July 15, 1941. A. O. SAMUELS 2,249,620

LEAD-IN DEVICE FOR ELECTRIC SADIRON

Filed July 3, 1940

Fig. 1

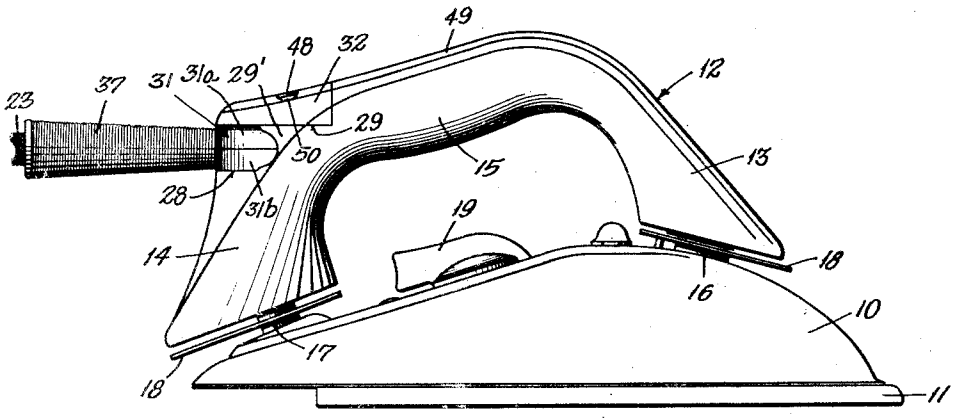


Fig. 2

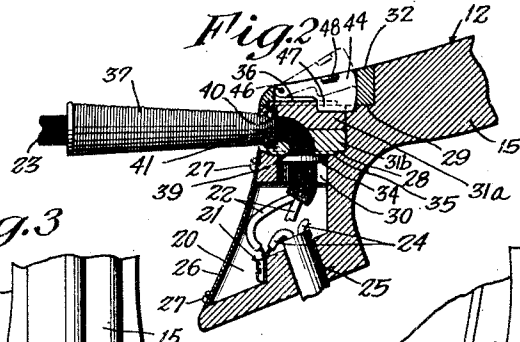


Fig. 3

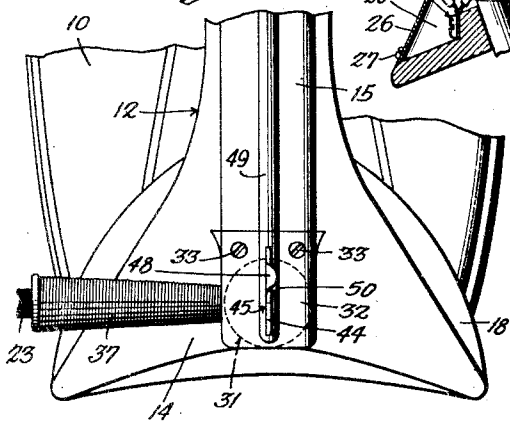


Fig. 4

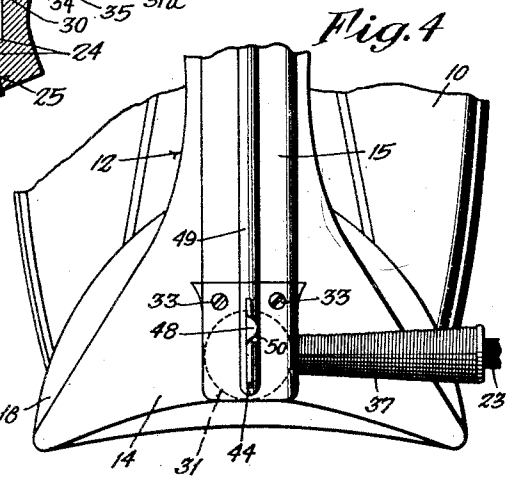
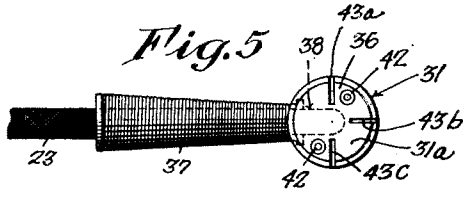


Fig. 5



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LEAD-IN DEVICE FOR ELECTRIC SADIRON

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17 Claims. (Cl. 219—25)

This invention relates to electric sadirons, and more specifically to improved lead-in means for attaching a flexible conductor cord to an electric sadiron.

It has been customary heretofore to attach an electric conductor cord to the rear of a sadiron, for instance, by means of a removable plug, or by attaching the cord directly to a portion of the iron, with the cord extending outwardly, and, in some cases, upwardly, from the rear of the iron.

This arrangement presents the disadvantage that the cord drags over the ironing board and interferes with the work being ironed.

Furthermore, due to the fact that the outlet to which the cord is attached is most inconveniently disposed on the side of the ironing board opposite the operator, the cord is subjected to constant flexing causing undue wear thereof, and resulting eventually in rupture of the conductors or insulation.

It has been proposed to attach a conductor cord to an electric sadiron in such a manner that the cord extends outwardly from the right-hand side of said iron and is provided with a reenforcing member, whereby the cord extends over the far side of the ironing board when the iron is used by a right-handed operator.

However, such irons are not adapted for convenient use by left-handed operators, since, in this case, the cord would extend outward from the iron toward the operator and would interfere seriously with the work being ironed.

It has also been proposed to attach a cord to an electric sadiron by means of a plug having a lead-in member which is rotatable about a substantially vertical axis, said member moving freely during use of the iron. This arrangement permits the cord to drag over the ironing board interfering with the work being ironed especially when the outlet to which the cord is attached is not positioned on the side of the ironing board opposite the operator. The plug is unsightly, clumsy, and inconvenient.

It is an object of the present invention to provide lead-in means for attaching an electric conductor cord to an electric sadiron whereby the direction in which the cord extends from the iron may be adjusted so that the cord may extend outwardly either from the right or left side of the iron, or from the rear end thereof, whereby the iron is adapted for convenient use by left-handed or right-handed operators.

It is also an object of the invention to provide reenforcing means associated with said lead-in means to prevent excessive flexure of the cord which would result in undue wear thereof.

It is also a further object of the present invention to provide means to lock the lead-in means in any of the aforesaid positions, whereby the cord is rigidly held in the desired position regardless of the location of an outlet to which it is attached.

A further object of the present invention is the provision of lead-in means of the aforesaid type conforming to the contour of the iron, and presenting a neat streamlined appearance.

The objects of the present invention are accomplished by providing a rotatably adjustable lead-in member in the rear of the iron through which the electrical conductor cord extends. The said member is preferably adjustable in such positions that the cord may extend outwardly from the rear of the iron or from either side thereof. Latch means is provided for locking the rotary lead-in member in either of the desired positions, and a reenforcing member surrounding the said cord is likewise carried by the said rotary lead-in member.

A recess is provided adjacent the lead-in member in order to house means whereby the leads of the flexible cord are connected to the heating elements of the electric iron. The said recess may be provided with a removable cover plate, preferably conforming to the contour of the iron, whereby the said connections are rendered accessible.

Preferably, the rotary lead-in member is located in the rear portion of the handle of the electric iron, an aperture in the wall of said handle providing access for the electrical conducting wire to said rotary member. Latch means for retaining the rotary member in any of the desired positions is preferably located above the said member and is accessible for adjustment at the top of the handle.

The accompanying drawing shows a preferred embodiment of the present invention, in which:

Figure 1 is a side elevation of the sadiron, including means for leading a flexible conductor cord into the iron according to the present invention.

Fig. 2 is a central vertical cross-section of the rear end of the handle of the sadiron shown in Figure 1.

Fig. 3 is a fragmentary plan elevation of the sadiron of Fig. 1, showing the rear end of the handle with a flexible conductor cord adjusted in position for left-hand operation.

Fig. 4 is similar to Fig. 3, but shows a flexible cord adjusted in position for right-hand operation.

Fig. 5 is a detail in plan elevation of the rotary lead-in member included in the preceding figures, carrying a flexible cord and a reenforcing member therefor.

Referring to the accompanying drawing, the device of the present invention comprises an electric sadiron having a casing 10, a base plate 11 and a handle 12, said handle comprising front and rear upright members 13 and 14, and a longitudinal grip member 15 supported thereby.

The handle 12 is attached by suitable fastening means 16 and 17 to the forward and rear ends respectively of the casing 12.

A pair of shields 18 are preferably interposed between the uprights 13 and 14 in the handle and the top of the casing 10 to prevent the handle from becoming overheated. A control switch 19, for the heating elements of the iron, may be suitably disposed on the top of the casing 10 intermediate the two uprights 13 and 14 of the handle.

In the rear upright 14 of the handle a recess 20 is provided, preferably facing toward the rear end of the iron, and housing a pair of terminals 21, one of which is shown in Fig. 2, for attaching the leads 22 of a flexible conductor cord 23 to the leads 24 of the heating elements of the iron.

The latter leads may enter the said recess through a passage 25 in the handle, extending through fastening means 17, which communicates with the interior of the casing 10. A cover plate 26 preferably conforming to the contour of the handle 12 is secured in place by means of screws 27 to cover the recess 20.

The upper rear corner of the handle 12 is cut away to form a substantially horizontal shoulder 28 and a second stepped shoulder 29. A cylindrical passage 30, terminating at the shoulder 28, and disposed at right angles thereto, communicates with the recess 20.

The flexible cord 23 is led into the recess 20 through a rotatable disk member 31 of greater diameter than the cylindrical passage 30, and supported on the shoulder 28 above said cylindrical passage.

Cord 23 enters said disk at its periphery and emerges at the center of the lower surface thereof, passing thence through the cylindrical passage 30 into the recess 20.

A cover 32 for retaining said disk in place is secured by means of screws 33 to the stepped shoulder 29. Preferably, the external surface of the cover 32 conforms to the contour of the upper portion of the handle 12.

At each side of the shoulder 28, the walls 29' of the handle extend upward flush with the stepped shoulder 29 to provide a support for the cover 32, but the said extensions terminate to the rear, short of the transverse axis of the disk member 31 supported upon the shoulder 28, in order to allow the projecting cord 23 to be rotated with the disk member 31 from a position extending outwardly from the rear of the iron to a position wherein it extends at right angles from the side of the iron, at the right or left side thereof.

In order to retain the disk 31 in engagement with the cover 32 and the shoulder 28, while permitting the disk to rotate, the lower surface of said disk is provided with a raised circular portion 34 fitting into the end of the cylindrical passage 30, and a concentric annular shoulder 35, between said raised circular portion of the outer edge of the disk, which engages a correspondingly shaped annular recess on the surface of the shoulder 28, concentric with the cylindrical passage 30. The upper surface of the disk member 31 is similarly provided with a raised circular portion 36 which engages a corresponding recess in the cover 32.

The cord 23 is preferably reenforced adjacent its junction with the disk member 31 to avoid undue wear as a result of flexing during use. This is accomplished by the provision of a reenforcing member 37 comprising a tapered coil of resilient wire which surrounds said cord. One end of the said reenforcing member is secured to the rotary disk member 31 and is adapted to rotate therewith.

In order to facilitate the assembly of the cord 23 and the reenforcing member 37 with the disk member 31, the latter may be conveniently formed of an upper part 31*a* and a lower part 31*b*, the said parts having radial channels or grooves respectively on their contiguous surfaces, which provide, when the said parts are assembled, a radial passage 38 through which the cord extends inwardly. The lower part 31*b* is provided with a central aperture 39 from which the cord is adapted to emerge from said radial passage.

Adjacent the periphery of the disk 31, said radial passage 38 is provided with an annular groove 40 formed by correspondingly disposed semi-annular grooves in the radial channels of the upper and lower parts of said disk, said annular groove engaging an annular flange 41 on the inner end of the reenforcing member 37 which surrounds the cord 23, and retaining said reenforcing member in engagement with the disk member 31. The upper and lower parts of the disk 31 are secured together by any suitable means, for instance, by eyelets 42, as shown in Fig. 5, or by other means known in the art, such as screws, rivets, etc.

Means is further provided for locking the disk member 31 and the associated cord and reenforcing member in such positions that the cord extends outward from the handle substantially at right angles to the longitudinal axis of the iron on either side thereof, as illustrated in Figs. 3 and 4, or directly outward toward the rear of the iron, as shown in Figs. 1 and 2. By the provision of such means, the cord is prevented from swinging back and forth during use.

For the aforesaid purpose, three radial slots 43*a*, *b* and *c* are provided, as shown in Fig. 5, in the upper surface of the disk member 31. A latch member is provided comprising a clip 44, carried in an elongate slot 45 in the top of the cover 32, one end of said clip being hinged at 46, and the other end having an ear 47 adapted to engage the said radial slots in the upper surface of the disk member 31. Thus, when the ear 47 engages the middle slot 43*b* of the disk member, the latter is retained in the intermediate position in which the cord 23 and reenforcing member 37 extend outward from the rear of the iron in alignment with the grip portion 15 of the handle. Similarly, when the ear 47 engages the slot 43*a*, the cord and reenforcing member is retained in a position projecting from the left side of the iron, as shown in Fig. 3, whereby the iron may be conveniently used by a left-handed operator. When the slot 43*c* is engaged, the cord is similarly retained in a position extending outward from the right-hand side of the iron, as

shown in Fig. 4, whereby the iron may be conveniently used by a right-handed operator.

In order to change the position of the cord, the latch member is raised, the cord and disk rotated to the desired position, and the latch dropped back into place to engage one of the aforesaid slots.

To facilitate manipulation of the latch for readjustment of the position of the cord, a tab 48 is provided on the upper edge of the clip 44. The said tab may fit normally into a suitable recess in the top of the handle to avoid its projecting from the upper surface thereof when the iron is in use.

As shown in the accompanying drawing, the slot 45 containing the clip 44 is formed in a central rib 49 extending along the top of the handle 12, and the tab 48 fits into a recess 50 at one side of the said rib.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

I claim:

1. In an electric sadiron having a flexible cord for connecting the iron to an electric power supply, a rotatably adjustable lead-in member through which said cord extends mounted at the rear end of said iron whereby the cord may be disposed to project outwardly from either side of the iron or from the rear end thereof; and means for retaining said lead-in member against rotation.

2. In an electric sadiron having a flexible cord for connecting the iron to an electric power supply, a rotatably adjustable lead-in member through which said cord extends mounted at the rear end of said iron whereby the cord may be disposed to project outwardly from either side of the iron or from the rear end thereof; and means for retaining said lead-in member against rotation when the cord is disposed in either of the aforesaid positions.

3. In an electric sadiron having a flexible cord for connecting the iron to an electric power supply, a rotatably adjustable lead-in member through which said cord extends mounted at the rear end of said iron whereby the cord may be disposed to project outwardly from either side of the iron or from the rear end thereof; a reenforcing member carried by said lead-in member and surrounding said cord at its junction with said lead-in member; and releasable means for retaining said lead-in member against rotation.

4. In an electric sadiron having a flexible cord for connecting said iron to an electric power supply, a lead-in member through which said cord extends mounted at the rear end of said iron, said lead-in member being rotatably adjustable in a substantially horizontal plane whereby the cord may be disposed to project outwardly from either side of the iron or from the rear end thereof; and releasable means for retaining said lead-in member against rotation.

5. In an electric sadiron having heating elements and a flexible cord for connecting said heating elements to an electric power supply, a rotatably adjustable lead-in member through which said cord extends mounted at the rear end of said iron, the cord entering said member substantially in radial direction and emerging therefrom in a substantially axial direction, whereby the cord may be disposed to project outwardly from either side of the iron or from the rear end thereof; a recess in said iron adjacent said rotary lead-in member into which the axially emerging portion of said cord extends; and means housed in said recess for connecting the leads of the cord to the heating elements of the iron.

6. In an electric sadiron having heating elements, a handle, and a flexible cord for connecting said heating elements to an electric power supply; a rotatably adjustable lead-in member through which the cord extends, said member being mounted for rotation in a substantially horizontal plane at the rear of the handle of said iron, said cord entering said member at its periphery and emerging at the center of its lower surface; a reenforcing member for said cord secured to said lead-in member; an aperture in the wall of said handle adjacent the periphery of the lead-in member extending from one side of the iron around the rear to the other side thereof, whereby the cord may be adjusted to extend outwardly from either side of the handle or from the rear thereof; latch means for retaining said lead-in member against rotation when the cord is adjusted in either of the aforesaid positions; a recess in said handle below said lead-in member into which the cord extends; and means housed in said recess for connecting the leads of said cord to the heating elements of the iron.

7. In an electric sadiron having heating elements, a handle and a flexible cord for connecting said heating elements to an electric power supply; a rotatably adjustable lead-in member through which said cord extends, the cord entering said member at its periphery and emerging at the lower surface thereof; removable means for mounting said member for rotation in a substantially horizontal plane at the rear of the handle of said iron, whereby said cord is adjustable for extension from said handle from either side thereof or outwardly from the rear; latch means carried by the handle for retaining said lead-in member against rotation when the cord extends in either of the aforesaid directions; a recess in said handle below said lead-in member into which said cord extends; and means housed in said recess for connecting the leads of the cord to the heating elements of the iron.

8. In an electric sadiron having heating elements, a handle, and a flexible cord for connecting said heating elements to an electric power supply; a rotatably adjustable lead-in member through which the cord extends, said member being mounted for rotation in a substantially horizontal plane at the rear of the handle of said iron, said cord entering said member at its periphery and emerging in the center of its lower surface; a flexible reenforcing member for said cord secured to said lead-in member; an aperture in the wall of said handle adjacent the periphery of the lead-in member extending from one side of the iron around the rear to the other side thereof, whereby the cord may be adjusted to extend outwardly from either side of the handle or from the rear thereof; latch means for retaining said lead-in member against rotation when the cord is adjusted in either of the aforesaid positions; a recess in said handle below said lead-in member into which the cord extends; means housed in said recess for connecting the leads of said cord to the heating elements of the iron; and a removable cover plate for said recess for providing access thereto.

9. In an electric sadiron having heating elements, a handle, and a flexible cord for connecting said heating elements to an electric power supply; a rotatably adjustable lead-in member through which said cord extends, the cord entering said member at its periphery and emerging at the center of the lower surface thereof; a flexible reenforcing member for said cord secured to said lead-in member; removable means for retaining said lead-in member for rotation in a substantially horizontal plane in the rear of the handle of said iron, whereby said cord is adjustable to extend from either side of said handle or outwardly from the rear thereof; latch means carried by the handle for retaining said lead-in member against rotation when the cord extends in either of the aforesaid directions; a recess in said handle below said lead-in member; means housed in said recess for connecting the leads of said cord to the heating elements of the iron; and a removable cover plate for said recess; said latch means, retaining means, and the exposed surface of said lead-in member conforming substantially to the contour of said handle.

10. In an electric sadiron, a lead-in member adapted to be mounted for rotation in a substantially horizontal plane at the rear of said iron, said member comprising two parts; means for fastening said parts together; physical alterations in the contiguous surfaces of said parts for forming a passage extending radially inward from the periphery of said member and axially outward from the center thereof; and a flexible cord for connecting said iron to an electric power supply extending through said passage inwardly from the periphery of said member and outwardly from the center thereof.

11. In an electric sadiron, a lead-in member adapted to be mounted for rotation in a substantially horizontal plane in the rear of said iron, said member being separable into two parts along a plane substantially perpendicular to the axis of rotation thereof; a radial groove in the contiguous surfaces of said parts, and a central aperture in one of them, forming a passage extending radially inward from the periphery of said member and axially outward from its center; and a flexible cord for connecting said iron to an electric power supply extending inwardly through said passage from the periphery of said member and outward from the center thereof.

12. In an electric sadiron, a lead-in member adapted to be mounted for rotation in a substantially horizontal plane at the rear of said iron; a passage extending radially inward from the periphery of said member and axially outward from the center thereof; a flexible cord for connecting said iron to an electric power supply extending inwardly through said passage from the periphery of said member and outwardly from the center thereof; and physical alterations on the outer surface of said member for retaining it in engagement with the handle of said iron for rotation in substantially a horizontal plane.

13. In an electric sadiron, a lead-in member adapted to be mounted for rotation in a substantially horizontal plane in the rear portion of the handle of said iron, said member comprising a passage extending radially inward from its periphery and axially outward from the center thereof; a flexible cord for connecting said iron to an electric power supply extending inwardly through said passage from the periphery of said member and outwardly from the center thereof; and physical alterations in the outer surface of said lead-in member for engaging latch means carried by the handle of the iron, so disposed that the said member is retained against rotation when the cord extends outwardly from the rear or from either side of said iron.

14. In an electric sadiron, a lead-in member adapted to be mounted for rotation in a substantially horizontal plane at the rear of said iron, said member comprising two parts; means for fastening said parts together; alterations in the contiguous surfaces of said parts for forming a passage extending radially inward from the periphery of said member and axially outward from the center thereof; a flexible cord for connecting said iron to an electric power supply extending inwardly through said passage from the periphery of said lead-in member and outwardly from the center thereof; an annular groove in said passage adjacent the periphery of said member; and a reenforcement for said cord having an annular flange at one end, said flange engaging said annular groove.

15. In an electric sadiron as defined in claim 5, a handle extending longitudinally of the iron, said rotatably adjustable lead-in member being mounted within the rear end of said handle for rotation in a substantially horizontal plane, said handle having an opening in the rear thereof opposite the periphery of said lead-in member extending arcuately from one side of the handle around the rear to its other side, and said cord entering the lead-in member in substantially radial direction through said opening, whereby the cord may be adjusted by rotation of the lead-in member to extend outwardly from either side of the handle or from the rear end thereof.

16. In an electric sadiron as defined in claim 5, a handle extending longitudinally of the iron, said rotatably adjustable lead-in member being mounted at the rear end of said handle for rotation in a substantially horizontal plane, and said recess housing the means for connecting the leads of the cord to the heating elements of the iron being formed in the rear portion of said handle and disposed below said rotatable lead-in member.

17. In an electric sadiron as defined in claim 5, a reenforcing member secured at one end to said lead-in member, extending outward therefrom, and surrounding said cord for a portion of its length adjacent said member, said cord and said reenforcing member being adjusted by rotation of the lead-in member to extend outwardly from either side of the handle or from the rear end thereof.

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