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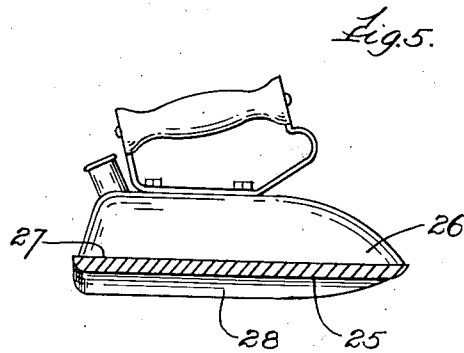
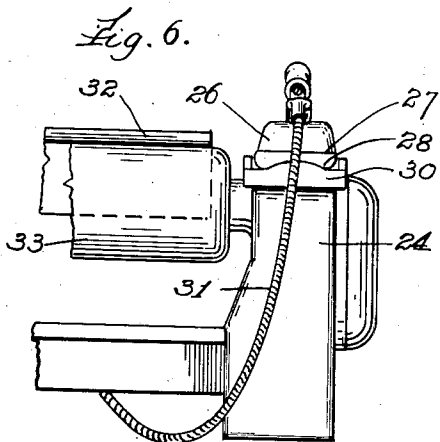
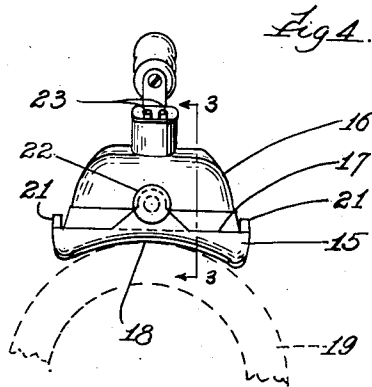
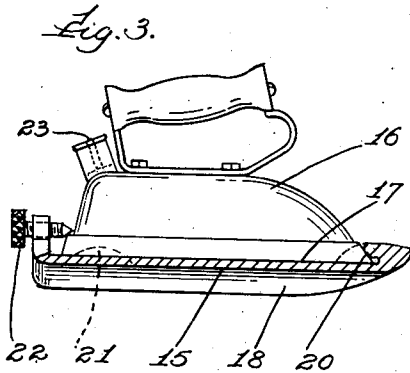
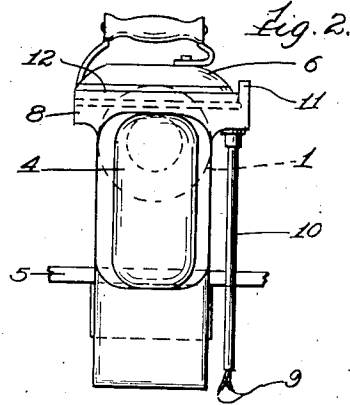
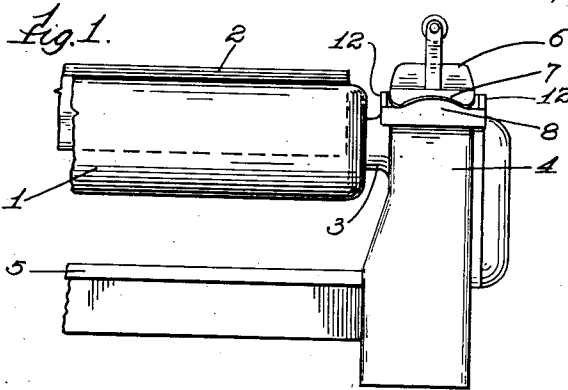
M. B. HARTER

2,299,322

IRONING APPARATUS

Filed March 24, 1941

2 Sheets-Sheet 1



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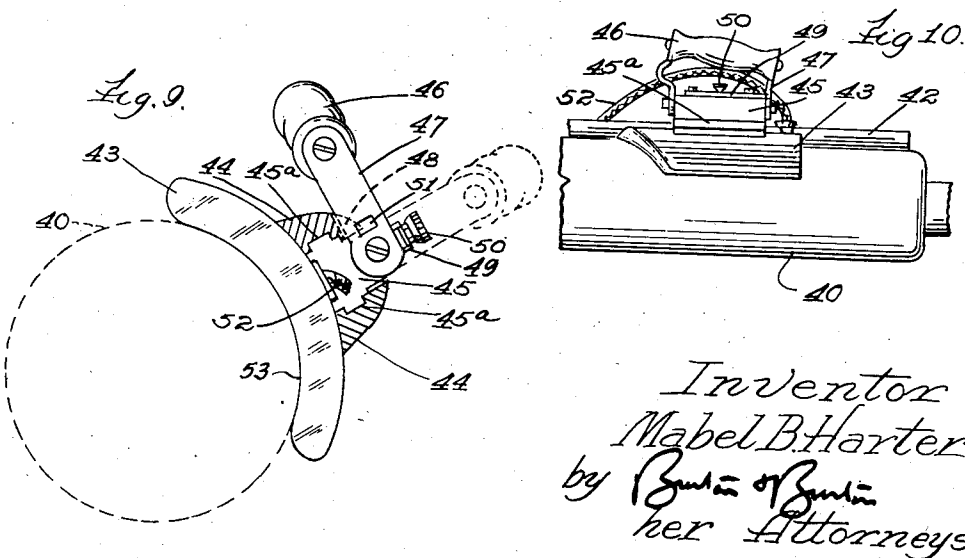
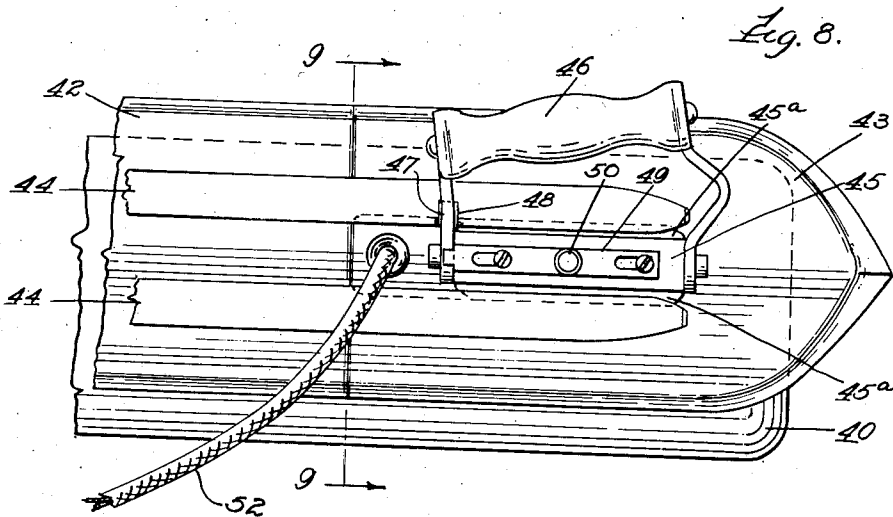
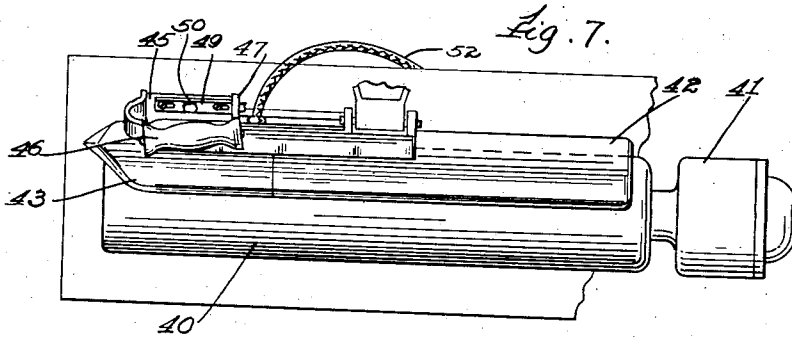
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IRONING APPARATUS

Filed March 24, 1941

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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IRONING APPARATUS

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Application March 24, 1941, Serial No. 384,813

7 Claims. (Cl. 38—2)

This invention relates to ironing apparatus, and particularly to equipment of this nature designed for household use.

One object of the invention is to provide a special form of hand iron adapted to cooperate with the padded roll of a power operated ironing machine for finishing certain surfaces or portions of garments and other pieces.

Another object is to provide a hand iron formed to cooperate with the roll of an ironing machine together with a heated rest for said iron incorporated in the design of the machine.

A further object is to provide a special sole plate which is removably attachable to a standard electric hand iron for converting it into a special iron for use on the roll of an ironing machine.

It is also an object of the invention to provide a hand iron designed to serve as a portion of the heated shoe of an ironing machine in cooperation with the usual padded roll thereof, but detachably connected to the shoe so as to be used independently thereof.

While I have shown in the drawings and shall herein describe certain preferred forms of my invention, it is to be understood that I do not intend to limit the invention to the specific structures disclosed, but aim to cover all the modifications and alternative constructions falling within the spirit and scope of the invention as defined in the appended claims.

In the drawings:

Figure 1 is a fragmentary front elevational view showing one end of an ironing machine provided with a special hand iron and with a heated rest therefor designed in accordance with this invention.

Figure 2 is an end elevation of the portion of the machine shown in Figure 1.

Figure 3 is a side elevation of a hand iron with a supplemental adapter shoe secured thereto, said shoe being shown in longitudinal section taken substantially as indicated at line 3—3 on Figure 4.

Figure 4 is a rear elevation of the iron shown in Figure 3 with a portion of an ironing machine roll shown in dotted outline in operative relation thereto.

Figure 5 is a side elevation of a hand iron provided with a special sole plate in accordance with this invention, the sole plate being shown in longitudinal vertical section.

Figure 6 is a fragmentary front elevation similar to Figure 1, showing the hand iron of Figure 5 as supported on a rest for use in conjunction with an ironing machine.

Figure 7 is an incomplete top plan view of an ironing machine provided with a two-part shoe, with one part adapted to be used as a hand iron in conjunction with the roll of the machine.

Figure 8 is a rear elevation on a larger scale than Figure 7, showing the means by which the hand iron section is attached to the other part of the shoe.

Figure 9 is a transverse section taken as indicated at line 9—9 on Figure 8, but with the roll shown diagrammatically.

Figure 10 is a fragmentary front elevation indicating the position in which the hand iron section is used when detached from the shoe.

In the use of a domestic ironing machine of the type which includes a power driven padded roll and an electrically heated shoe which is pressed against the roll as the latter rotates, it is frequently difficult to properly complete the ironing of some pieces, such as sleeves or collars of shirts or blouses, by passing them under the shoe. And there are some classes of work which cannot be done conveniently by feeding them under the shoe as the roll rotates, as, for example, garments having gathers, ruffles or pleats. This invention is designed to provide a special hand iron which can be used to supplement the work of the shoe in finishing up the difficult portions of some pieces, and which can be employed for pressing or ironing other pieces by hand, with the roll of the ironing machine serving as an ironing board. When this special hand iron is employed the regular shoe of the ironing machine will be shifted out of contact with the roll and a substantial distance away from it, so that the upper surface of the roll is left clear for manipulation of the hand iron thereover.

The special feature of the hand iron supplied for this use is that the under surface of its sole plate is transversely curved in concave form so that it fits approximately the curvature of the roll, making it possible to utilize the roll for supporting the work while sliding the hand iron longitudinally over the roll, or circumferentially, to some extent, if desired, in pressing and smoothing the surfaces which cannot be satisfactorily finished by the regular shoe of the machine.

Figure 1 shows one end of an ironing machine having a padded roll 1 with an electrically heated shoe 2, the roll being mounted for rotation on suitable bearings contained within the roll, and not shown, and the bearings being supported on a horizontal member 3 which projects from a head or housing 4 which may be understood as

enclosing suitable drive mechanism. The usual horizontal bed or table is indicated at 5.

The hand iron shown at 6 is formed with a concave under surface seen in rear elevation at 7, and this surface normally stands upon a convexly curved rest 8 which is mounted on the head 4. The rest may be understood as enclosing a suitable electrical heating element for which the conductor wires 9, supplying current to the element, extend thereto through an enclosing conduit 10, seen in Figure 2. When thus arranged the hand iron need not have its own current supply, but will be kept heated sufficiently by contact with the heated rest 8 when the iron is not being used. Preferably, the rest includes an end stop or guard 11 and lateral guard flanges 12 by which the iron is safely retained in position thereon.

The owner of an ironing machine which is not provided with a supplemental iron such as that shown at 6 in Figures 1 and 2, and which is not supplied with a heated rest, may secure some of the advantages of this construction by applying to a standard electric flat iron a supplemental sole plate such as that shown at 15 in Figures 3 and 4. As the hand iron 16 has a substantially flat sole plate, the upper surface 17 of the sole plate 15 is made flat so as to secure good contact with the under surface of the iron, but the lower surface 18 of the supplemental sole plate is transversely concave and approximates the curvature of an ironing machine roll, such as that indicated in dotted outline at 19 in Figure 4. The plate 15 is formed with a recess 20 opening rearwardly so as to fit over the point of the sole plate of the iron 16. Short lateral guard flanges 21 engage the lateral edges of the sole plate of the iron 16 as it is tilted downwardly with its point engaged in the recess 20, and with its flat under surface approaching the flat upper surface 17 of the supplemental sole plate. With these surfaces in contact, the clamping screw 22 is adjusted to bear against the heel of the iron, preferably against the upper edge of the sole plate itself, as shown in Figure 3, thus securing the supplemental sole plate 15 firmly in place, and providing the iron with a transversely curved under surface at 18, to cooperate with the padded roll of an ironing machine. Any suitable rest may be provided for such an iron within convenient reach of the ironing machine, and a suitable cable and plug, not shown, will be applied to the terminals 23 for supplying a heating current.

An electric hand iron such as that shown at 26 in Figure 5 may be made initially with a sole plate 25 having its under surface 28 transversely concave, and having its upper surface 27 in contact with the usual heating element, not shown, within the body of the iron 26. Such a hand iron may be employed in conjunction with an ironing machine by providing the head 24 of the machine with a suitable rest 30, as shown in Figure 6, and supplying a suitable conductor cable 31 which can be kept coupled to the iron 26 while the machine is in use. If the iron itself is supplied with a thermostatic control of any known design its temperature may be maintained at the proper point, ready for use whenever it is required to supplement the work of the ironing machine shoe 32. As a matter of convenience, the cable 31 may extend from any suitable point on the ironing machine itself where it may connect with the source of electric cur-

rent supply which operates the roll 33 and heats the shoe 32.

In Figures 7 to 10 I have illustrated a specially built ironing machine having the usual padded roll 40 with a supporting head 41 which may enclose driving mechanism for the roll. The heated shoe which cooperates with the roll consists of the main section 42 and a detachable section 43 which is designed to serve as a hand iron when disconnected from the main section 42. Grooved guide bars 44 secured rigidly to the section 42 extend beyond it to engage the sides of a block 45 which is formed with rods 45^a fitting the grooves of said bars and is attached to the middle of the shoe section 43. This block 45 is slidably engageable between the bars 44 for bringing the heel of the detachable iron 43 into abutting engagement with one end of the shoe 42. With the parts in this position the pivoted handle 46 is swung to the position in which it is shown in Figures 7, 8 and 9, so that the upright member or bale 47, at one end of the handle, fits into a notch at 48 in one of the bars 44, thus locking the hand iron section 43 in place. A sliding bolt 49, mounted on the block 45, is then shifted by its knob 50 to the position shown in Figure 8 in which it overlaps the edge of the bale member 47 for holding it in this locking position.

When the hand iron section 43 is to be used separately from the shoe 42 the bolt 49 is shifted to permit swinging the handle 46 into working position at which the bolt 49 is then engaged in an opening 51 in the bale 47, locking it upright and permitting the shoe section 43 to be slidably withdrawn from between the bars 44. As usual, the shoe 42 will be adjustably mounted so that it can be shifted away from the roll 40 by a substantial distance; then the hand iron section 43 may be operated over the upper surface of the roll 40 at any point in its length, as indicated in Figure 10. The section 43 has its own separate heating element enclosed within it and supplied with current through a suitable flexible conductor 52 extending from any convenient point on the machine. As indicated in Figure 9, the under surface 53 of the separable section 43 has the same transverse curvature as the remainder of the shoe 43 so that when this section is used as a hand iron, as shown in Figure 10, it may be moved slidably along the roll 40, or may be shifted transversely about the axis of the roll through short arcs in pressing and finishing any material which is supported on the roll for this purpose. Normally, such a roll 40 is free to rotate when it is not connected to its driving motor for continuous rotation, and in pressing various classes of work with the hand iron section 43 it will frequently be found convenient to simply turn the roll 40 through a few degrees for bringing another portion of the article or garment onto the top of the roll, into position to be operated upon by the hand iron.

It will be understood that the hand iron section 43 is employed in substantially the same manner as any of the hand irons previously described, having transversely curved under surfaces approximating the curvature of an ironing machine roll. When constructed as shown in Figures 7 to 10, the hand iron does double duty, since it functions as a portion of the regular shoe of the ironing machine when the latter is in service. But when the owner of an ironing machine is supplied with a hand iron constructed with a transversely curved sole plate in ac-

cordance with this invention, it will be found that practically all the ironing can be accomplished either by the use of the heated shoe cooperating with the rotating roll, or by the use of the hand iron employing the roll as a work table or ironing board.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and re-arrangements of the parts may be made without departing from the spirit and scope of the invention, and that the same is not limited to the particular form herein shown and described, except in so far as indicated by the appended claims.

I claim as my invention:

1. In combination with an ironing machine of the type which includes a padded roll, a hand iron having a sole plate with a transversely concave under surface having a curvature approximating that of the ironing machine roll, and a rest for said iron on the ironing machine, said rest having an electrically heated convex upper surface of the same curvature as the under surface of the iron for heating the iron by contact therewith.
2. In combination with an ironing machine of the type which includes a padded roll, and a frame with a head at one end of the roll supporting it, a hand iron having a sole plate with a transversely concave under surface curved to substantially fit the curvature of the ironing machine roll, said head including a rest for said iron having a heated convex upper surface of the same curvature as the under surface of the iron for removably supporting the iron and heating it by contact.
3. In combination with an ironing machine of the type which includes a padded roll, and a frame with a head at one end of the roll supporting it, a hand iron having a sole plate with a transversely concave under surface curved to substantially fit the curvature of the ironing machine roll, said head including a rest for said iron, said rest including an upper surface formed to support the iron and upstanding lateral guard means to engage the edges of the iron on said support.
4. In combination with an ironing machine of the type which includes a padded roll, a hand iron having a sole plate with a transversely con-

cave under surface having a curvature approximating that of the ironing machine roll, said hand iron being freely movable longitudinally over the exposed surface of the ironing machine roll to perform an ironing function in cooperation therewith.

5. In an ironing machine, the combination of a rotatable press roll, a curved heated ironing shoe extending longitudinally of the roll and adjustable into ironing relation therewith, and an auxiliary hand iron operable independently of said ironing shoe and having a sole plate with a transversely concave under surface approximating the curvature of the roll and a handle by which said auxiliary hand iron is movable freely over any exposed portion of the roll in ironing relation therewith.

6. In an ironing machine, the combination of a rotatable press roll, a curved heated ironing shoe extending longitudinally of the roll and adjustable into ironing relation therewith, and an auxiliary hand iron having a sole plate with a transversely concave under surface approximating the curvature of the roll and a handle by which said auxiliary hand iron is movable longitudinally over the roll in ironing relation therewith, together with a rest for said auxiliary iron on the ironing machine within convenient reach of the operator to render said auxiliary iron available for temporary use at any time during the ironing of a piece of work by means of the rotary roll and its ironing shoe.

7. In an ironing machine, the combination of a rotatable press roll, a curved heated ironing shoe extending longitudinally of the roll and adjustable into ironing relation therewith, and an auxiliary hand iron having a sole plate with a transversely concave under surface approximating the curvature of the roll and a handle by which said auxiliary hand iron is movable longitudinally over the roll in ironing relation therewith, together with a rest for said auxiliary iron on the ironing machine within convenient reach of the operator, and means for keeping said auxiliary iron heated while it is supported on the rest, whereby the auxiliary iron is available for temporary use at any time during the ironing of a piece of work principally by means of the rotary roll and its ironing shoe.

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