

(No Model.)

2 Sheets—Sheet 1

D. H. BENJAMIN.
IRONING MACHINE.

No. 529,695.

Patented Nov. 27, 1894.

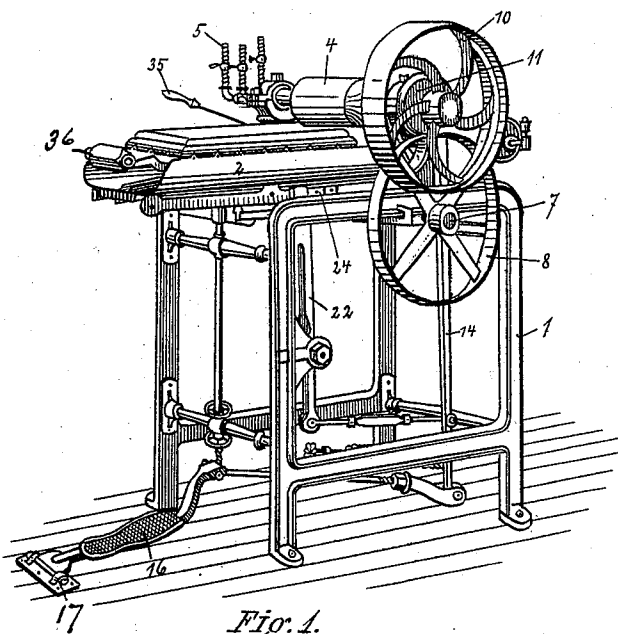


Fig. 1.

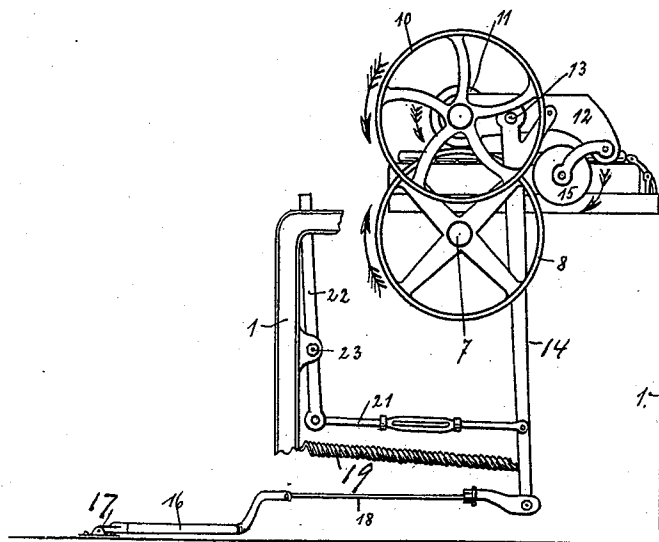


Fig. 2.

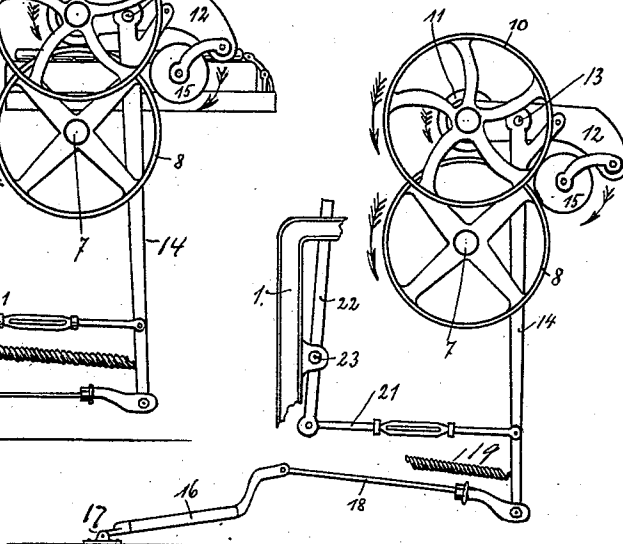


Fig. 3.

WITNESSES.
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N. D. Ward

INVENTOR
DANA H. BENJAMIN.
By Risley & Robinson
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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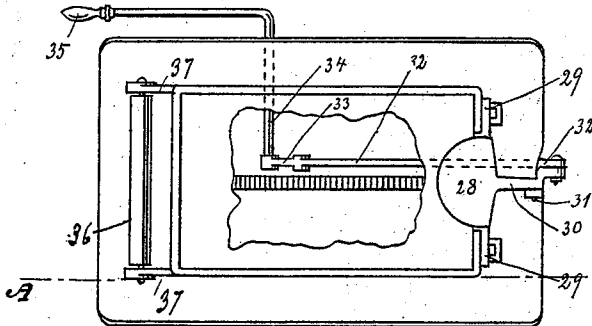


Fig. 4.

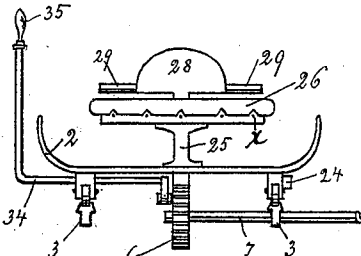


Fig. 6.

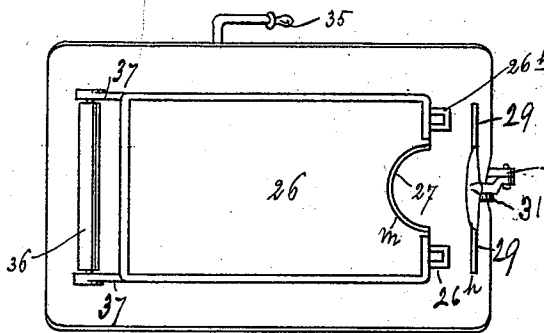


Fig. 5.

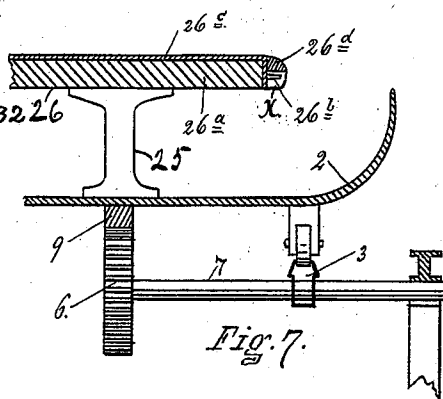


Fig. 7.

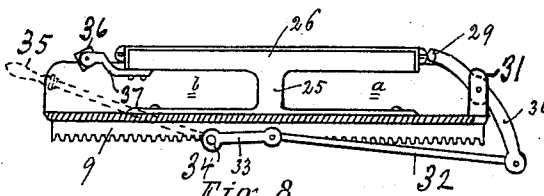


Fig. 8.

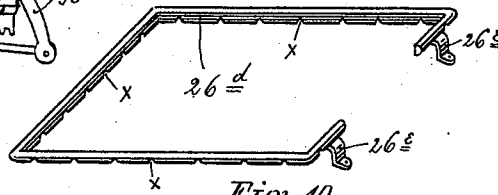


Fig. 10.

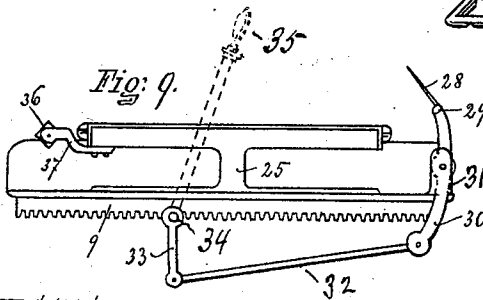


Fig: 9.

WITNESSES.
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UNITED STATES PATENT OFFICE.

DANA H. BENJAMIN, OF UTICA, NEW YORK, ASSIGNOR TO THE WHITE
MANUFACTURING COMPANY, OF MINNEAPOLIS, MINNESOTA.

IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 529,695, dated November 27, 1894.

Application filed June 15, 1893. Serial No. 477,632. (No model.)

To all whom it may concern:

Be it known that I, DANA H. BENJAMIN, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Ironing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and numerals of reference marked thereon, which form part of this specification.

My invention relates to an improvement in ironing machines, more particularly intended for ironing shirts.

In the drawings, Figure 1 shows a perspective view of my machine including improvements. Fig. 2 shows details of construction with the parts in position to run the table forward under the ironing roller. Fig. 3 shows the same parts shown in Fig. 2 in position to run the table back under the ironing roller. Fig. 4 shows a plan view of the table in connection with details of construction; the parts being in the position which they assume when a shirt is secured on the bed in position to be ironed. Fig. 5 shows the same parts shown in Fig. 4 with the devices for securing a shirt in open position. Fig. 6 shows a rear end view of the table in connection with the ironing bed supported thereon and details of construction. Fig. 7 shows a cross section of a portion of the bed and table and shows a shaft and pinion for moving the table to and fro under the ironing roller. Fig. 8 shows a longitudinal section of the table on line A—B of Fig. 4, showing the parts below the line, as shown in Fig. 4. The parts in this figure are shown in their locked or secured position. Fig. 9 shows the same parts shown in Fig. 8 in their open position. Fig. 10 shows a frame used on the ironing bed.

Referring more particularly to the reference numerals marked on the drawings, 1 indicates the frame of a machine on which is supported the reciprocating ironing table 2; the table running on ways 3 supported on the frame and reciprocating to and fro under the ironing roller 4. The ironing roller 4 is hollow and heated by means of an internal gas

flame, the gas and air being supplied through the pipes shown at 5. The bed is reciprocated to and fro by means of pinion 6 mounted on shaft 7 and friction wheel 8 secured on the outer end of the shaft; the shaft being journaled in suitable bearings in the frame. The pinion 6 engages on a rack 9 secured on the under side of the table. The roller 4 is journaled in bearings and driven by band-wheel 10. On the inner side of the band-wheel is secured a friction pulley 11 adapted to be brought into contact with friction pulley 8 to move the bed forward under the ironing roller. The ironing roller is mounted in a pair of hangers 12 pivoted on cross shaft 13, and adapted to be rocked by means of a lever 14 to force the ironing roller on to the bed, and also to force the friction roller 11 into contact with friction roller 8 to move the bed forward. The two hangers are rigidly secured on shaft 13 which is supported in the frame.

At 15 is shown a wide faced friction roller adapted to engage a portion of the face of band-wheel 10, and also adapted to engage on the face of friction wheel 8, and is provided for the purpose of carrying the table backward. When the lever 14 is moved to the left as shown in Fig. 3, the roller 11 is carried out of contact with friction wheel 8 and the roller 15 is forced into contact with band-wheel 10 and friction wheel 8, which reverses the motion of wheel 8 and causes the table to move backward. For producing the movement of the lever 14, there is provided a treadle 16 pivoted to the floor at 17 and provided with a connecting rod 18, which together with the treadle forms a toggle joint connected to the lower end of the lever 14. When the treadle 16 is pressed down, the lever 14 is swung to the right bringing the parts into position to move the table forward under the ironing roller, and when the treadle is relieved, the spring 19 returns the parts to the opposite position bringing the roller into operation to move the table backward; also connected with the lever 14 by means of an adjustable connecting rod 21 is a lever 22 pivoted to the frame at 23 and having its upper end extending in position to be engaged by the lug or ear 24 secured on the side of

the table. It will thus be noted that as the table is returned toward the front, the lug 24 comes in contact with the end of the lever 22 and throws the roller 15 out of operation, and if the momentum of the table is sufficient, throws the roller 11 into engagement with the roller 8, thus breaking the backward movement of the table.

The table 2 is preferably hollow or trough-like, and on the support 25 in the central portion of the table is mounted the bed 26 on which the shirt or other article to be operated on is held and supported while being operated upon by the ironing roller. The support 25 is provided in the middle portion of the bed 26 longitudinally as well as transversely, leaving a space *a* under the forward portion of the bed, and a space *b* under the rear portion of the bed. This is important in enabling the ironer to be used in ironing shirts which are open either in the front or in the back. In case of an open front shirt, the body and back of the shirt are placed into the space *a* while the front is being ironed on the bed, and in case of an open back shirt, the shirt is slid over the rear end of the bed and the body and back occupies the space indicated by *b*. The bed 26 is provided with a semi-circular notch or recess, as shown at 27, in the front end of the bed adapted to conform in outline to the half of the neck-band of a shirt to be operated upon.

28 is a clamp adapted to engage the neck-band of a shirt substantially conforming to the shape of the notch 27, and adapted to grip the neck-band on to the bed around the recess. The clamp or holder 28 is also provided with projections 29 adapted to engage on the end of the bed and secure the yoke or shoulders of the garment by gripping these parts between the projections 29 and the end of the bed. Thus when the shirt is being stretched over the bed the tension is taken at the front end by the yoke as well as by the neck-band, keeping the garment in better shape.

The holder 28 is mounted on an arm 30 pivoted to a post 31 secured on the table and to the lower end of the arm 30 is attached a connecting rod 32 which connects with a crank 33 mounted on shaft 34, provided with a handle 35. The shaft 34 has one or more bearings secured on the under side of the table.

The bed 26 consists of a board or plate 26^a provided with a series of pins or points 26^b projecting from the edge of the plate 26^a on its several sides. Stretched on the face of the plate or board 26^a is a cloth or fabric 26^c which may be suitably padded if desired, and is secured by being hooked over the pins 26^b. To retain the edges of the fabric 26^c on the pins 26^b and to protect and shield the pins 26^b as well as to finish the edge of the bed there is provided a metal frame 26^d rounded on its outer side, substantially as shown, and having indentations as shown at *x* to receive the several pins 26^b. The thickness of the frame

26^d latterly from the edge of the ironing bed is greater than the length of the projecting portion of the pins 26^b. The forward end of the frame 26^d is cut out at the recess or indentation 27, of the bed, and at either side of the cut-out place is provided a pair of horns 26^e adapted to be engaged in perforated lugs 26^h projecting from the under side of the bed.

It will be understood that the frame 26^d can be easily and readily removed from the bed by slipping up the rear end and disengaging the hooks 26^e, when the fabric on the bed may be renewed or repaired at pleasure. On the rear end of the table is provided a tension roller 36 supported on arms 37 from the bed on which the rear portion of the garment may be wound to strain it on the bed between the roller 36 and the holders 28 and 29 on the front end of the bed.

The device is capable of operating substantially as follows: Power is applied by means of a belt or otherwise, to band pulley 10 to rotate it continuously in the direction indicated by the arrows in Figs. 2 and 3. A garment is then placed on the bed 26 by placing the back portion in the spaces *a* or *b*, depending on the kind of garment, as before described. In placing the garment on the bed the parts of the holding device are in the position shown in Fig. 9, which gives plenty of room to place the garment in position. After the garment has been placed on the bed in suitable position at its front end, the clamp 28 with its clamping projections 29 are brought down to firmly hold the neck-band and the yoke of the garment as before described. It should be noted here that when the holding device is in position to secure the garment the holding plate 28 passes slightly below the general surface of the bed, the bed being provided with a slight groove or depression, as shown at *m*, to permit the edge of the plate to embed itself below the surface of the bed. After the garment is secured at its front end, the rear end is wound on the roller 36 to strain it on the bed, when it is ready to be ironed, and by depressing the treadle 16 the bed is caused to move forward and the ironing roller 4 is brought into contact with the garment and irons the same. If found necessary, the table with the garment on may be passed several times under the ironing roller by depressing and letting up on the treadle 16.

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

1. The combination in an ironing machine of a reciprocating ironing bed, an ironing roller, a friction pulley operating to move the table in one direction, a second friction pulley operating to move the table in the opposite direction, a driving pulley with which the friction pulleys are adapted to be brought alternately into contact, a movable hanger on which the two friction pulleys are mounted, a spring connected with the hanger and operating to move the parts into position to bring the friction pulley for moving the table back-

ward into operation, a lever connected with the hanger and operating in unison therewith and standing in position to be engaged by the table in its backward movement, whereby the
5 table in its backward movement is checked by throwing the returning friction pulley out of operation and the forwardly moving friction pulley temporarily into operation, substantially as set forth.

10 2. The combination in an ironing machine of an ironing board having a series of pins or pegs projecting laterally from the edges thereof, a fabric or covering stretched on the surface thereof and engaged on the pins, and

a removable frame embracing the board and
15 binding the covering against the edges of the board and having a series of notches in its under edges for receiving the pins, the frame being of greater thickness laterally from the edge of the board than the length of the pro-
20 jecting portion of the pins, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

DANA H. BENJAMIN.

Witnesses:

M. A. KELLER,
GEORGE C. CARTER.