H. W. DENHARD.

ELECTRIC HEATER.

APPLICATION FILED JAN. 30, 1911.

1,243,490. Patented Oct. 16, 1917.

Fig. 1.

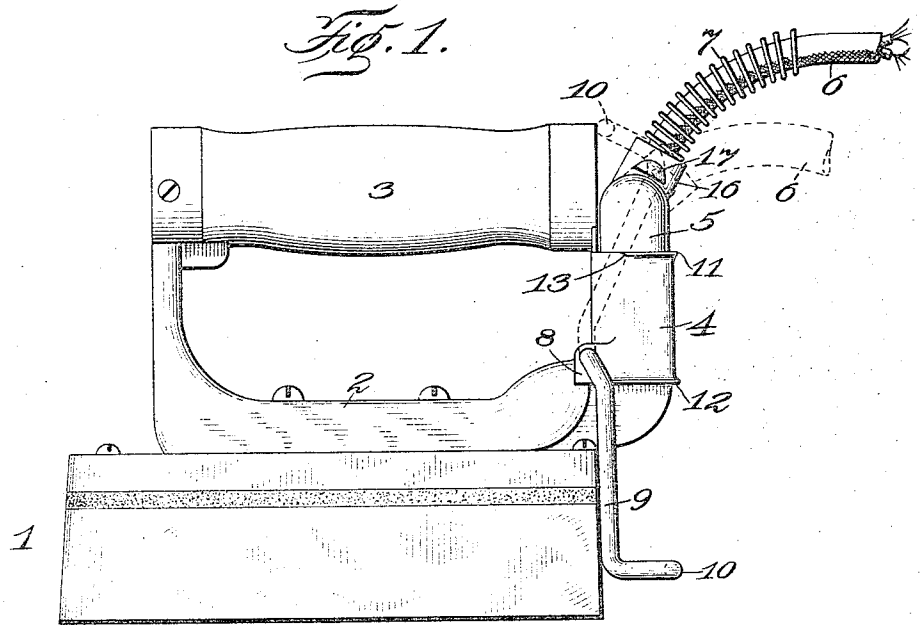


Fig. 2.

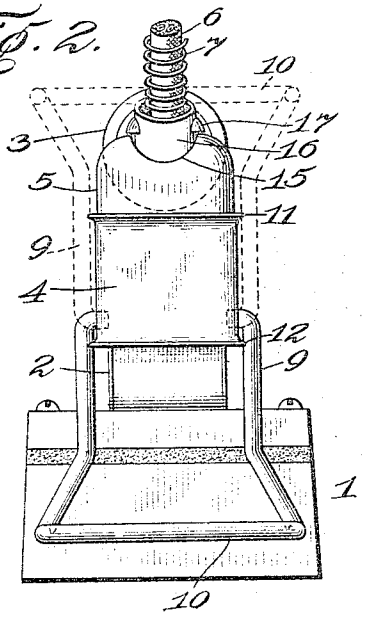


Fig. 3.

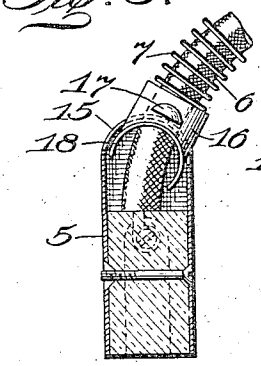
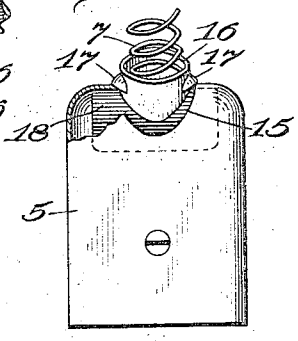


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ELECTRIC HEATER.

1,243,490. Specification of Letters Patent. Patented Oct. 16, 1917.

Application filed January 30, 1911. Serial No. 605,344.

To all whom it may concern:

Be it known that I, HARRY W. DENHARD, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Electric Heaters, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to electric heaters.

It relates more particularly to electric irons and improved means for supporting the same in different positions.

One of the objects of the invention is to provide an improved supporting means for an electric iron which will support the iron on end and in an inverted position.

Another object is to provide an improved supporting means for an electric iron which will be automatically locked in its operative positions.

Other objects and advantages of the invention will hereinafter appear.

The accompanying drawing illustrates an embodiment of the invention. The views of said drawing are as follows:

Figure 1 is a side elevation of an electric iron embodying the invention.

Fig. 2 is a rear end elevation of the iron shown in Fig. 1.

Figs. 3 and 4 are detailed views of a plug connector, particularly adapted to be used with the iron shown in Fig. 1.

The electric iron which has been illustrated comprises in general a base 1, to which is attached a handle comprising a frame 2 and grip 3.

The base 1 contains an electric heating unit which may be arranged therein in any well known manner.

Attached to the rear end of the frame 2 of the handle is a connector socket 4 with which coöperates a plug connector 5. The plug member has a cord 6 attached thereto, which is surrounded by a resilient reinforcing member comprising a helical spring 7.

The improved supporting means is carried by the connector and for this purpose the socket 4 is provided on opposite sides with forwardly extending lugs 8, one of which is shown in Fig. 1. These lugs form pivotal bearings for supporting member 9, which may assume various forms, but which is preferably constructed as illustrated in Figs. 1 and 2.

The supporting member 9 is formed of resilient wire suitably bent to provide pivotal portions which coöperate with openings in the lugs, said pivotal portions having side members extending therefrom which are joined at their ends by a relatively long portion 10. The portion 10 is parallel with the socket 4 and with the rear wall of the base of the iron, and it is spaced from said rear wall so that when the supporting member is in the full line position shown in Fig. 1, the portion 10 is in substantially the same plane as the rear surface of the socket 4. When the supporting member is in this position, the iron may be supported on end with the base out of contact with the surface upon which the iron is resting, the points of supporting contact being the rear surface of the socket 4 and the portion 10 of the supporting member.

The length of the supporting member is such that when it is swung to the dotted line position shown in Fig. 1, the portion 10 is in the same plane as the top surface of the grip 3. When in this position, the iron may be supported in vertical position, the grip 3 and the portion 10 forming the support. The portion 10 being relatively long provides a wide supporting base and thereby prevents the iron from falling to either side.

It is desirable to lock the supporting member 9 in different positions and to accomplish this result the socket 4 is provided at its top and bottom with flared side edges 11 and 12 respectively which terminate in more or less abrupt shoulders 13. The supporting member is generally formed of resilient wire so that when it is swung from one position to another, the side portions thereof will spring into place against the shoulders 13 and automatically lock the bail in its operative positions. When the bail is formed of circular wire it may be readily moved from one position to another by exerting a pull thereon since the wire will easily ride up from the shoulders and over the flared edges 11 and 12 to another position. The necessity for manipulating any special locking means is thus eliminated and a simple inexpensive and efficent structure is provided by means of which the bail

is automatically locked in either of its operative positions. At the same time it may be quite readily moved from one position to another by merely exerting sufficient force thereon to move the sides of the bail from the locking shoulders.

As will be apparent from Fig. 1, it is necessary to remove the plug 5 in order to swing the bail from its full line position to the dotted line position. After the bail is in its dotted line position the plug may be reinserted and the bail is further held in its operative position by means of the plug.

When the iron is supported in either of the two positions above mentioned, it is important that the cord 6 be capable of movement so that it will not interfere with the support of the iron. In order to permit this movement the plug 5 is constructed as illustrated in Figs. 3 and 4.

The top of the plug 5 is curved and provided with a slot 15. Arranged within the slot is a sleeve 16 having lugs 17 on opposite sides thereof which bear against the outer surface of the top of the plug 5. The sleeve also has curved flanges or extensions 18 thereon, which are located within the casing of the plug and near the top surface thereof. The sleeve 16 is narrower than the slot 15 so that it may be moved to different positions therein, the coöperation of the lugs 17 and flanges 18 with the curved top of the plug casing serving to guide the sleeve so that it moves in a semi-circular path. The helical spring 7 is secured to the end of the sleeve 16 and the cord 6 is led through the sleeve to the interior of the plug where it is connected to suitable terminals. This construction permits the cord to be moved to various positions, such as shown, for example, in dotted lines in Fig. 1, so that it will not interfere with the supporting of the iron in inverted or end positions.

It will thus be seen that a simple, inexpensive and rigid support has been provided which may be easily manipulated and which is automatically locked in its operative positions. The support does not add to the weight of the iron nor interfere with its operation. By means of it, the iron may be supported on end with the heating base out of contact with the surface on which the iron is resting, and it may also be supported in vertical position so that the base can be used as a stove.

It is to be understood that the structure shown is for purposes of illustration only, and that other structures may be devised which embody the invention and which come within the spirit and scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. An electric heater having a heating base and a handle, means attached to said heater movable to one position to support the base out of contact with the surface upon which the heater is resting, and movable to another position to support the base in inverted position, and means for automatically locking said first named means in its supporting positions.

2. An electric heater having a heating base and a handle, means pivotally attached to said heater movable to one position to support the base out of contact with the surface upon which the heater is resting, and movable to another position to support the base in inverted position, and means for automatically locking the first named means in its supporting positions.

3. An electric heater having a heating base, a handle therefor, a plug and socket connector carried by said heater, means pivoted to said heater movable to one position to coöperate with said connector to support the base out of contact with the surface upon which the heater is resting and movable to another position to coöperate with the handle to support the base in inverted position, and means for automatically locking said first named means in its supporting positions.

4. An electric heater having a heating base, a handle therefor, a plug and socket connector carried by said heater, means pivotally mounted on said connector movable to one position to coöperate with said connector to support the base out of contact with the surface upon which the heater is resting and movable to another position to coöperate with the handle to support the base in inverted position, and means on said connector adapted to automatically lock said first named means in its supporting positions.

5. An electric heater having a handle, means carried by said heater movable to different positions to coöperate with said handle to support the heater in different positions, and means for automatically locking said first named means in its supporting positions, said supporting means being releasable upon forcible movement thereof.

6. In combination, an electric iron carrying a connection device at the rear end thereof, and a wire frame pivotally connected to said connection device and movable into different positions to support the iron in a vertical position, or in an inverted position, said frame having resilient portions, and said connection device having portions adapted to be engaged by the resilient portions of said frame to releasably retain said frame in its different positions.

7. In combination, an electric iron, a separable connection device arranged at the rear end thereof, one portion of said device having an opening therein and a tubular

member within said opening, said tubular member having a substantially pivotal connection with said portion, a supply cord entering said connection device through said tubular member, a coil reinforcing spring surrounding said cord and secured to said tubular member, and a member attached to said connection device and movable into different positions to support the iron in different positions, said connection device permitting adjustment of the supply cord and its reinforcing spring in accordance with the position in which the iron is to be supported.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

HARRY W. DENHARD.

Witnesses:
ALFRED HALVERSON,
M. R. FENNS.