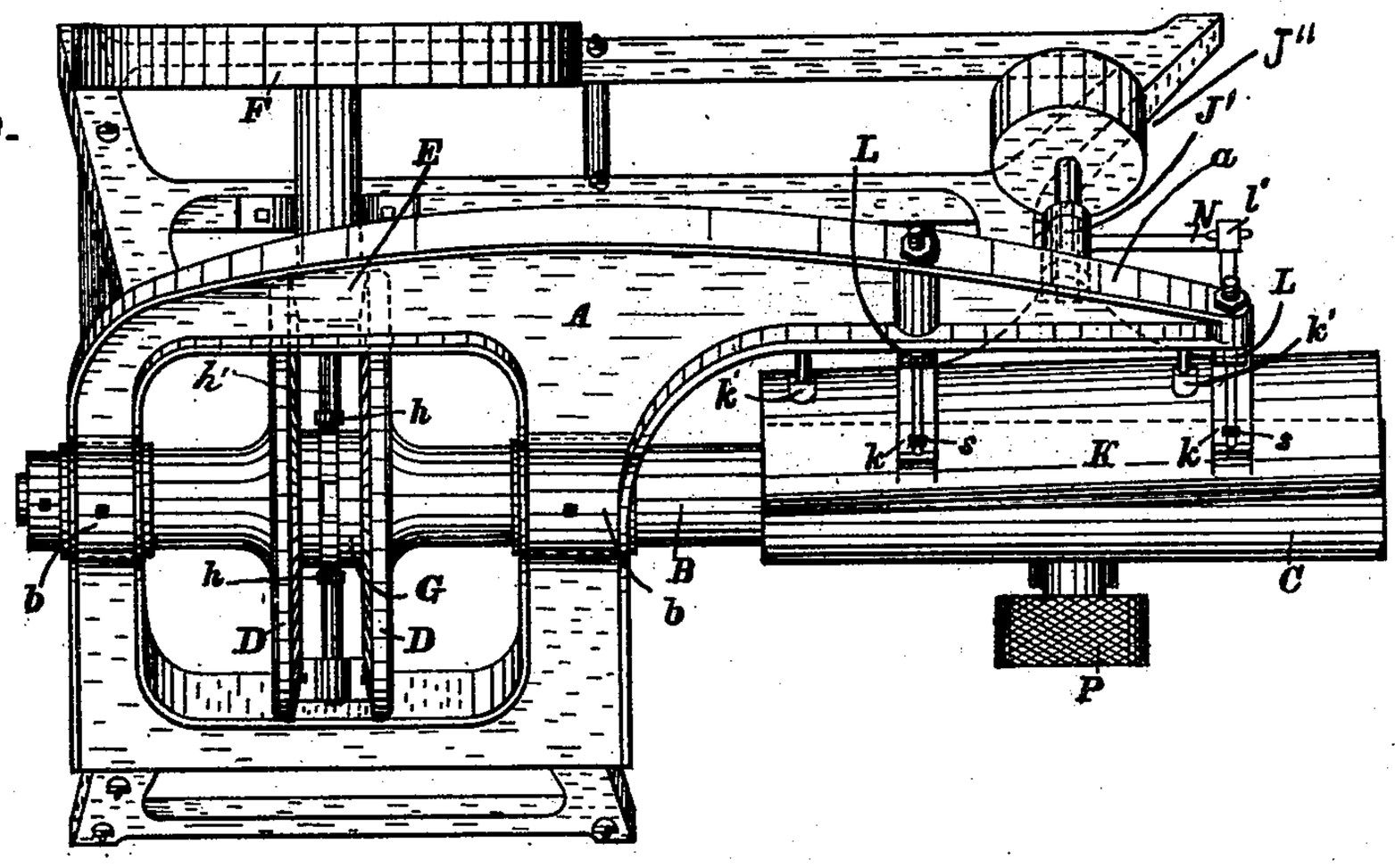

Fig. 3.

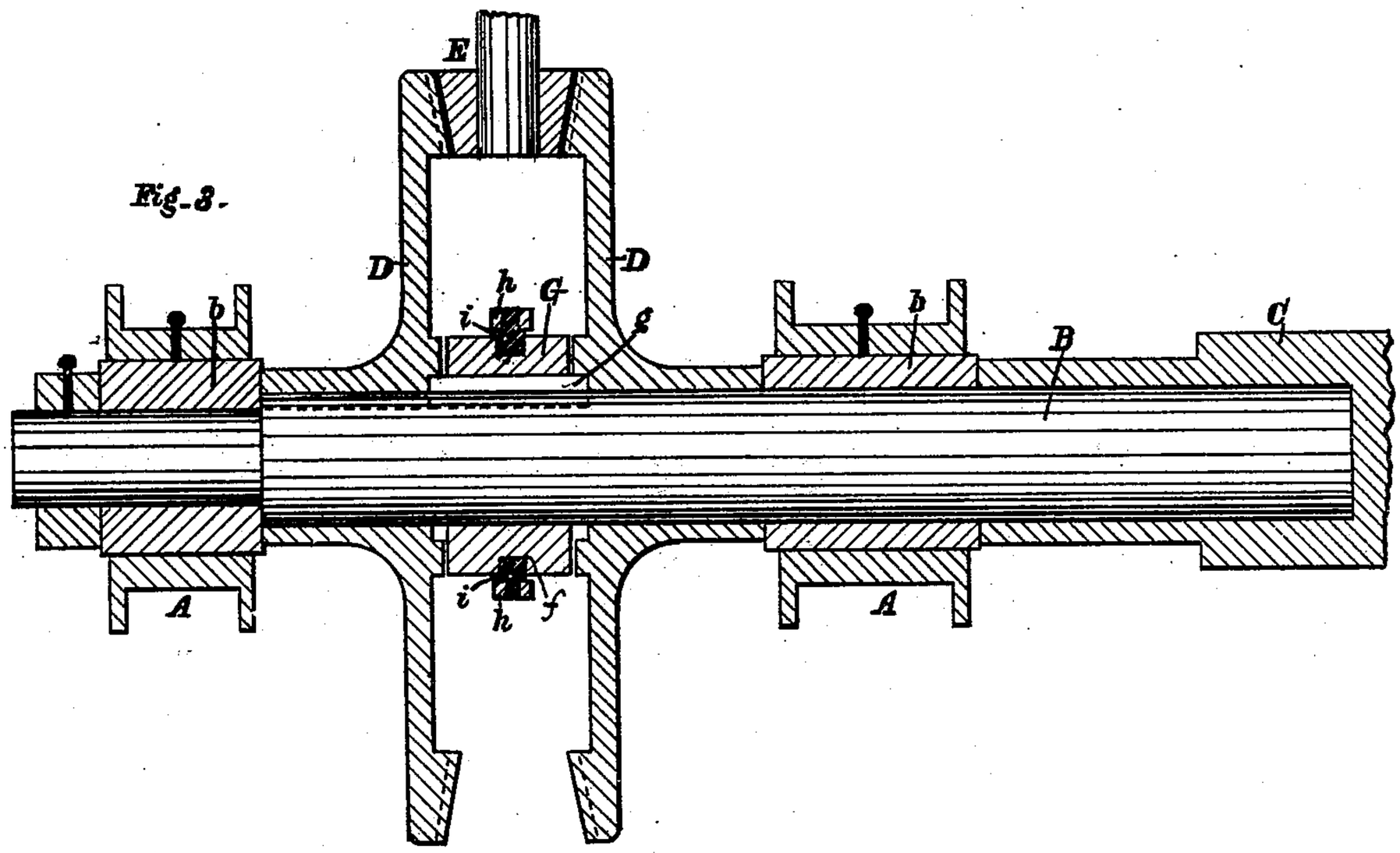

Fig. 4.

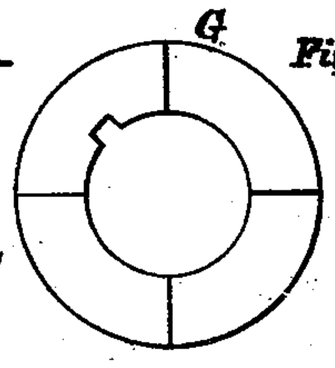

Fig. 5.

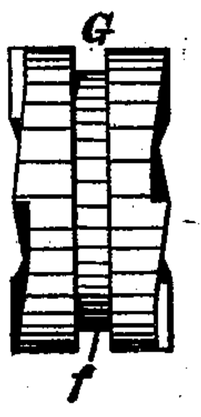

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Fig. 6.

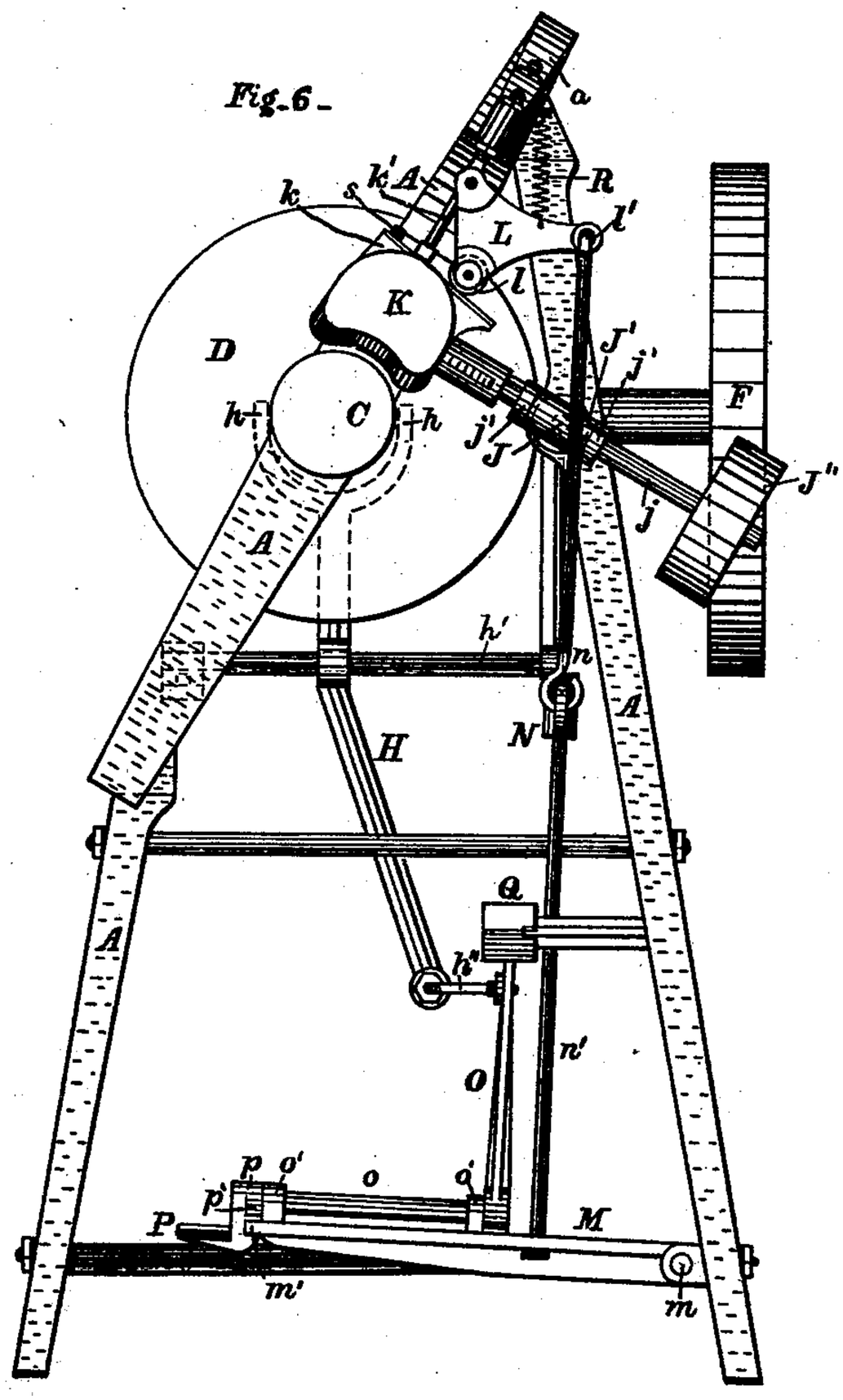


Fig. 7.

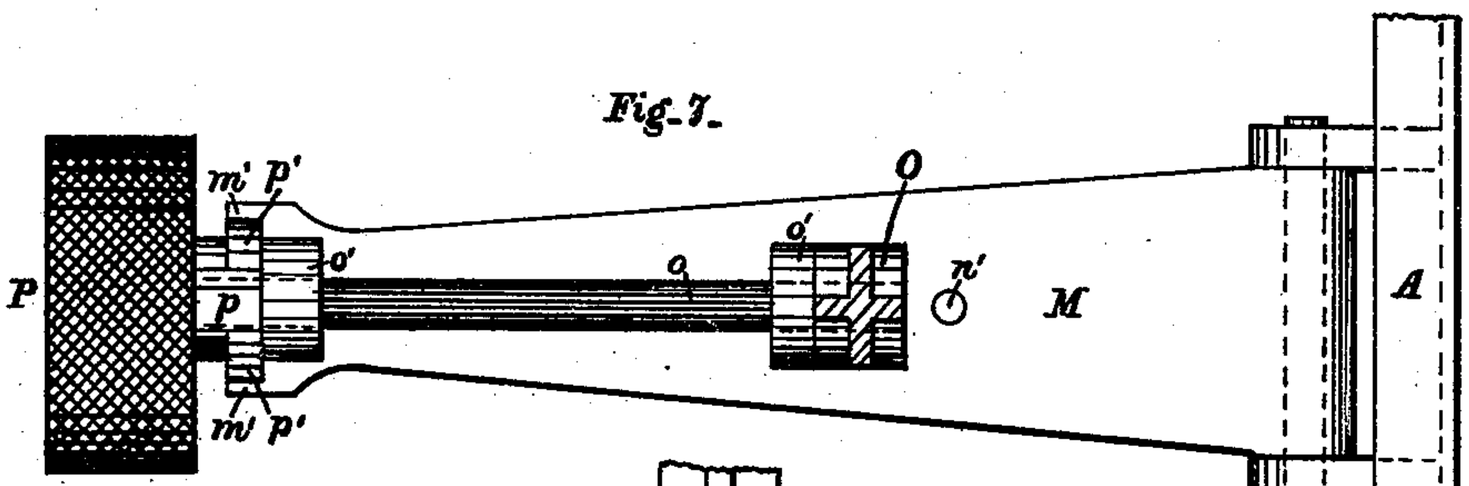
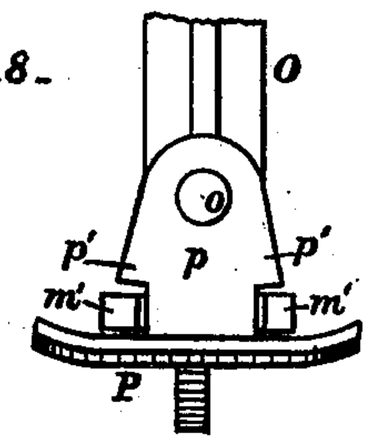


Fig. 8.



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UNITED STATES PATENT OFFICE.

ARTHUR R. SELDEN, OF ROCHESTER, NEW YORK.

IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 513,687, dated January 30, 1894.

Application filed January 8, 1892. Serial No. 417,373. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR R. SELDEN, a citizen of the United States, and a resident of the city of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Ironing-Machines, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of my machine. Fig. 2 is a plan view thereof. Fig. 3 is a horizontal cross section on the line *x*—*x* of Fig. 1 of the devices for reversing the motion of the roller. Fig. 4 is an end elevation of the ratchet ring of the clutch. Fig. 5 is a side elevation of said ring. Fig. 6 is an end elevation of the whole machine. Fig. 7 is an enlarged top plan view of the treadle of the machine. Fig. 8 is an enlarged front elevation of said treadle. Fig. 9 is a detailed view of the lever, yoke and segments to operate the clutch.

My invention relates to improvements in ironing machines in which a revolving roller, preferably padded, is used to support the goods and a smooth heated metallic surface is caused to press the goods against the roller.

The object of my invention is to simplify the machinery necessary for this purpose and to provide a more effective and durable machine.

My invention consists in the devices and combinations of mechanism hereinafter described and claimed.

A is the frame of my ironing machine which is made of any suitable form or dimensions. I prefer, however, to make it of the three parts shown in the drawings, viz: the main frame piece shown at the upper part of Fig. 1, and the two pairs of legs shown in the figures. At suitable points on the frame I place journal boxes *b b* in which revolves the shaft B which carries on one end the roller C. Within the frame and between the journal boxes upon this shaft I place a pair of bevel gears, D, D, preferably large. These mesh with the small bevel pinion E which is propelled by the driving pulley F.

Upon the shaft B, and between the two bevel gears D D, is a clutch ring G, upon the two faces of which are cut ratchet teeth, substantially as shown in Figs. 4 and 5, which teeth mesh with similar teeth cut on the faces of the two gear wheels D D, according as the ring G is moved along the shaft B to one side or the other. The ring is splined to the shaft by means of the key *g* but is capable, as stated, of longitudinal motion along the line of the spline. The two large bevel gears D D are loose upon the shaft B. The driving pulley F revolves continuously in one direction and through the medium of the small bevel pinion E, causes the large bevel gears D D to revolve continuously in opposite directions. These, as above stated, are loose upon the shaft B, but the ring G being splined to the shaft, and capable of longitudinal motion thereon, will communicate motion to the shaft B in one direction or the other according as the teeth of the ring G mesh with the teeth on one or the other of the wheels D D. In a suitable position on the frame of the machine is pivoted as by the cross shaft *h'* a lever H which has a yoke upon one end. From the ends *h h* of this yoke, segments of a ring *i i* preferably pivoted to the yoke extend into a groove *f* around the ring G. The lever H is connected with a treadle as hereinafter described, by means of which motion is imparted through the vibrating lever H, the ends *h h* of the yoke and the segments *i i* to the ring G, which brings the clutch into operation so as to produce motion of the roller C in one direction or the other at will.

To a suitable portion of the frame A of the device there is fastened by a kind of universal joint a concave iron K. This universal joint I prefer to make in the following manner: The iron K is transversely fastened upon the end of an arm or bar *j* which passes through and is axially revoluble in a sleeve J' which forms an axis in a plane at right angles to the axis of the roller C. The rod *j* is revolubly fixed in the sleeve J' by means of collars *j' j'* or other suitable devices. The sleeve J' is pivoted to the frame by a transverse pivot J whose axis crosses the axis of the arm *j* at right angles and is parallel with the axis of the roller C or approximately so. Thus a kind of universal joint is formed in which the iron may oscillate in a plane to which the bar or arm *j* is perpendicular, as the bar or arm *j* is axially revoluble in the sleeve J' and the iron oscillates to and from the roller about the transverse pivot J, but

cannot oscillate endwise or otherwise than to and from the roller.

On the bar *j* at a suitable point is fixed a counter-weight J″ to counterbalance the weight of the iron K. The iron K has a polished surface, preferably concave, next to the roller C and substantially concentric therewith. On the upper side of the iron K is a pair of tracks *k k* and to a projection *a* of the frame A are fastened adjustably stops *k′ k′* to limit the motion of the iron K from the roller C.

To the extension *a* of the frame A are pivoted a pair of cams or bell cranks L L. These also are adjustable, preferably at the points of connection with the frame A. These bell cranks bear wheels or rollers *l l* adapted to roll upon the tracks *k k* of the iron K. The cams or bell crank levers L L are also connected by the long arm *l′* to a treadle M, and, according as the treadle is raised or depressed, the motion of the bell cranks will cause the counter-balanced iron K to approach the roller C or to recede from it in a curve or plane passing through the roller. The stops *k′* are so adjusted that the outer end of the iron K is allowed to move farther away from the roller C, than the inner end thereof. See Figs. 1, 2 and 6. Thus the goods to be ironed may be slipped the more easily upon the roller when the iron is raised.

In order that the treadle M may operate equally and evenly upon the bell cranks L L and may produce an even pressure of the iron K upon the whole length of the roller C, I provide an equalizing bar N from each end of which a rod *n* extends to the long arm *l′* of the bell crank levers L L. From the middle of the equalizing bar N extends a rod *n′* to the treadle M. This rod is loosely fastened to the equalizing bar so that free oscillation of the equalizing bar is permitted. By these devices I produce an even pressure of the iron K against the roller C and also if the goods passing between the roller and the iron are uneven in thickness, the iron K adjusts itself to the inequalities and conforms its position to inequalities under the same.

The treadle M is provided with an upright O pivoted horizontally to it by the bar *o*, passing through the bearings *o′ o′*. The end of this bar *o* is fastened to a foot piece P by means of the upright portion *p*.

Upon the frame of the treadle M are formed two extensions or lugs *m′ m′* and upon the vertical portion *p*, are formed two stops *p′ p′*. The stops *p′* and the lugs *m′* limit the motion of the foot piece P which through the bar *o* causes the upright O to oscillate in a plane vertical or nearly so. The upper portion of this upright O is pivoted to the bar *h″* which is connected to the pivoted lever H. According as one or the other side of the foot piece P is depressed, the lever O (when the treadle is depressed) will oscillate from one side to the other, will communicate movement to the lever H, which will, as above described, operate the ring or clutch G and cause motion of revolution, in one direction or the other, to be imparted to the roller C. The lever M is pivoted to the frame of the machine by a horizontal pivot *m*. The bevel gears D D are so placed on the shaft B that neither of them will be in engagement with the clutch G, if the same is located exactly between the two.

In order to guide the ring G to the exact middle point I provide a guide Q which has sides narrowing upwardly and which is fixed rigidly to the frame of the device in such a position that when the treadle is allowed to rise, the end of the upright O enters between the flaring sides of the guide Q and in rising is guided into such a position that the clutch G will, through the lever H and the bar *h″*, be guided exactly to the center. I make the sides of said guide Q sufficiently wide apart below to receive the end of the upright O at any position which the parts may assume when the treadle M rises, and of such a width apart above that the upright O is exactly guided into place. See Fig. 1.

Springs as R R, are provided to lift the treadle and move the connected parts out of operation.

Stops *s s* are fixed upon the tracks *k k* to limit the motion of the cams or bell cranks L L.

What I claim is—

1. In an ironing machine, the combination of a revoluble roller and a rocking ironing block, one of which is movable directly to and from the other, said block being pivoted to rock in a plane passing longitudinally through said block and said roller, and differentially-operating devices for pressing the opposite ends of said block against said roller.

2. In an ironing machine, the combination of a revoluble roller and a rocking ironing block, one of which is movable directly to and from the other, said block being pivoted to rock in a plane passing longitudinally through said block and said roller, differentially-operating devices for pressing the opposite ends of said block against said roller and connections between said differentially-operating devices for actuating them at the same time.

3. In an ironing machine, the combination of a revolving roller set in fixed bearings, an ironing block, a sleeve longitudinally set in a plane passing transversely through said roller and transversely pivoted to the frame of the machine, an arm axially revoluble in said sleeve and bearing on the end next said roller the said ironing block fixed thereon, and means for moving said block to and from said roller.

4. In an ironing machine, the combination of a revolving roller set in fixed bearings, an ironing block, an arm fixed to said ironing block at right angles thereto, a sleeve transversely pivoted to the frame and in which said arm is revoluble and two pivoted cams

each arranged to press an end of said block against said roller and means for operating said cams.

5. The combination of a revoluble roller in fixed bearings means of producing revolution thereof in either direction, an ironing block adapted to move to and from said roller and a treadle adapted to operate said block and at the same time to operate the means of producing revolution of said roller in either direction.

6. In an ironing machine, a revoluble roller set in fixed bearings, an ironing block set upon a revoluble axis in a plane at right angles to the axis of the roller and pivoted to the frame of the machine upon a pivot parallel to the axis of said roller, cams pivoted to the frame of the machine and operating said block, rods connecting said cams with the ends of an equalizing bar, a treadle connected with said equalizing bar and adapted to operate said block therethrough, whereby the block is adapted to conform its position to inequalites under the same.

7. In an ironing machine having an iron and a revoluble roller, one of which is movable to and from the other, and means of producing revolution of said roller in either direction, a treadle connected to one of said parts movable to and from the other, whereby to operate the same, and an oscillating foot piece pivoted to said treadle and connections to said means of producing revolution in either direction, whereby to operate the same.

8. In an ironing machine having an iron and a revoluble roller, one of which is movable to and from the other, and means of producing revolution of said roller in either direction, a treadle connected to one of said parts movable to and from the other whereby to operate the same, an oscillating foot piece pivoted to said treadle, an upright bar connected to said foot piece, a lever connected to a clutch whereby said roller is caused to revolve in either direction, connections between said bar and said lever, and means of causing said upright bar to take a definite position when the treadle is released, whereby the clutch is set in an inoperative position.

9. In an ironing machine a revoluble roller set in fixed bearings, a pair of bevel gears loose upon the shaft of said roller, a bevel pinion meshing with both of said bevel gears, a driving pulley upon the shaft of said bevel pinion, clutch teeth suitably placed upon the opposing faces of said bevel gears, a ring splined upon said shaft between said bevel gears and provided with clutch teeth suitable to engage with the teeth on either of said bevel gears, an ironing block pivoted to the frame of the machine and adapted to move to and from said roller, a treadle connected to said ironing block whereby to operate the same, an oscillating foot piece pivoted to said treadle and connected to said clutch whereby the said clutch produces movement of said roller in either direction, or the revolution thereof is stopped.

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Witnesses:
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M. H. MCMATH.