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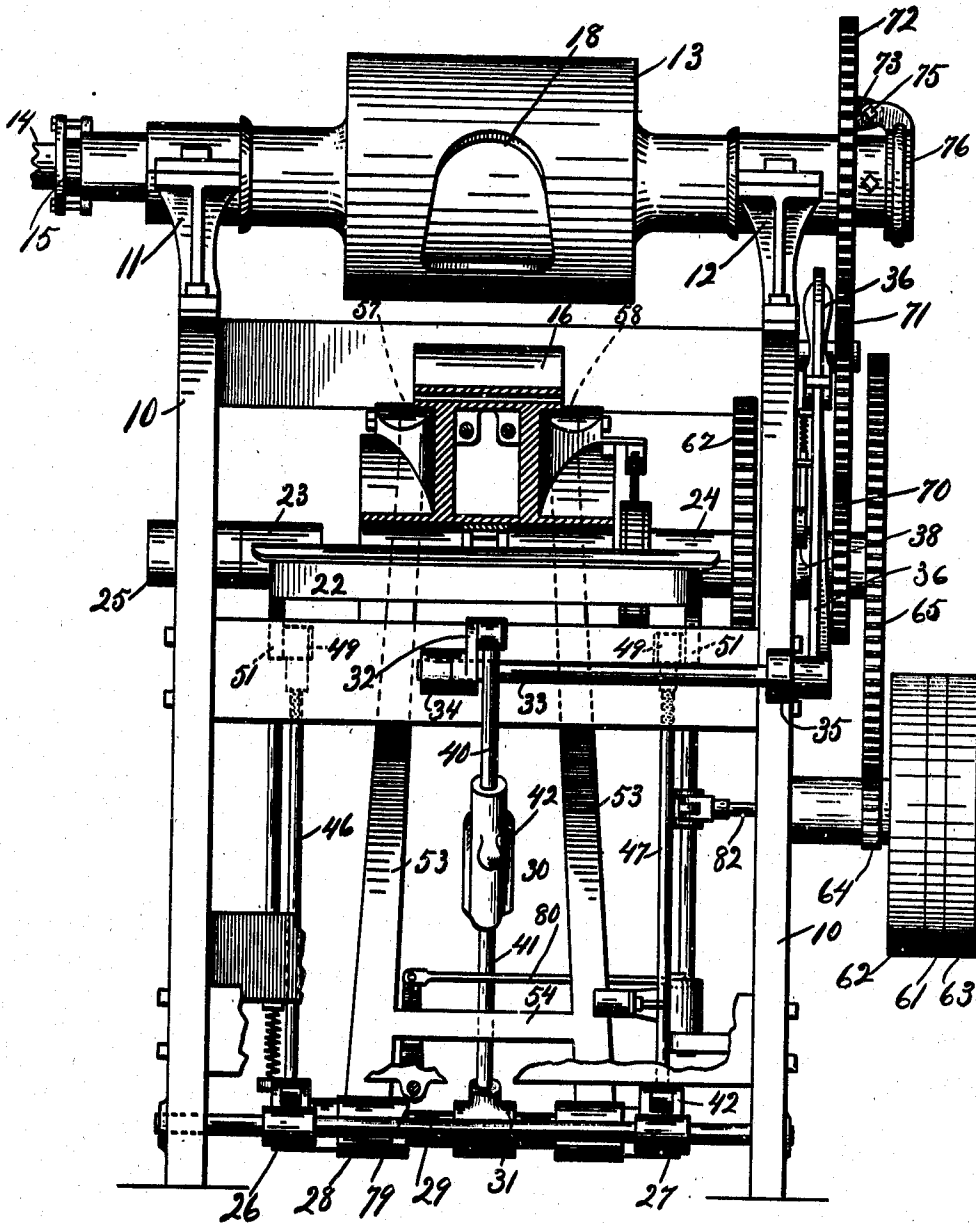


By Adam Kreute
Louis K. Nelson Atty

A. KREUTER.
IRONING MACHINE.
APPLICATION FILED JULY 6, 1907.

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Patented Sept. 7, 1909.
5 SHEETS—SHEET 2.



Witnesses:
W. H. Cotton

Fig. 2.

Inventor:
Adam Kreuter

Charles B. Gilson By Louis Gilson Atty

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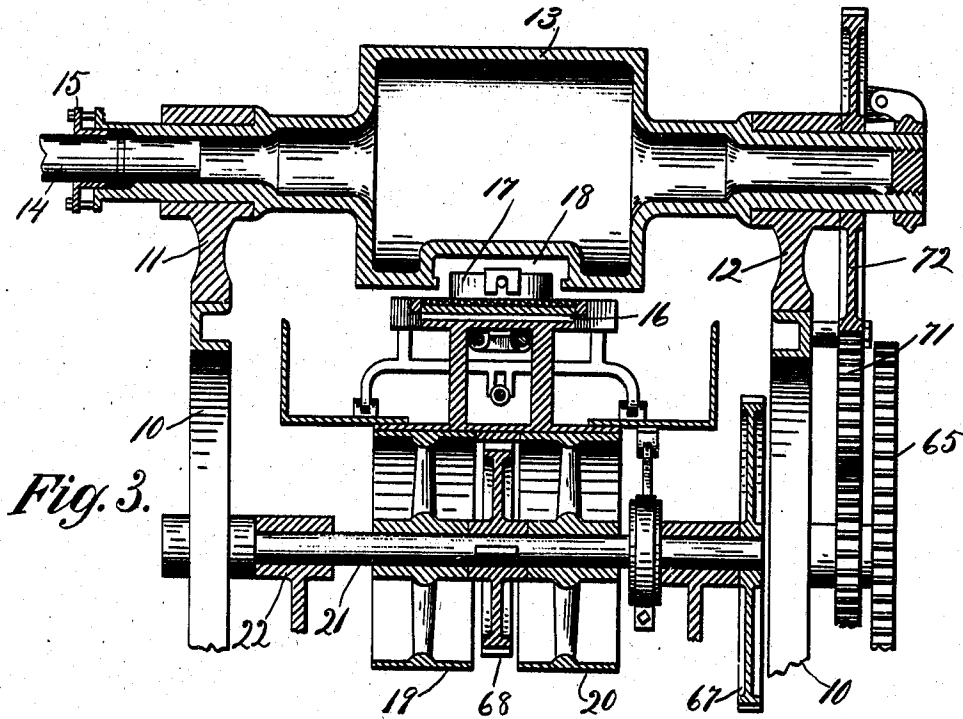


Fig. 3.

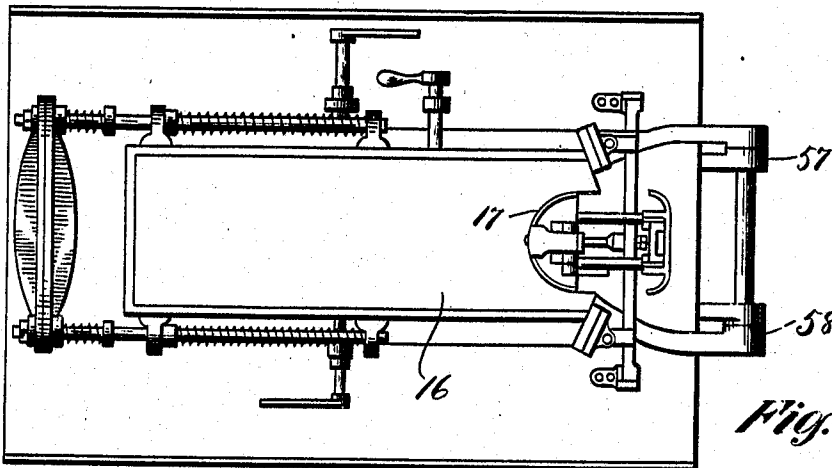


Fig. 4.

Witnesses:

W. H. Cotton

Charles B. Gilson

By

Louis K. Gilson M'Y.

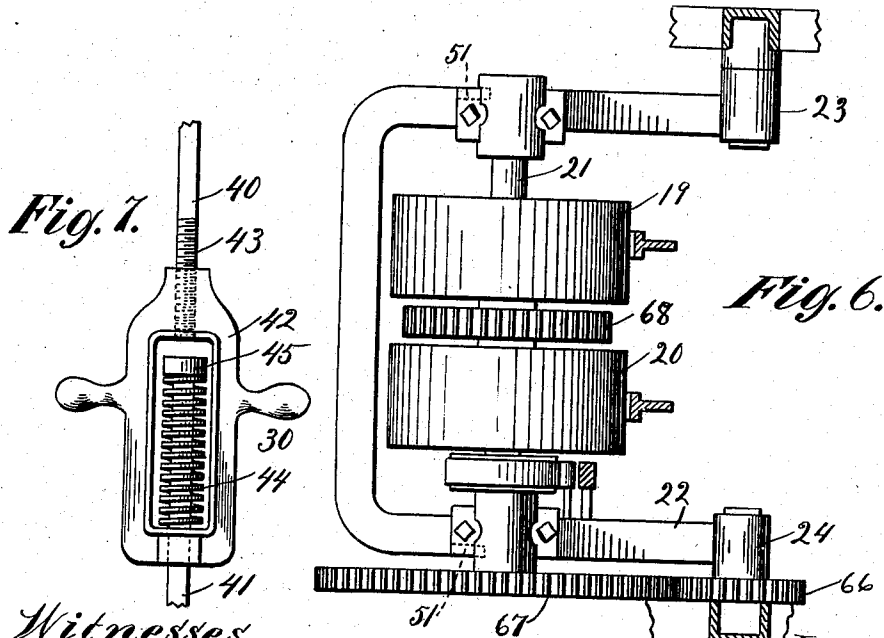
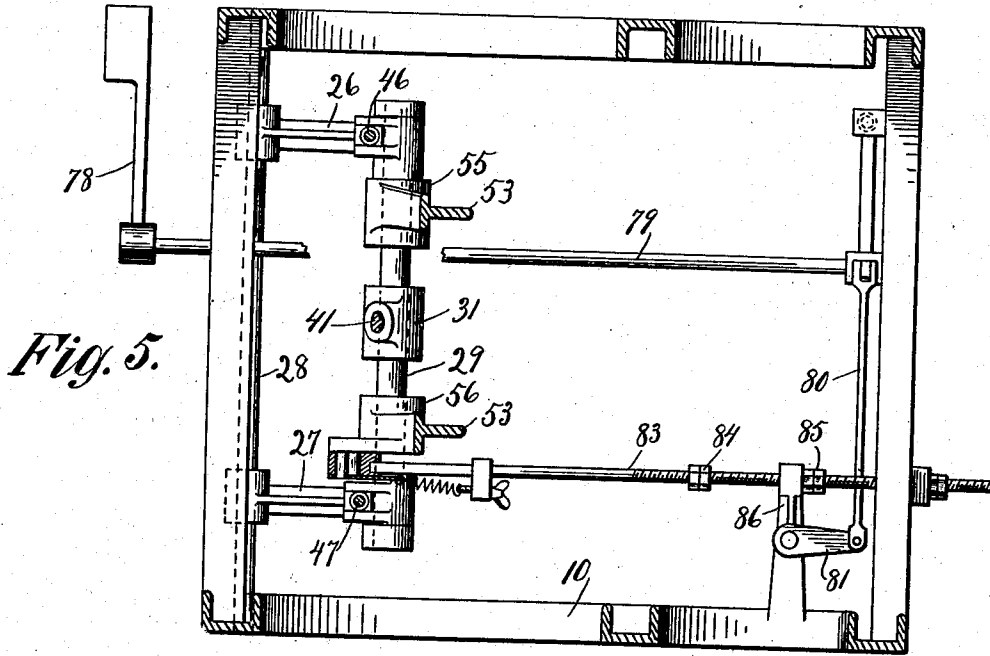
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Witnesses
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Charles B. Gilson.

By

Louise Gilson Atty.

Inventor.
Adam Kreuter.

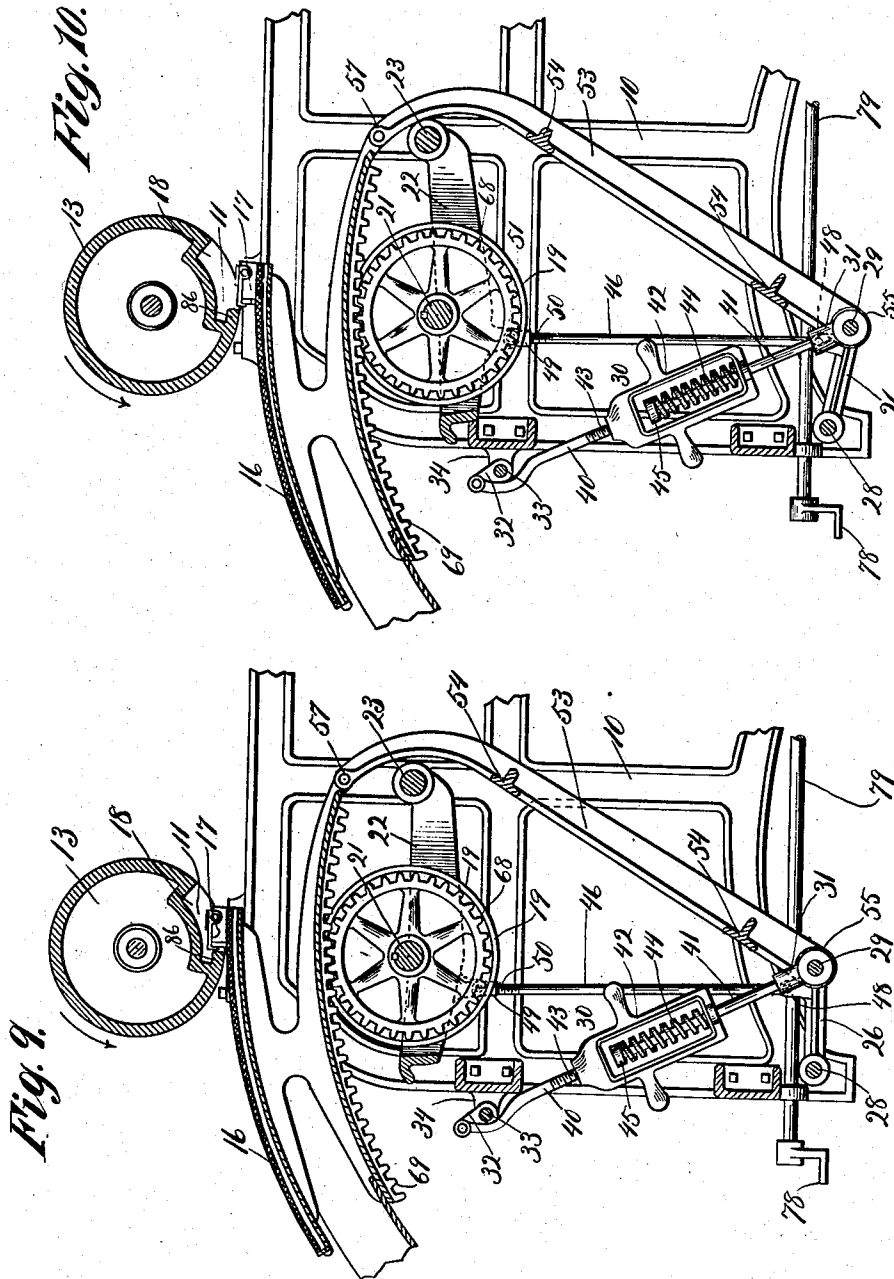
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Witnesses:
W. H. Cotton
Charles B. Gillson.

Inventor.
Adam Kreuter.
By Louis A. Gillson Att'y.

UNITED STATES PATENT OFFICE.

AM KREUTER, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN LAUNDRY MACHINERY MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

IRONING-MACHINE.

933,256.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed July 5, 1907. Serial No. 882,259.

To all whom it may concern:

Be it known that I, ADAM KREUTER, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Ironing-Machines, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to machines for ironing shirt bosoms and the like, and of that type comprising an ironing tool and an ironing table or board adapted to oscillate beneath the tool.

More particularly, the invention relates to such machines in which the ironing members are provided, respectively, with a co-operating flange and recess designed to receive the neck band of a garment. In machines of this type it is important that the ironing tool and board should be relatively movable in order that the pressure of ironing may be adjusted, and when these ironing members are provided, respectively, with a neck-band flange and a recess for receiving the same, it is also important that the interengagement of those parts should not be disturbed by the adjustment.

The object of the invention is to simplify and improve the construction and operation of ironing machines of the kind described, particularly by providing improved means for adjustably and yieldably supporting the ironing table and for guiding it beneath the ironing tool.

In the accompanying drawings Figure 1 shows in side elevation an ironing machine embodying the features of the invention in their preferred form; Fig. 2 is a front elevation of the same, some of the parts being shown in section and the plane of the section being indicated by the line 2—2 on Fig. 1; Fig. 3 is a sectional detail taken on the line 3—3 of Fig. 1, but showing the parts in a different position; Fig. 4 is a detail plan view of the ironing board used upon the machines; Figs. 5 and 6 are sectional plan views taken on the lines 5—5 and 6—6, respectively, of Fig. 1; Fig. 7 shows a detail of the turn-buckle, separated from other parts; Fig. 8 is a sectional detail of a portion of the ironing table and a portion of the ironing roller; Figs. 9 and 10 are sectional views illustrating the relative positions of the iron-

ing tool and ironing table for different degrees of adjustment between such parts.

A machine of the form illustrated in the drawings comprises an open rectangular supporting-frame 10, and has an ironing tool 13 which takes the form of a roller journaled at each of its ends in suitable bearings, as 11, 12, formed on the top of the frame 10. The ironing roller 13 is adapted to be heated, and to this end it is made hollow, as most clearly shown in Fig. 3 of the drawings, and a steam pipe 14 leads into one of its ends through a packing gland 15.

A curved ironing table or board 16 is provided for receiving the garment to be ironed. This table is adapted to be oscillated beneath the ironing tool 13, and, as shown, has an upstanding flange 17 which engages the neck-band of a garment and which coöperates with the walls of a cavity 18 formed in the ironing tool 13 for shaping the neck-band of a garment and adjacent portions of the bosom. The ironing table 16 rides upon rollers 19, 20, mounted on a shaft 21 which is journaled in a vertically-swinging carriage 22 supported beneath the ironing tool. As shown, this carriage is pivotally mounted at 23, 24, upon the two side members of the frame 10 of the machine, one of the pivots, as 24, being a rotatable shaft for transmitting power to the shaft 21 journaled in the carriage.

For supporting the free end of the carriage 22 and for guiding the movement of the ironing table over the rollers 19, 20, of the carriage, an adjustable, yielding supporting member is provided adjacent the base of the machine. As shown, this supporting member takes the form of a vertically-swinging frame comprising a pair of links 26, 27, each having one of its ends pivotally mounted upon a horizontal member 28 of the frame 10, the outer ends of the links being connected by a rod 29. The free end of this supporting frame is carried by a pitman 30 joined, as indicated at 31, to the connecting rod 29 midway of its length, and leading upwardly therefrom to the crank-arm 32 of a crank shaft 33 journaled upon the front of the machine in lugs 34, 35, provided for that purpose. Upon one end of the crank shaft 33, and within convenient reach of the operator of the machine, there is mounted a hand lever 36 carrying a pawl

37 adapted to play over a toothed quadrant 38, and controlled in the usual manner by a grip-piece 39. In order that there may be an adjustable yielding connection between the supporting member at the base of the machine and the crank shaft 33, the pitman 30 is preferably made sectional, as most clearly shown in Fig. 7 of the drawings. The two sections 40—41 of the pitman 30 are united by a turnbuckle 42, which has a threaded connection 43 with the upper section 40 of the pitman and a yielding connection with its lower section 41. As shown, the yielding connection between the turnbuckle 42 and the lower section 41 of the pitman is provided by extending the member 41 through the base of the turnbuckle, with which it has a sliding engagement, and by providing a stout spring 44 which reacts between an expanded head 45 of the member 41 and the base of the turnbuckle.

Positive connection is provided between the supporting member at the base of the machine and the carriage 22, and between this supporting member and the ironing table, in order that the ironing table will be moved substantially in a direct line from the ironing tool 13 by an adjustment in the length of the pitman 30. As shown, a link, as 46—47, leads downwardly from the carriage 22 to each of the links 26—27 of the supporting frame, to which it is preferably pivotally connected intermediate its ends, as indicated at 48. At the upper end of each of the links 46—47 an eye 49 is provided for pivotally uniting the link to a lug 51 formed upon the frame of the carriage 22, and this eye has a threaded connection 50 with the body of the link in order that the effective length of the link may be adjusted. For guiding the movement of the ironing table 16 over the rollers 19—20 of the carriage 22, a link 52, which, as shown, takes the form of a frame comprising uprights 53—53 and a cross member 54, is pivotally united to the cross member 29 of the vertically-swinging supporting-frame provided at the base of the machine, at 55—56, and to the inner end of the table 16 at 57—58.

Power is applied for operating the machine, preferably through a driving shaft 60 journaled on the frame 10 at one side of the machine and carrying a belt pulley 61, at each side of which are idle pulleys 62—63 provided for driving belts, not shown, which travel over the pulleys in opposite directions, and are adapted to be shifted alternately onto the belt pulley 61. An oscillating movement is transmitted from the driving shaft 62 to the ironing table 16 through a pinion 64 mounted on the driving shaft, a gear 65 and pinion 66 coaxially mounted upon the shaft 25 forming one of the pivotal supports for the car-

riage 22, gears 67—68 mounted on the shaft 21, and a rack 69 formed upon the under side of the ironing table for engaging the gear 68. The ironing roller 13 is simultaneously oscillated from a pinion 70 mounted on the shaft 25 between the gear 65 and pinion 66, an idle gear 71 journaled on the frame of the machine, and a gear 72 mounted upon the hub of the ironing roller. In order that the ironing roller may be angularly adjusted to bring the cavity 18 formed in its side into register with the neck-band flange 17 as the ironing table travels beneath the roll, the gear 72 is loosely mounted upon the hub of the roll and motion is transmitted from the gear to the roll through a lug 73 formed on the face of the gear and a pair of set screws 74—75 which bear upon the lug from opposite sides and have a threaded engagement with a collar 76 rigidly mounted upon the hub of the roll, as by means of a key 77.

A treadle 78 is provided at the front of the machine for controlling its operation, and, as shown, is mounted upon a rock shaft 79 connected by a link 80 with a bell crank lever 81, to one arm of which is connected a shipper rod 82 leading through the interior of the driving shaft 60 and having formed on its outer end suitable forks, not shown, for engaging the driving belts. The oscillation of the ironing table and ironing roll is automatically effected through the belt shipper 82 by means of a rod 83 which moves with the table-guiding member 52 and carries suitable stops 84—85 for engaging one arm 86 of the bell crank lever 81.

In use, the garment to be ironed will be stretched over the ironing table 16 with its neck band surrounding the flange 17, and the ironing table will be caused to travel beneath the ironing roll 13 by manipulating the treadle 78. By adjusting the set screws 74—75, the angular position of the ironing roll 13 with relation to the table 16 may be so arranged that the walls of the cavity 18 formed in the roll cooperate with the flange 17 of the table 16 for properly shaping the neck band of the garment and adjacent portions of its bosom. The pressure of ironing may be then adjusted by means of the turnbuckle 42 without disturbing the relative angular position between the ironing roll and the table. The ironing table may be lowered out of contact with the ironing roll at any time during the progress of the work by shifting the hand lever 36, which controls the crank shaft 33.

The forward wall of the cavity 18 in the ironing roll 13 has an instanding lip 86, most clearly shown in Figs. 9 and 10, which may be accurately shaped to fit about the neck-band flange 17 of the ironing board. Figs. 9 and 10 of the drawings also illustrate the relative position of the ironing tool and

ironing board corresponding to the same amount of travel of the ironing board beneath the tool, but to different degrees of adjustment of the board with respect to the pressure of ironing. Fig. 10 illustrates the position of the parts when the ironing table 16 has been so lowered by extending the pitman 30 that its face, when covered with the amount of padding shown, is quite out of contact with the surface of the ironing tool, yet by reason of the improved means provided by the invention for supporting the carriage 22 and guiding the table 16, the interengagement between the neck-band flange 17 of the table and the cavity 18 of the ironing tool is substantially the same as shown in Fig. 9, wherein the ironing table is illustrated as being raised into intimate contact with the surface of the ironing tool.

I claim as my invention,—

1. In an ironing machine, in combination, an ironing tool, a curved-faced oscillatable ironing table cooperating therewith, a movable carrier for the table, an adjustable yielding support for the carrier, and a guiding link pivotally attached to the ironing table and to the carrier support.

2. In an ironing machine, in combination, an ironing tool, a curved-faced oscillatable ironing table cooperating therewith, a movable carrier for the table, and a rigid guiding link for the table and a rigid supporting link for the carrier pivotally attached to a common support.

3. In an ironing machine, in combination, an ironing tool, a curved-faced oscillatable ironing table cooperating therewith, a carrier for the table, a shiftable support for the carrier, a link connecting the table and the support, a crank shaft, adjustable yielding connection between a crank of the shaft and the support, a hand lever carried by the crank shaft, and ratchet and pawl mechanism for securing the hand lever in an adjusted position.

4. In an ironing machine, in combination, an ironing tool, a pivotally mounted carrying frame, the free end of the frame being movable toward and away from the ironing tool, a pressure roller journaled in the frame, a

curved-faced oscillatable ironing table carried by the roller and cooperating with the ironing tool, a link having one of its ends attached to a fixed support, an adjustable yielding support for the free end of the link, a guiding arm pivotally attached to the link and to the ironing table, and a rigid supporting member secured to the carrying frame beyond the journal of the pressure roller from the pivot of the frame and bearing on the link.

5. In an ironing machine, in combination, an ironing tool, a pivotally mounted carrying frame, the free end of the frame being movable toward and away from the ironing tool, a pressure roller journaled in the frame, a curved-faced oscillatable ironing table carried by the roller and cooperating with the ironing tool, a link having one of its ends attached to a fixed support, an adjustable yielding support for the free end of the link, a guiding arm pivotally attached to the free end of the link and to the ironing table, and a rigid supporting member secured to the carrying frame beyond the journal of the pressure roller from the pivot of the frame and bearing on the link intermediate its ends.

6. In an ironing machine, in combination, an oscillatable ironing board having a neck-band-engaging flange, an ironing roller cooperating with the board and having a cavity which registers with the flange, and means for varying the pressure between the board and the roller without disturbing the register between the cavity and the flange.

7. In an ironing machine, in combination, an ironing roller, a reciprocating table cooperating with the roller, a pressure roller for bearing the table against the ironing roller, a member supporting the pressure roller and being adjustable for varying the pressure thereof against the ironing roller, and independent pillars rising from such member for carrying the table and the pressure roller.

ADAM KREUTER.

Witnesses:

CHARLES B. GILLSON,
E. M. KLATCHER.