Dec. 3, 1968 R. C. LE SUEUR ET AL 3,413,742

COMBINATION CLOTHES-PRESSING IRON AND REST MOUNT THEREFOR WITH AUTOMATIC HOMING MEANS

Filed Sept. 28, 1967 2 Sheets-Sheet 1

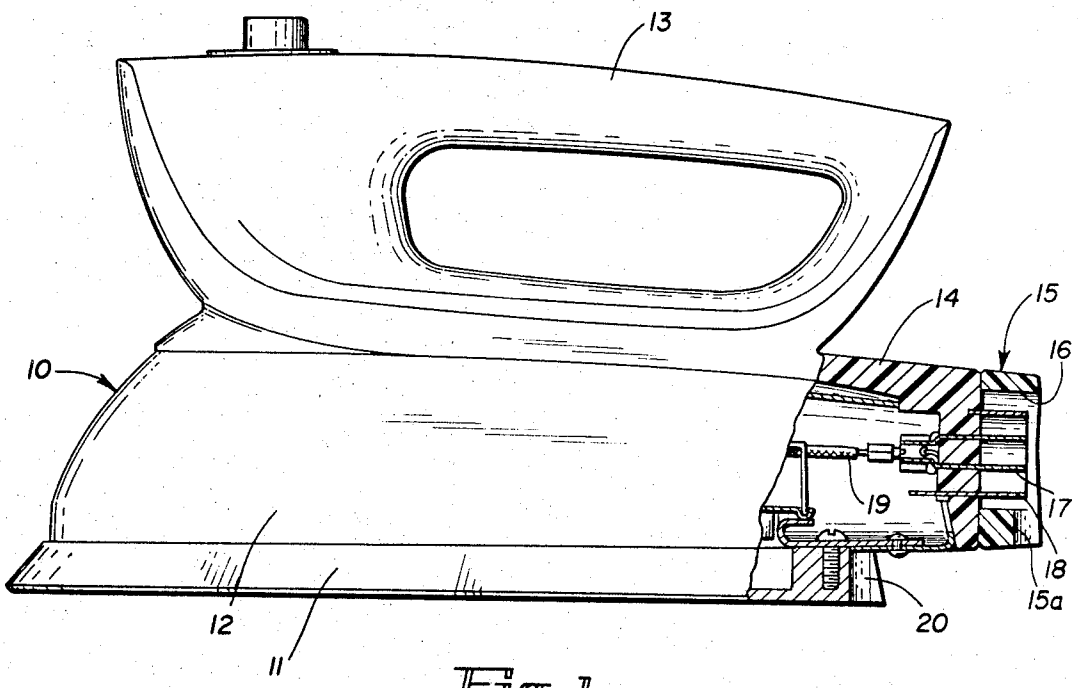


Fig_1

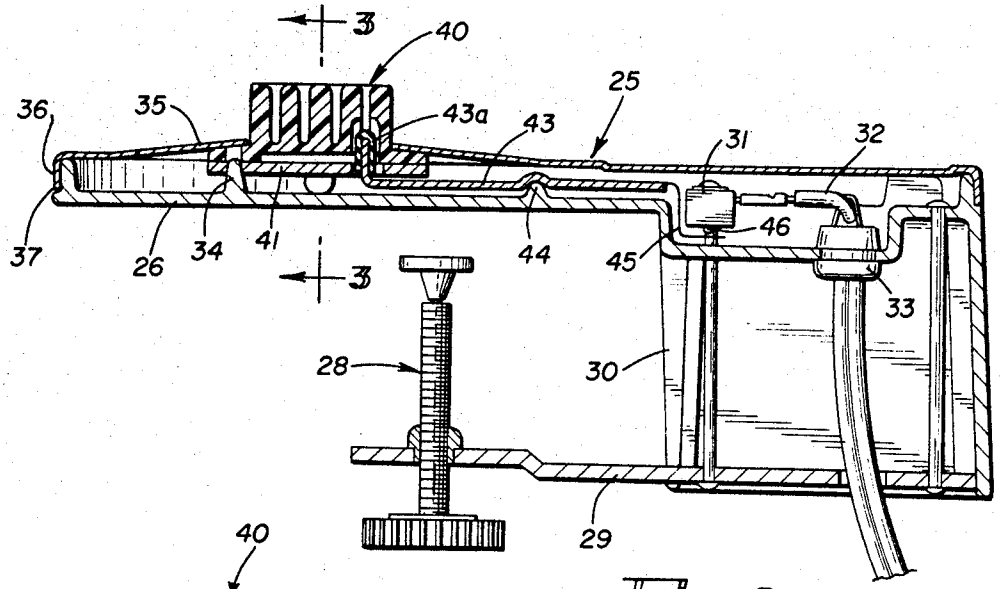


Fig_2

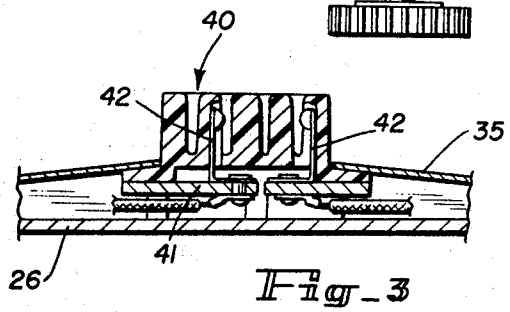


Fig_3

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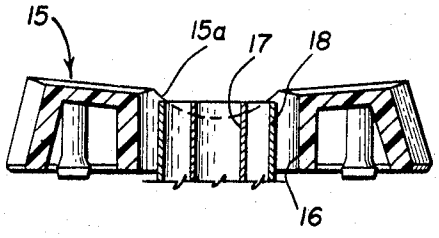


Fig_6

Fig_4

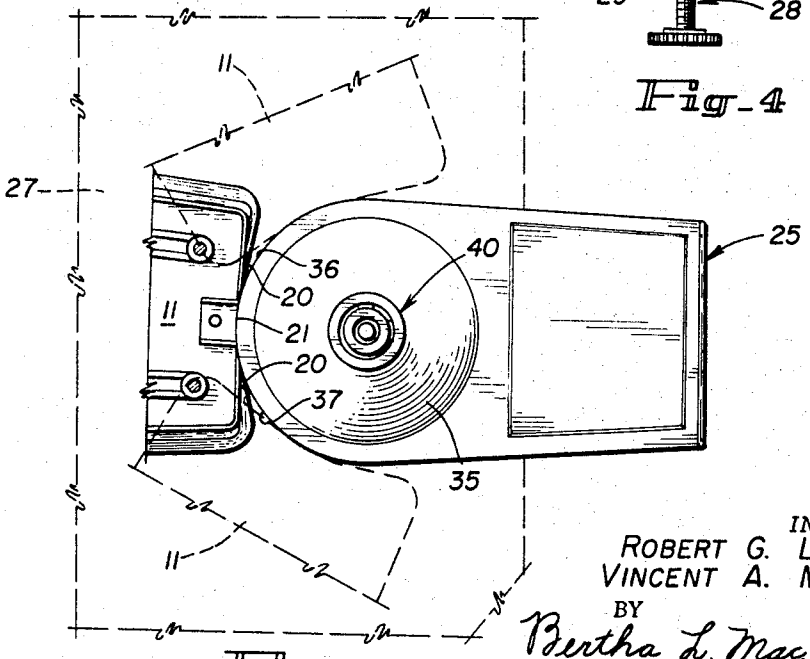


Fig_5

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COMBINATION CLOTHES-PRESSING IRON AND REST MOUNT THEREFOR WITH AUTOMATIC HOMING MEANS

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9 Claims. (Cl. 38—96)

ABSTRACT OF THE DISCLOSURE

A combination clothes-pressing iron and rest mount with automatic homing means for guiding the iron to proper placement on the mount; the iron having a heel portion with a rearwardly facing opening therein projecting rearwardly from the iron at a level above the sole plate of the iron, and the mount having an arcuate curb and an upright hub located at the center of the arc of the curb. The sole plate has rearwardly facing abutment surfaces which engage the arcuate curb when the iron is backed against the curb from various directions. The heel of the iron overhangs the curb when the iron has been backed against the curb so that the iron can then be pivoted on the mount to upstanding rest position on the mount with the hub fitting snugly into the opening in the heel. Current conducting means may be located in the hub and heel opening for automatically supplying current to a heating element in the iron when the iron is in rest position on the mount.

This invention relates to the combination of a clothes-pressing iron and a rest mount thefefor adapted to be supported on an ironing board. The invention may be embodied in an electric iron and a rest mount provided with means for conducting current to a heating element in the iron when resting on end on the mount.

The main object of the invention is to provide means in the iron and mount for automatically homing the iron relatively to the mount, whereby when the iron is backed against the mount from various directions the iron can be pivoted manually on the mount to upstanding rest position with parts of the iron and mount interengaged in "homed" relation for supporting the iron on its end. This interengagement is thus achieved with a minimum of attention being paid by the user so that the proper homing is indeed "automatic." When embodied in an electric iron and a mount provided with a power supply, the parts thus interengaged are in current conducting relationship.

The objects of the invention are achieved by the combination of a mount which has an arcuate curb and an upstanding hub disposed at the center of the arc of the curb and an iron which has a sole plate and a rearwardly extending heel with a central opening spaced above the ironing surface of the sole plate. The rear end surface of the sole plate of the iron is formed to provide a pair of spaced abutment surface portions having a rearwardly facing concavity therebetween, the surface portions being disposed at the level of the sole plate symmetrically one on either side of the longitudinal center line of the sole plate. The heel overhangs the curb of the mount when the iron is backed against the curb from various directions, so that the iron can be pivoted on the curve to upstanding rest position with the hub fitting snugly in the opening. In the embodiment herein shown and described, the heel of the iron and the hub of the mount are provided with current conducting means which automatically become operative when the iron is placed on the mount in the position described, and permit swivel movement of the iron relatively to the mount without interruption of the current flow.

In the drawings:

FIG. 1 is an elevational side view of a clothes-pressing iron, partly in section, embodying the invention of this application.

FIG. 2 is a longitudinal vertical sectional view of the mount on which the iron is adapted to be supported in upstanding position.

FIG. 3 is a transverse vertical sectional view in the plane of the line 3—3 of FIG. 2.

FIG. 4 is an elevational side view of the iron and mount in solid lines, showing the iron with its sole plate backed against the curb of the mount and the rear end of the iron overhanging the mount preparatory to being manually pivoted to the upstanding position shown in broken lines.

FIG. 5 is a horizontal sectional view in the plane of the line 5—5 of FIG. 4, showing the mount and the rear end of the iron in a preliminary "homed" position, in solid lines, and showing the rear end of the iron in broken lines as it appears in preliminary "homed" positions relatively to the mount from two different directions.

FIG. 6 is a transverse horizontal sectional view through the rear end block of the heel portion of the iron.

In the embodiment of the invention shown in the drawings, the iron **10** comprises a sole plate **11**, reservoir holding body **12**, handle **13**, heel portion **14** and rear block **15** on the heel portion **14**, provided with a rearwardly facing opening **16**. The heel portion **14** and block **15** constitute a heel which projects rearwardly beyond the rear end of the sole plate **11** and above the level of the sole plate. The block **15** houses a pair of conductor rings **17**, **18**, electrically connected by wiring **19** to a heating element (not shown) in the sole plate **11**. The sole plate has on its rear end a pair of generally vertical, spaced abutment surface portions **20** and a rearwardly facing concavity **21** therebetween, the surface portions **20** being disposed at the level of the sole plate symmetrically one on either side of the longitudinal center line of the sole plate.

A mount **25** for supporting the iron **10** in upstanding position comprises a base **26** adapted to rest on an ironing board **27**. Rotatably adjustable clamping means **28** mounted in a bracket **29** hold the mount **25** on the ironing board. The bracket **29** is mounted in a box-like container **30** which houses a micro-switch **31**, electrical wiring **32** and connections **33** to a power supply. The base **26** of the mount is provided with upright bosses **34** which support a cover **35** with downturned edge portion **36**. The cover is spaced from the base **26** and extends over the base and the top of the container **30**. The cover **35** and edge portion **36** form a curb **37** which is arcuate in form as shown in FIG. 5.

An upstanding hub **40** has a bottom plate **41** supported on bosses **34** on the mount base **26** beneath the cover **35**, the hub **40** extending upwardly through an opening in the cover. The hub **40** is made of insulating material and is located at the center of the arc of the curb **37**. It is adapted to fit within the opening **16** in the rear block **15** of the heel of the iron. One of the electrical conductor means **42** is connected to one lead of the power supply **33** and the other conductor **42** is connected to a terminal on the switch **31**. The other lead of the power supply **33** is connected to the other terminal on the switch **31**. As shown in FIG. 2, the switch lever **43** has attached to it a switch lever insulator **43***a*. The lever **43** has a switch actuating arm **45** for engaging the switch button **46** of the micro-switch **31** when the iron rests on the mount and depresses one end of the lever **43** and thus raises the free end arm **45**.

The rearwardly extending heel portions **14** and **15** of the iron are spaced above the ironing surface of the sole plate **11** a distance at least equal to the height of the curb **37** and extend rearwardly beyond the surface portions **20** of the sole plate a distance substantially equal to the width of the curb between the edge **37** and the hub **40**. The abutment surfaces **20** and concave surface **21** provide an area on the rear end of the sole plate substantially complemental to the arcuate curb **37**. The top of the opening **16** in the rear block **15** of the heel is at a level higher than the level of the top of the hub **40**, and the bottom of the opening **16** is at a level below the level of the top of the hub, whereby when the iron is backed against the arcuate curb **37** of the mount from various directions, the abutment of the surface portions **20** against the curb aims the hub-receiving opening **16** at the hub in a preliminary "homed" position so that the iron can then be pivoted on the mount up to upstanding rest position with the hub fitting snugly into the opening.

The surfaces **20** on the sole plate accomplish the preliminary homing of the iron relatively to the mount. This preliminary "homing" is enhanced in the version shown by engagement of the surface of the semi-circular cutout **15***a* on the rear block **15** with the hub **40**. The iron is then manually pivoted to the upstanding final "homed" position. The initial pivot in the preferred version shown takes place on the rear edge of the sole plate until the conductor **18** touches the top of the hub **40**. Final pivot is about the contact point between the conductor **18** and hub **40**. When the iron is nearly vertical it slides into engagement with the hub and comes to rest in the upstanding position.

In describing the invention, reference has been made to a particular example embodying the same, but we wish it to be understood that the invention is not limited to the construction shown in the drawing and that various changes may be made in the construction and general arrangement of parts without departing from the invention.

We claim:

1. In combination, a clothes-pressing iron and a rest mount adapted to be supported by an ironing board, comprising

(a) an iron having a body portion and a sole plate provided with a rear facing abutment surface,

(b) a heel having a rearwardly facing opening therein projecting from the body portion at a level above the sole plate, and

(c) a mount having an arcuate curb and an upright hub located in the center of the arc of the arcuate curb,

(d) the opening in the heel being of a size adapted to receive the hub,

whereby when the iron is backed against the arcuate curb from various directions, the abutment of the rear end surface of the sole plate against the curb aims the hub-receiving opening at the hub so that the iron can be pivoted on the mount to upstanding position with the hub fitting snugly into the opening.

2. The combination defined by claim **1** in which the rear facing abutment surface of the sole plate and the arcuate curb of the mount are substantially complemental to each other.

3. The combination defined by claim **1** which includes electrical conductor means mounted in the heel opening and in the mount hub for automatically supplying current to the iron when in rest position on the mount.

4. The combination defined by claim **1** which includes electrical conductor means mounted in the heel opening and in the mount hub for automatically supplying current to the iron when in rest position on the mount, and a switch lever in the mount actuated by placement of the iron in upright position on the mount.

5. The combination defined by claim **1** which includes electrical conductor means mounted in the heel opening and in the mount hub for automatically supplying current to the iron when in rest position on the mount, a microswitch, a switch lever, and a fulcrum on which the lever is mounted, one end of said lever being depressible by placement of the iron on the mount for raising the opposite end into switch operating position.

6. The combination defined by claim **1**, in which the heel comprises a rear block having a semi-circular cutout surface for contacting the hub when the iron is pivoted to upstanding position on the mount.

7. In combination, a clothes-pressing iron and a rest mount adapted to be supported by an ironing board, the rest mount having an arcuate curb and an upstanding hub disposed at the center of the arc of the arcuate curb, the iron having at its rear a pair of spaced abutment surface portions having a rearwardly facing concavity therebetween, the surface portions being disposed at the level of the sole plate symmetrically one on either side of the longitudinal center line of the sole plate, the iron having a rearwardly extending heel spaced above the ironing surface of the sole plate a distance at least equal to the height of the curb and extending rearwardly out beyond the surface portions a distance substantially equal to the width of the curb, the heel having a rearwardly facing, hub-receiving opening, the top of the opening being at a level higher than the level of the top of the hub and the bottom of the opening being at a level below the level of the top of the hub, whereby when the iron is backed against the arcuate curb of the mount from various directions, the abutment of both of the surface portions against the curb aims the hub-receiving opening at the hub so that the sole plate can be pivoted on the curb and the heel can be pivoted on the hub to upstanding rest position with the hub fitting snugly into the opening.

8. The combination defined by claim **7**, which includes electrical conductor means mounted in the heel opening and in the mount hub for automatically supplying current to the iron when in rest position on the mount.

9. The combination defined by claim **7**, which includes electrical conductor means mounted in the heel opening and in the mount hub for automatically supplying current to the iron when in rest position on the mount, and a switch lever in the mount actuated by placement of the iron in upright position on the mount.

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