C. E. SKINNER.

SAFETY DEVICE FOR ELECTRIC HEATER SAD IRONS.

APPLICATION FILED JAN. 11, 1909.

1,042,490. Patented Oct. 29, 1912.

Fig. 1.

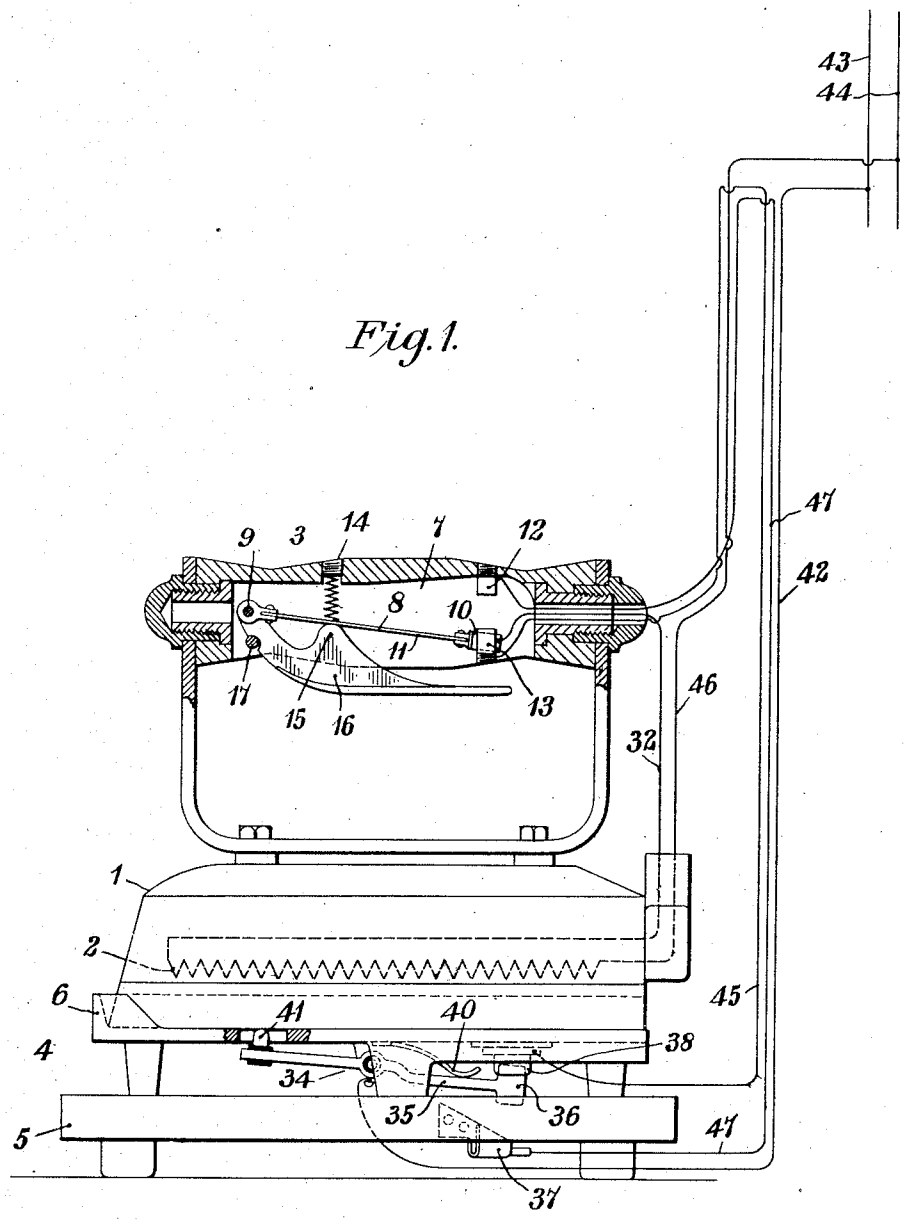
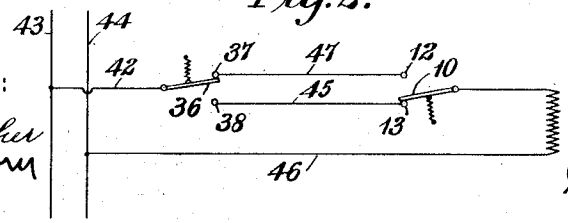


Fig. 2.



WITNESSES:

C. L. Belcher

R. J. Dearborn

INVENTOR

Charles E. Skinner

BY

Hosley & Sears

ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES E. SKINNER, OF WILKINSBURG, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

SAFETY DEVICE FOR ELECTRIC-HEATER SAD-IRONS.

1,042,490. Specification of Letters Patent. Patented Oct. 29, 1912.

Application filed January 11, 1909. Serial No. 471,636.

To all whom it may concern:

Be it known that I, CHARLES E. SKINNER, a citizen of the United States, and a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Safety Devices for Electric-Heater Sad-Irons, of which the following is a specification.

My invention relates to electrically heated sad irons and similar devices, and it has for its object to provide means for automatically opening the supply circuit of the heating element except when the iron is either in use or resting on a stand provided for its reception.

When manually operated line switches are relied upon for opening the heater circuit of electric sad irons and similar devices, there is always danger of scorching or setting fire to fabrics and other inflammable material against which the iron may rest or on which it may be laid for a considerable period of time without interrupting the supply circuit.

According to my present invention, I provide a switch in the sad iron handle and another in the stand on which the iron should be placed when not in use, which coöperate in such manner as to interrupt the circuit at the one place or the other in case the handle is released from the grip of the user, in any position except on the stand.

Figure 1 of the accompanying drawings is a diagrammatic view of an improved rest or stand and an electrically heated sad iron constructed in accordance with my invention, the handle of the said iron being broken away to disclose the switch mechanism which is actuated by the grip of the user. Fig. 2 is a diagram showing the circuit connections of the electric heater and the switches which form parts of the device shown in Fig. 1.

Referring to the drawings, the matter illustrated comprises a sad iron 1, having an electric heater or resistance element 2 and a handle 3, and a stand 4 having an asbestos base 5 and a metal frame 6.

The handle 3 is provided with a recess 7 in which a movable contact member 8 is adapted to operate. The contact member is pivotally mounted on a stationary shaft or pin 9 and comprises a contact blade 10 and a resilient shank 11. The handle is provided with stationary contact members 12 and 13 which are adapted to receive the movable contact blade 10 at the extreme points in the movement of the contact member 8.

The contact blade 10 is normally held in engagement with the contact member 13 by means of a spring 14 which presses against the shank 11 at an intermediate point in its length. The action of the spring 14 is opposed, when the sad iron is in use, by a projection 15 on a lever 16 which is pivotally mounted about the shaft 9, and its motion is limited in an outward direction by a stop or pin 17. The shape of the contact members 12 and 13 is such as to exert a frictional resistance to the separation of the movable and stationary contact members, so that, when the position of the switch is changed, the resilient shank 11 is first bent by the action either of the spring 14 or of the lever 16 and, when released, a "quick break" is effected, thereby minimizing the formation of electric arcs. The outer surface of the lever 16 preferably conforms to the contour of the handle grip and substantially covers the opening of the recess 7.

The electric circuit connections are preferably brought into the sad iron handle in the form of a three-strand cord, one strand of which is connected to the movable contact blade 10 through the resistance element 2 and the other two being respectively connected to the stationary contact members 12 and 13.

The stand 4 is provided with a switch 34 comprising a lever 35 having a contact member 36 at one end which is adapted to engage the one or the other of two stationary contact members 37 and 38. A spring 40 tends to force the lever in one direction to bring the contact member 36 into engagement with the member 37 and the free end of the lever is provided with a button 41 which is so engaged by the sad iron, when it is normally placed on the stand, as to throw the contact member 36 into engagement with member 38. The contact member 36 is connected to a circuit conductor 42 and the stationary contact members 37 and 38 are severally connected to circuit conductors 47 and 45 which together constitute a flexible cable.

The circuit connections for the device are as follows: If the sad iron is placed on the stand and the handle grip is released, a circuit is established from any convenient

source of energy, such as supply circuit 43—44 through conductor 42, lever 35, contact members 36 and 38, conductor 45, contact members 13 and 10, conductor 32, resistance element 2 and conductor 46 to the supply circuit conductor 44. If the sad iron is grasped by an attendant and removed from the stand, the position of the switch in the stand and also that of the switch in the handle will be changed so that circuit connections will be as follows: from conductor 43 through conductor 42, contact members 36 and 37, conductor 47, contact members 12 and 10, conductor 32, resistance element 2 and conductor 46 to the conductor 44.

It will be observed that an electric circuit is completed through the heating element when the handle grip is released, with the sad iron resting on the stand, and also when the handle is gripped, with the sad iron removed from the stand. If, however, the handle is released when the iron is not resting on the stand, the heater circuit will be interrupted, since there is no connection between the contact member 37 and the contact member 13.

The circuit connections for the devices, when the sad iron is released in some position other than on the stand, are clearly shown in the diagram of Fig. 2.

It is evident that modifications in circuit connections and in structural details may be effected within the spirit and scope of my invention, and I desire that only such limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. The combination with an electrically heated sad iron, a supply circuit therefor and a supporting stand, of means for completing the supply circuit only when the sad iron is deposited on the stand or when its handle is gripped by the operator in any other location.

2. The combination with a manually operated electrically heated device having an operating handle, a supporting stand for the device and a supply circuit, of switching devices in the operating handle and in the stand which coöperate to complete the circuit when the device is deposited on the stand and the handle released and to interrupt the circuit when the device is deposited elsewhere and the handle released.

3. The combination with an electrically heated sad iron, a supply circuit therefor, and a supporting stand, of electric switching devices in the handle of the iron and in the stand, said devices being respectively dependent for their manipulation upon the grip of the operator upon the handle of the iron and the weight of the iron upon the stand.

4. The combination with an electrically heated sad iron having a resistance element and an operating handle, a supply circuit and a supporting stand, of double throw switching devices tending to occupy predetermined positions and respectively located in the operating handle of the iron and in the stand and respectively manipulated by the grip of the operator and by the weight of the iron on the stand.

In testimony whereof, I have hereunto subscribed my name this 31st day of December, 1908.

CHARLES E. SKINNER.

Witnesses:
F. L. Tunis,
Birney Hines.