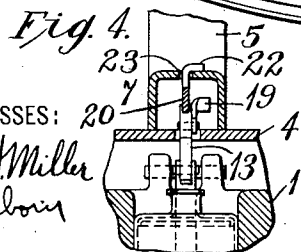
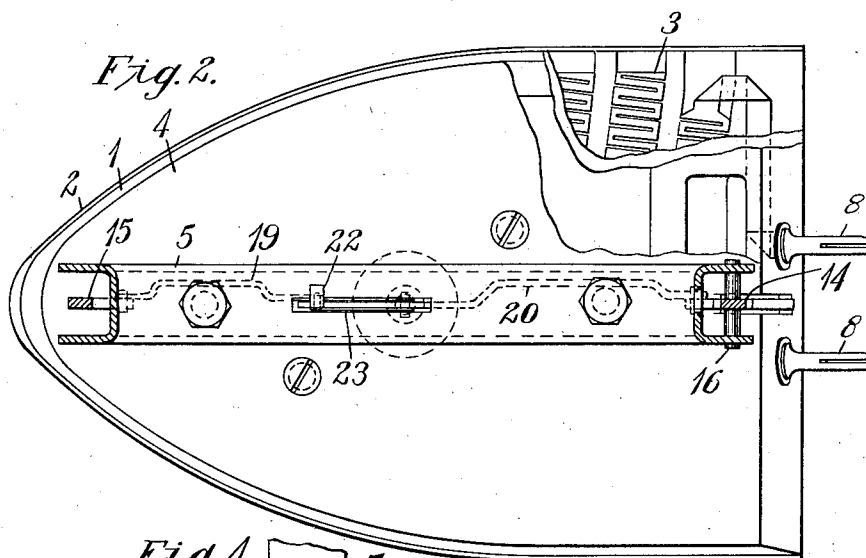
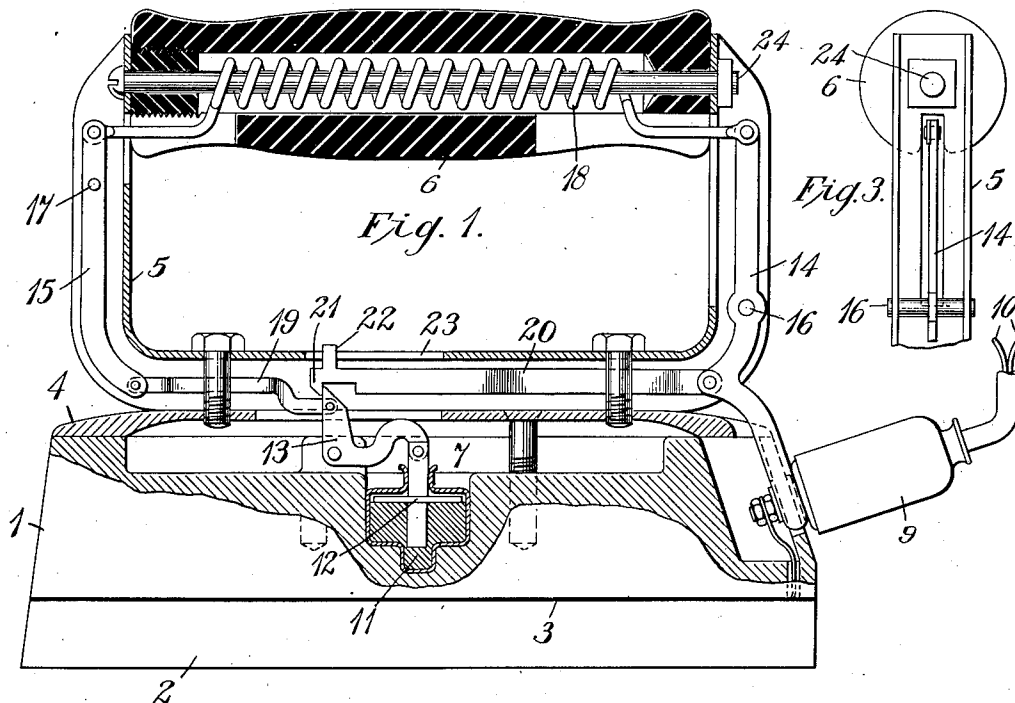


W. S. HADAWAY, JR.
 CUT-OUT FOR ELECTRIC SAD IRONS.
 APPLICATION FILED JUNE 25, 1910.

1,015,954.

Patented Jan. 30, 1912.



WITNESSES:
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CUT-OUT FOR ELECTRIC SAD-IRONS.

1,015,954.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed June 25, 1910. Serial No. 568,873.

To all whom it may concern:

Be it known that I, WILLIAM S. HADAWAY, Jr., a citizen of the United States, and a resident of East Orange, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Cut-Outs for Electric Sad-Irons, of which the following is a specification.

My invention relates to electric heating devices and particularly to electrically heated sad irons.

The object of my invention is to provide a simple automatic means for interrupting the circuit of a sad iron heater when the temperature of the device exceeds a predetermined value.

Sad irons and other electric heating devices are liable to set fire to adjacent inflammable material, or, at least, become heated to an objectionable degree, if they are not disconnected from the supply circuit when out of service for a considerable length of time. As is well known, the danger just referred to is not necessarily dependent upon the amount of current supplied to the resistance element, since a large amount of heat may be dissipated when the device is in service, while a relatively small amount of current may produce a dangerous amount of heat if applied for a considerable period of time when the device is not in use.

According to my present invention, I locate a plunger in a body of easily fusible material which will become softened when the sad iron attains a predetermined temperature. The arrangement of parts is such that a single spring, acting through suitable mechanism, moves the plunger in one direction in order to interrupt the supply circuit of the device when the fusible material is softened, and, acting through another mechanism, immediately returns the plunger to its original position before the fusible material has an opportunity to harden. In this way, the circuit may readily be closed when it is again desired to use the device. By utilizing a single relatively strong spring and two sets of connections, the adaptation of my invention to an electric sad iron of the usual form is particularly facilitated, as hereinafter pointed out.

Figure 1 of the accompanying drawings is a partially sectional elevation of an electric sad iron embodying the automatic cut-

out of my invention, Fig. 2 is a plan view of the body of the device shown in Fig. 1, a portion of the base being broken away to disclose the resistance element, and Figs. 3 and 4 are fragmentary views showing portions of the gear mechanism.

Referring to the drawings, the device here shown comprises a body member 1, a smoothing base plate 2 secured thereto, an interposed resistance element 3, a cap or head 4, a handle bracket 5, a handle 6 and an automatic cut-out device 7.

The resistance element 3 may be of any suitable type, but I prefer to employ a flat structure which is similar to that shown in my co-pending application, Serial No. 445,199, filed July 24, 1908. The terminals of the resistance elements are secured to connector plugs 8 which project outwardly from the heel of the iron and are adapted to be engaged by a socket connector 9 to which the supply circuit conductors 10 are connected, in the usual manner.

The automatic cut-out device 7 comprises a small body 11 of fusible material, such as solder or Babbitt metal, the composition of which is such that it is softened when the temperature of the sad iron body exceeds a predetermined amount; a plunger 12 which is normally set in the mass 11, a latch 13 which is pivotally secured to the plunger, levers 14 and 15 which are fulcrumed, respectively, upon pins 16 and 17 that are secured to the handle bracket 5 (see Fig. 1) a spring 18 that joins the outer ends of the levers 14 and 15, and links 19 and 20. The link 19 is pivotally connected, at its respective ends, to the lever 15 and the latch 13, and the link 20 has one end pivotally secured to the lever 14 and is notched, near its opposite end, to provide a projection 21 which is adapted to engage the latch 13, under normal conditions. The pivotal point of the lever 14 is relatively close to the connection between the parts 14 and 20, while the pivotal point of the lever 15 is relatively close to the point of connection between the parts 15 and 18. The arrangement of parts is such that the spring 18, which is of the helical type and is located in a cylindrical recess in the handle 6, tends to force the plunger 12 downward into the material 11. If the temperature of the iron is sufficiently high to soften the material 11, the plunger 12 will be forced downwardly through it,

and the link 20 will be released from the latch 13. The spring 18, which is normally under strong tension, produces such movement of the lever 14 as to eject the
 5 socket member 9 when the link 20 is released, as above indicated, and thereby interrupt the circuit of the resistance element. As soon as the link 20 is released, the tension of the spring 18, acting with less force
 10 through the lever 15, immediately returns the plunger 12 to the position shown in Fig. 1 of the drawings before the material 11 has an opportunity to set. When the sad iron is sufficiently cool and the material 11 is set,
 15 the circuit of the sad iron may be reestablished by forcing the socket connection 9 onto the terminal plugs 8, so as to reestablish engagement of the link 20 with the latch 13. The link 20 is guided in its move-
 20 ment by means of a projection 22 which extends upwardly through a slot 23 in the handle bracket 5 and is offset, as shown in Fig. 4 of the drawings.

The handle bracket 5 is of channel shape
 25 in cross section and is bent in the form of a U so that the parts 14, 15, 19 and 20 may be conveniently and inconspicuously located within it. The handle 6 is secured to the bracket 5 by a bolt 24, about which the
 30 helical spring 18 is coiled.

I desire that modifications which do not depart from the spirit of my invention shall be included within its scope.

I claim as my invention:

35 1. In an electric sad iron, the combination with a resistance element, a circuit interrupter, a heat-released latch and a single means for actuating the circuit interrupter and for returning the latch to its normal position.
 40

2. In an electric sad iron, the combination with a resistance element, a body of fusible material adapted to be influenced by the temperature of the iron, a plunger set
 45 in said body of fusible material, a latch pivotally secured to the plunger and a circuit

interrupter, of a single spring dependent upon the softening of the fusible material for actuating the circuit interrupter and for returning the latch to its normal position.

3. In an electric sad iron, the combination with a resistance element, a body of fusible material adapted to be influenced by the temperature of the iron, a plunger set in
 5 said body of fusible material, a latch pivotally secured to the plunger, and a circuit interrupter, of a single spring, and two connected mechanisms one of which is actuated by said spring to move the plunger in
 6 one direction and to operate the circuit interrupter and the other to move the plunger in the opposite direction.

4. In an electric sad iron, the combination with a resistance element, a body of fusible
 6 material adapted to be influenced by the temperature of the iron, a plunger set in said body of fusible material, a latch pivotally secured to the plunger, and a circuit
 7 interrupter, of a single spring, and two mechanisms unequally responsive to the action of the spring and serving, respectively, to move the plunger in one direction and
 8 actuate the circuit interrupter and to move the plunger in the opposite direction,
 9 whereby the heater circuit of the device is interrupted upon the softening of the fusible material and the plunger is restored to its original position.

5. An electric sad iron comprising a body,
 8 a handle, a resistance element, a circuit interrupter, a heat-released latch and a single spring in the handle for actuating the circuit interrupter and for returning the latch
 9 to its normal position.

In testimony whereof, I have hereunto subscribed my name this 20th day of June,
 1910.

WILLIAM S. HADAWAY, JR.

Witnesses:

W. O. PEALE,

B. B. HINES.