(No Model.) 3 Sheets—Sheet 1.

J. S. KNISELY.

IRONING MACHINE.

No. 458,772. Patented Sept. 1, 1891.

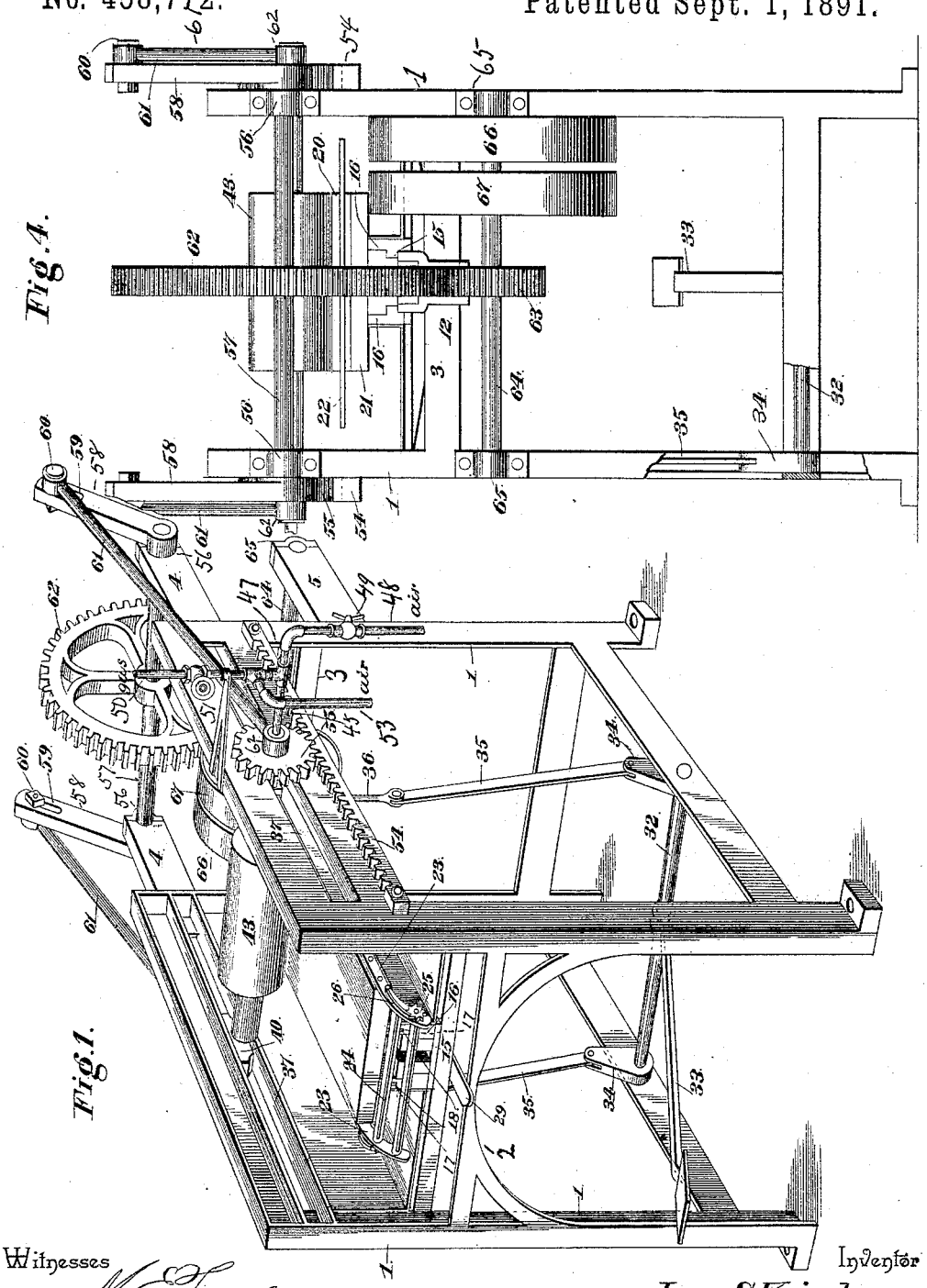

Fig. 1.

Witnesses
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(No Model.) 3 Sheets—Sheet 2.

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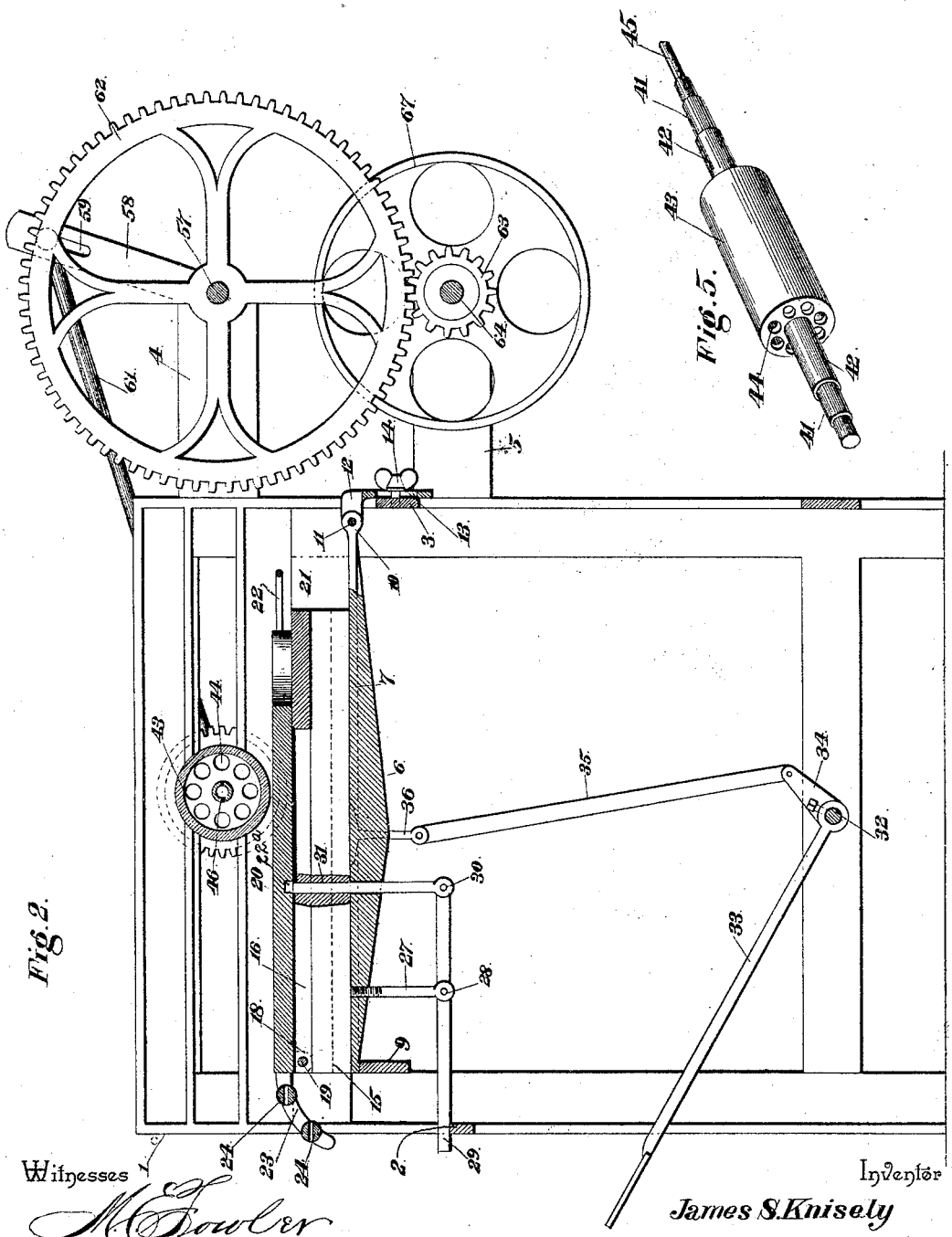

Fig. 2.

Fig. 5.

Witnesses

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(No Model.)

3 Sheets—Sheet 3.

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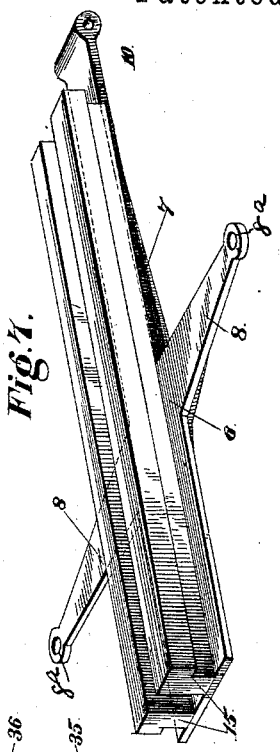

Fig. 4.

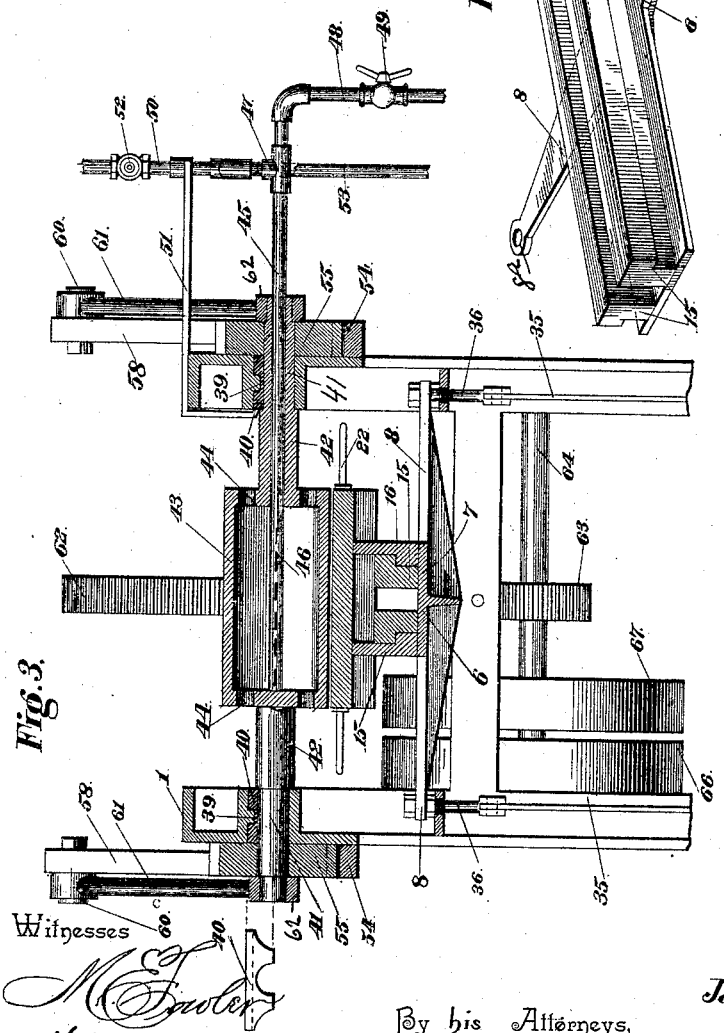

Fig. 3.

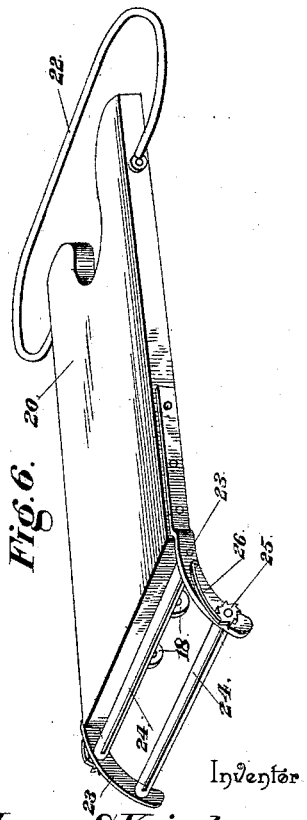

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES S. KNISELY, OF NEW PHILADELPHIA, OHIO.

IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 458,772, dated September 1, 1891.

Application filed December 10, 1890. Serial No. 374,197. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. KNISELY, a citizen of the United States, residing at New Philadelphia, in the county of Tuscarawas and State of Ohio, have invented a new and useful Ironing-Machine, of which the following is a specification.

This invention has relation to ironing-machines adapted for ironing collars, cuffs, shirts, and other similar articles.

The objects of the invention are to provide an extremely cheap, simple, and durable machine adapted to accomplish the above in an efficient manner, to operate either by hand or other power, and to polish the pieces subjected to its operation, as well as iron the same.

Various other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of an ironing-machine constructed in accordance with my invention. Fig. 2 is a longitudinal vertical section. Fig. 3 is a transverse vertical section, a detail in side elevation of one of the boxes 40 appearing at one side thereof. Fig. 4 is a rear elevation. Fig. 5 is a detail in perspective of the ironing-roll. Fig. 6 is a similar view of the ironing-board. Fig. 7 is a similar view of the ironing-bed casting.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing my invention I construct the frame-work preferably of L-iron, and the same comprises two opposite similar side frames 1, connected at their front by a cross-bar 2 and at their rear by a cross-bar 3, and from the rear ends of the side frames there extend opposite pairs of upper and lower arms 4 and 5, respectively.

6 designates a cross-shaped bed-plate casting, (see Fig. 7,) and the same comprises a longitudinal portion or arm 7 and lateral parts or arms 8, having perforations 8^a near their extremities. The front end of the bed-plate rests loosely upon a supporting-bar 9, and the rear end of the plate is provided with a transverse eye 10, which, by means of a bolt 11, is pivotally connected to a bracket 12, slotted vertically, as at 13, and adjustably connected to the bar 3 by means of a set-screw 14. (See Fig. 2.)

Upon the upper face of the casting 6 is located a pair of longitudinally-disposed parallel inverted-L-shaped guide-ribs 15, forming ways, which receive a pair of depending L-shaped guide-ribs 16, which are slotted at their front ends, as at 17, (see Fig. 1,) to receive a pair of depending perforated bearing-lugs 18, pivotally mounted in the slots by a bolt 19. The lugs are formed upon the under side and at the front end of the ironing-board 20, which latter is supported at its rear end upon a cross-piece 21.

The rear end of the ironing-board is shaped to adapt the same to approximate the shape of a shirt, and is provided with a shoulder-support 22, whereby the same, fitting the shoulders of the shirt, serves to retain that article in position. A pair of curved straps 23 are secured to the sides of the board and project in front of the same, and in said straps is journaled a pair of slotted rollers 24, each of which receives the free end of a suitable covering, which is maintained tightly wound upon the rollers by means of ratchet-wheels 25, mounted upon each roller, and locking-pawls 26. A standard 27 depends from the casting 6, and in the same is fulcrumed, as at 28, a hand-lever 29, the front end of which rests upon the cross-piece 2 and the rear end of which is pivotally connected, as at 30, to the depending bolt 31, passed loosely through the casting 6 and adapted at its upper end to engage with the socket 22^a, formed in the under side of the ironing-board 20, such engagement taking place only when the board is in an elevated or operative position, as hereinafter mentioned.

32 designates a rock-shaft journaled in the opposite lower side bars of the two side frames 1, and upon said shaft is mounted a foot-lever 33, extending in front of the machine and adapted to be depressed by the foot of the operator. Rock-arms 34 are secured to the rock-shaft near its ends, and pivotally connected to the ends of the rock-arms is a pair of connecting-bars 35, the upper ends of the bars being pivoted to a pair of rods 36, secured to the transverse branches 8 of the bed-casting 6. By depressing the lever 33 the rock-shaft is oscillated and the bed-casting 6 raised, for a purpose hereinafter apparent. The opposite side frames are longitudinally slotted near their upper ends, as at 37, and

the upper edges upon their under sides are provided with longitudinal guide-ribs 39, upon which are mounted sliding bearing-boxes 40. In the bearing-boxes 40 are journaled the reduced bearings 41 of a shaft 42, carrying an ironing-roller 43, adapted to ride back and forth over the ironing-board. The ironing-roller is hollow and has its ends provided with air-ports 44. One end of the shaft 42 is hollow, and through the same extends a pipe 45, terminating within the roll in a burner 46. Outside of the roll the pipe 45 is by a union 47 connected with an air-pipe 48, having a valve 49 for controlling the supply of air therein to the pipe 45, and with a gas-pipe 50, having a valve 52 supported by a bracket 51, said bracket 51 being loosely bent to embrace the upper edge of the side frame and secured to and moving with the adjacent box 40. The pipe 50 communicates with an air-pipe 53 above the union 47, so that mixed air and gas is fed through the pipe 45 to the burner.

Below the slots 37 there is secured to the side frames 1 horizontal rack-bars 54, over which ride pinions 55, rigid upon the shaft 42 near its ends. The gears 55 are greater in diameter than the roll, so that in traveling back and forth upon the rack-bars the roll is dragged and rolled, and aside from pressing the article upon the board acts to polish the same.

In the arms 4 at the rear end of the frame-work are located bearing-boxes 56, and in the same is journaled a shaft 57, which outside of the boxes is provided with a pair of crank-arms 58. The crank-arms 58 are slotted, as at 59, near their free ends, and by a crank-pin 60 are adjustably connected to the rear ends of a pair of connecting-rods 61, the front ends of which terminate in bearings 62 and receive the ends of the shaft 42. The crank-arms 58 are half the length of the rack-bars 54, so that a revolution of the shaft 57 and the arms 58 causes the pinion to travel the length of the rack-bar. A gear 62 is mounted upon the shaft 57, and said gear is driven at a rapid rate of speed by a small gear 63, mounted upon a shaft 64, journaled in bearings 65, formed in the arms 5. The shaft 64 carries a loose pulley 66 and a fast pulley 67, which pulleys are connected by a belt to any suitable motor for operating the machine.

In operation the ironing-board is drawn out, which permits of the introduction of a shirt over the board. When the board is withdrawn for the purpose of receiving an article to be ironed, the guide-ribs 16, together with the winding mechanism at the front of the board, are also withdrawn. The parts are then replaced and the machine started. In their normal position the roll does not have contact with the article upon the board, and contact is secured, when desired, by depressing the foot-lever 33, which acts, as heretofore described, to elevate the hinged bed-casting and press the article against the surface of the heated roll, which not only acts to press the article, but is dragged across the same and serves to polish the surface thereof. As the foot-lever 33 is depressed, the casting 6 and rod 27 are elevated and the bolt 31 projected into the opening or socket 22^a, so that the bed is locked automatically whenever the machine is in operation, and when the lever 33 is released the rod 27 descends and the front end of the lever, resting upon cross-piece 2, causes a withdrawal of the bolt 31 and the board 20 may be drawn out.

Having described my invention, what I claim is—

1. In an ironing-machine, the combination, with the bed-plate casting having the two lateral perforated arms and the rearwardly-extending arm, the latter pivoted in the frame, of a rock-shaft journaled below the casting and provided with rock-arms, rods connecting the rock-arms with the perforated arms of the casting, and a foot-lever rigid with the rock-shaft and adapted to operate the same for the purpose of elevating the bed-plate casting, substantially as specified.

2. In an ironing-machine, the combination, with the frame-work, the vertically-movable bed therein having ways, the ironing-board mounted in said ways, and the ironing-roll mounted in the frame above and out of contact with the board, of means for operating the roll, raising and lowering the bed and board so that the latter is in contact with the roll, and devices for automatically locking the bed and board together when elevated, substantially as specified.

3. In an ironing-machine, the combination, with a sliding ironing-board and a pivoted bed thereunder, of a superimposed ironing-roll, a pivoted foot-lever and connections between the lever and bed, and a bolt connected with the bed and adapted to be actuated by the raising of the bed to enter an opening in the board, substantially as specified.

4. In an ironing-machine, the combination, with the frame-work comprising a cross-bar 2, the pivoted bed-plate, and the sliding ironing-board provided upon its under side with a socket or opening, of the foot-lever 33, the shaft 32, the arms 34, projecting from the shaft, the connecting-rods 35, connecting the arms and bed, the rod 27, depending from the bed, the lever 29, pivoted thereto and resting at its free end upon the bar 2, and the bolt 31, pivoted at the rear end of lever 29 and projecting up directly below and adapted to take into the opening in the board, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES S. KNISELY.

Witnesses:
H. W. REAM,
M. V. REAM.