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H. GANSERT, JR

ELECTRICALLY HEATED SADIRON

Filed Oct. 20, 1924

Fig. 1.

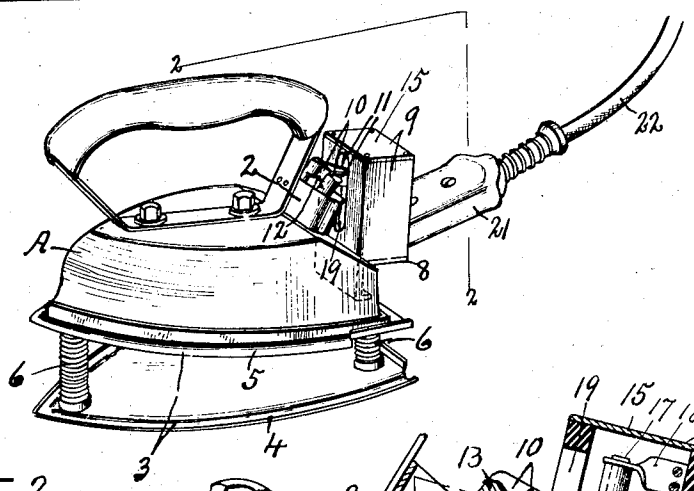


Fig. 2.

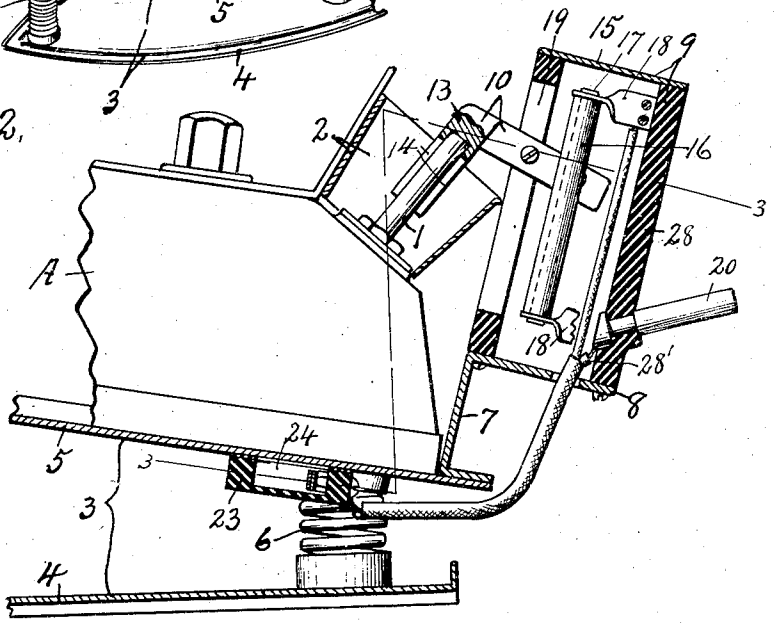
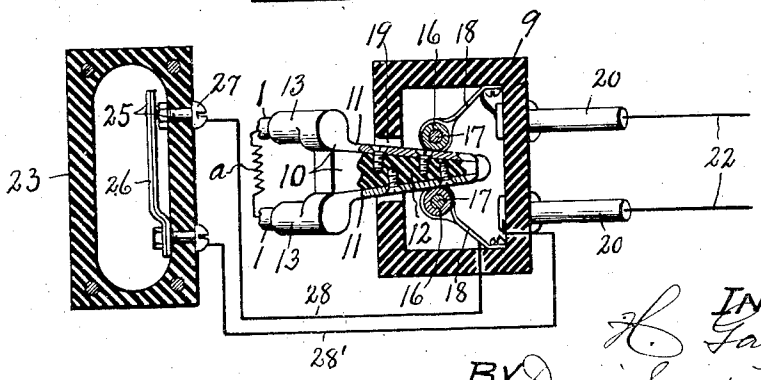


Fig. 3



WITNESS

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UNITED STATES PATENT OFFICE.

HERMAN GANSERT, JR., OF SYRACUSE, NEW YORK.

ELECTRICALLY-HEATED SADIRON.

Application filed October 20, 1924. Serial No. 744,790.

To all whom it may concern:

Be it known that I, HERMAN GANSERT, Jr., of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Electrically-Heated Sadirons, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to an electrically heated cordless sad-iron, but refers particularly to a supporting stand and means for conducting the current to the heating element within the sad-iron when resting on the stand.

The current conducting means most commonly employed involves the use of a flexible cord having one end plugged into a suitable socket containing terminals of an electric source of supply and its other end provided with a coupling removably adapted to suitable terminals on the sad-iron in electrical connection with the heating element therein, so that during the laundering operation the flexible cord attached directly to the sad-iron must move back and forth with the various ironing movements resulting in considerable inconvenience to the operator and frequently straining the connections to such an extent as to break the conductor at some point in its length, usually near the coupling.

Furthermore, it is well known that many fires have occurred as a result of setting the sad-iron aside for greater or less periods of time frequently upon a wooden support, such as an ironing board, without disconnecting it from the source of current supply and that in many instances garments have been destroyed by overheating of the sad-iron during the ironing operation.

The main object of my present invention is to provide what may be termed a "cordless" sad-iron by connecting the flexible conductor leading from the source of supply directly to a metallic support or stand upon which the sad-iron is adapted to rest when not in use and to provide said sad-iron and support with separable switch contacts as a part of the conducting means between the source of current supply and the heater, whereby when the sad-iron is placed upon the supporting stand, it will make electrical connection with the conductor leading to the support while, on the other hand, when the sad-iron is removed from the supporting stand the electrical connection with the conductor will be broken.

Another object is to provide the heater terminals of the sad-iron with a switch cap which, when placed in operative position, is adapted to make and break electrical connection with cooperative contacts on the support but may be removed to permit the coupling to be attached directly to said heater terminals in the event that the operator may choose to maintain connection with the source of current supply during the ironing operation, thereby affording an alternative choice between the two methods.

A further object is to provide the sad-iron support with an electro-thermostatic switch forming a part of the current conducting means whereby the heat circuit may be automatically broken in case the temperature of the sad-iron exceeds a predetermined degree.

Other objects and uses relating to specific parts of the device will be brought out in the following description.

In the drawings:—

Figure 1 is a perspective view of an electrically heated sad-iron and a support therefor, together with the adjacent portion of conducting cable and coupling adapted to be connected to a source of electrical supply for supplying current to the heater within the sad-iron.

Figure 2 is an enlarged detail sectional view through a portion of the sad-iron stand or support and adjacent portion of the sad-iron thereon, taken on line 2—2, Figure 1, showing portions of the electric switch in operative position for supplying current to the heater in the sad-iron.

Figure 3 is a detail sectional view partly diagrammatic taken in the planes of line 3—3, Figure 2.

The sad-iron as —A— may be of any well known construction containing a suitable electric heater having a pair of terminals —1— projecting upwardly and rearwardly from the heel of the sad-iron and protected from contact with external objects by a shield —2—, preferably of metal, which is also fastened to the heel of the sad-iron to extend continuously around and in spaced relation to the terminals —1—.

A suitable stand —3—, preferably of sheet metal, is provided for receiving and supporting the sad-iron, said stand consisting in this instance of a base plate —4— and at top plate —5—, yieldingly supported upon the base plate —4— through the medium of coil springs —6— which are arranged in such manner as to support the upper plate in a longitudinally inclined plane with its front end somewhat higher than its rear end so that when the sad-iron is placed upon the upper plate it will slide by gravity toward the rear thereof and against a suitable stop plate —7—, Figure 2.

This stop plate is secured to and rises from the rear end of the upper plate —5— and is provided at its upper end with a rearwardly projecting flange —8— adapted to receive and support a suitable housing —9— having a purpose presently described.

A switch cap —10— is provided with a pair of metallic contact members —11— secured in spaced relation to opposite faces of an insulating block —12—, said contact members being provided at one end with socketed hubs —13— adapted to slide over and upon their respective terminals —1— of the heating element, said hubs being preferably split diametrically at —14— from their lower ends upwardly to enable them to frictionally engage the periphery of their respective terminals —1— and also to permit the switch member —10— to be removed or replaced from and upon said terminals at will.

The other ends of the contact members —11— extend rearwardly in converging planes but as previously stated are insulated from each other by the blocks —12— thereby forming a wedge-shaped extension for said switch member.

The housing —9— is constructed mainly of insulating material except that the metallic flange —8— closes the lower end thereof, while the upper end is closed by another metallic plate —15—, Figure 2.

A pair of metallic contact rollers —16— are supported in transversely spaced relation upon suitable metallic rods —17— to rotate thereon, the lower and upper ends of the rods being supported by metallic brackets —18— which in turn are secured to the inner face of the insulating housing —9—.

The front wall of the housing is provided with a vertical slot or opening —19— substantially midway between its opposite sides for receiving the rearwardly tapering extension of the switch member —10—, the housing —9— being supported upon the stand —3— in such manner as to bring the slot —19— in a plane substantially coincident with the longitudinal center of the stand —3— and sad-iron —A— when the latter is placed upon the upper plate —5—.

The heater terminals —1— are also arranged substantially midway between the opposite sides of the rear end of the sad-iron so that when the switch member —10— is placed thereon its rearward extension will register with the slot —19—.

The contact rollers —16— are so arranged within the housing —9— as to register the intervening space between them with the slot —19—, thus permitting the rearwardly tapered portion of the switch member —10— to readily enter between and contact with the adjacent faces of the rollers —16— when the sad-iron is placed in operative position on the stand —3—, the brackets —18— being preferably made of spring metal and tensioned to yieldingly hold the rollers in contact with the corresponding contact members —11— of the switch member —10— when the sad-iron is resting upon the stand.

A pair of coupling terminals —20— are mounted in transversely spaced relation upon the rear insulating wall of the housing —9— so as to project rearwardly and upwardly in inclined planes therefrom for receiving a coupling member —21—, of any well known construction commonly used for connecting a cable conductor as —22— to the heater terminals of an ordinary sad-iron, the cable —22— being also of any well known construction adapted to be connected to a source of electric current supply not shown.

The terminals —20— are preferably of the same size and in the same spaced relation as the heater terminals —1— so that by removing the switch cap —10— from the terminals —1—, the coupling member —21— on the cable —22— may be attached directly to said heater terminals in case the operator should desire to maintain a continuous current supply to the heater during the ironing operation.

Suitable means is provided for automatically breaking the heater circuit in case the temperature of the sad-iron exceeds a safe temperature, and for this purpose an insulating block —23— is secured to the under side of the upper plate —5— of the stand —3—, preferably directly under the rear end of the central portion of the sad-iron when the latter is placed upon the plate —5—.

This insulating block —23— is provided with a chamber —24— opening through its upper side adjacent the plate —5— and in this chamber is mounted an electro-thermostatic switch —25— having one of its members as —26— tensioned to maintain contact with the other member —27— as long as the temperature of the sad-iron on the plate —5— is below the predetermined safe degree and to break contact with the member —27— when the temperature exceeds that degree.

One of the supporting brackets —18— for the adjacent contact roller —16— is electrically connected directly to the adjacent

coupling terminal —20—, the other bracket —18— being connected by a wire —28— to the switch member —27— of the thermostat, while the other coupling terminal —20— is connected by a wire —28'— to the other thermostatic switch member —26— so that when the coupling member —21— is applied to the terminals —20— and the sad-iron is resting upon the upper plate —5— of the stand —3—, the switch member —10— will contact with the roller —16— to close the circuit through the heating coil in the sad-iron and also through the thermostatic switch.

Under these conditions, the current will pass from one of the terminals —20— through the corresponding bracket —18— and its contact roller —16— and thence through the adjacent contact member —11— to one side of the heater coil —*a*—, thence through the other contact member —11— and adjacent contact roller —17— and its supporting bracket —18— through the wire —28— to the thermostatic switch member —27—, and thence through the thermostatic bar —26— and wire —28'— to the other terminal —20— thereby completing the circuit through the heater —*a*— in the sad-iron —A—.

In the event that the temperature of the sad-iron should exceed a safe degree the heat transmitted to the plate —5— and thence to the thermostatic bar —26— would cause said bar to break contact with the member —27— and thus break the circuit leading to the source of current supply. This automatic control of the circuit to the heater in the sad-iron maintains a uniform temperature of said sad-iron while supported upon the stand —3—.

When the sad-iron is removed from the stand for ironing purposes, the switch member —10— is, of course, withdrawn from contact with the roller members —16— thereby breaking electrical connection with the source of supply and assuring a safe heat to the sad-iron during the ironing operation.

It is, of course, understood that these ironing operations are intermittent and that the sad-iron is replaced upon the stand immediately following such operation which is ordinarily sufficient to keep the iron at the desired temperature.

What I claim is:—

1. An electric flat iron stand comprising a support for the iron, spaced contact members of an electric heating circuit mounted on the support, and an additional contact member of the same circuit movable into and out of contact with the first-named members for making and breaking the circuit and provided with sockets for receiving terminals of the heater circuit on the flat iron, said circuit including therein a thermostatic switch mounted on said support.

2. An electric flat iron stand comprising a support for the iron, spaced contact members of an electric heating circuit mounted on the support, and an additional contact member of the same circuit movable into and out of contact with the first-named members for making and breaking the circuit and provided with sockets for receiving terminals of the heater circuit on the flat iron, said circuit including therein a pair of terminals mounted on the support for connection to a source of electric supply.

3. An electric flat iron stand comprising a support for the iron, an electric switch and terminals, both connected in the heating circuit, one of the switch elements and the terminals being mounted on the support, the other switch element being movable into and out of contact with the first named element and provided with means for contacting with the heater circuit terminals on the sad iron, and means for electrically connecting the first named terminals to a source of electric supply.

4. An electric flat iron stand comprising a support for the iron, an electric switch and terminals, both connected in the heating circuit, one of the switch elements and the terminals being mounted on the support, the other switch element being movable into and out of contact with the first named element and provided with means for contacting with the heater circuit terminals on the sad iron, and means for electrically connecting the first named terminals to a source of electric supply, and a thermostatic switch mounted on the flat iron support and electrically connected in said circuit.

5. An electric flat iron stand comprising a support for the iron, an electric switch and terminals, both connected in the heating circuit, one of the switch elements and the terminals being mounted on the support, the other switch element being movable into and out of contact with the first named element, and provided with means for contacting with the heater circuit terminals on the said iron, and means for electrically connecting the first named terminals to a source of electric supply, the terminals on the support being sufficiently similar to the terminals on the flat iron to enable the same device leading from the source of power to be connected to either set of terminals when the second named switch member is removed from the terminals on the iron.

6. The combination with an electrically heated flat iron having a pair of exposed terminals for the heating circuit, of a support for the iron having a pair of exposed terminals similar to those of the iron and also connected in the heater circuit, an electric switch and a thermostatic switch, both connected in the heating circuit, the thermostatic switch and one of the parts of the

first named switch being mounted upon the support for the iron, the other member of the first named switch being movable into and out of contact with the member on the support and provided with sockets for receiving the terminals on the iron, and means including a socketed coupling member for connecting either set of terminals to a source of electric supply when the socketed switch member is removed from the terminals on the iron.

In witness whereof I have hereunto set my hand this 15th day of October, 1924.

HERMAN GANSERT, JR.