W. SPRENGER.

ELECTRIC HEATING DEVICE.

APPLICATION FILED MAR. 30, 1908.

925,050. Patented June 15, 1909.

Fig. 1.

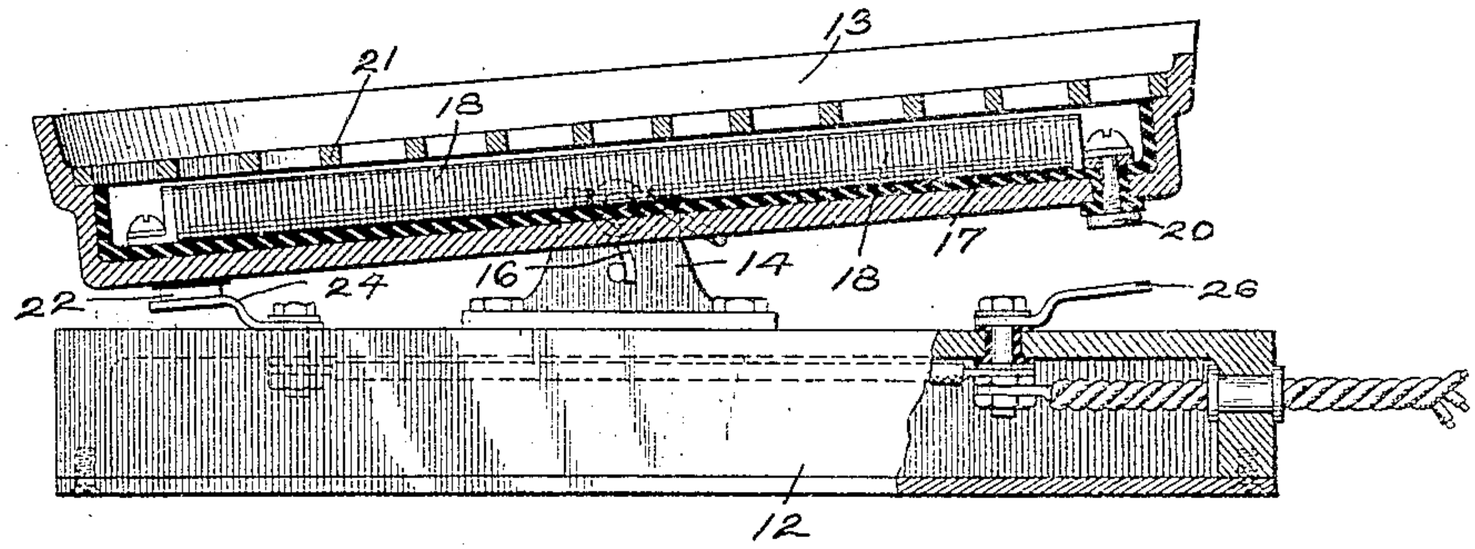


Fig. 2.

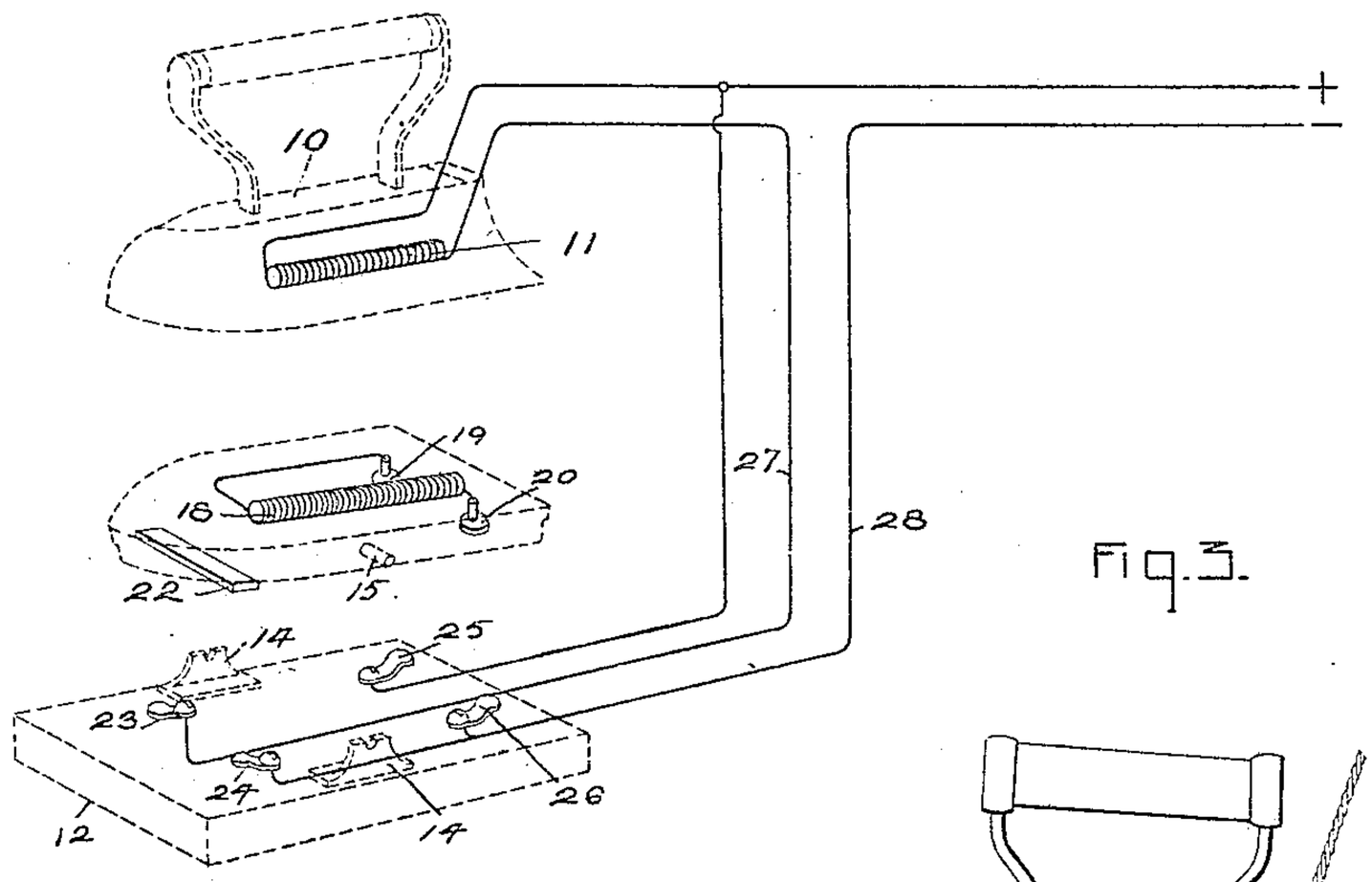
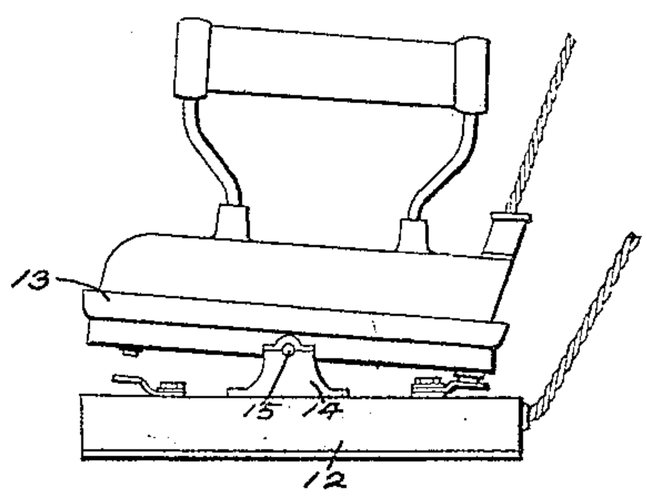


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WALTER SPRENGER, OF LYNN, MASSACHUSETTS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

ELECTRIC HEATING DEVICE.

No. 925,050. Specification of Letters Patent. Patented June 15, 1909.

Application filed March 30, 1908. Serial No. 424,037.

To all whom it may concern:

Be it known that I, WALTER SPRENGER, a subject of the Emperor of Germany, residing at Lynn, county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Electric Heating Devices, of which the following is a specification.

This invention relates to electric heating devices and has for its object the provision of means whereby the circuit of a device of this character may be automatically controlled in a reliable and efficient manner.

My invention relates more specifically to the control of circuits of such heating devices as electrically-heated tools including flatirons, soldering irons and the like requiring a stand upon which to rest them when not in use.

One of the objects of my invention is to provide means whereby the heating current in a tool of this character may be reduced or conserved when the tool is not in use.

In carrying out my invention I provide an electrically-heated stand for the tool as well as a heating coil for the tool itself. The arrangement of circuits is such that either the stand or the tool are in circuit but not both at the same time. The stand and the circuit connections thereto are so arranged that when the iron is placed upon the stand the heating current is automatically cut off from the iron and the current passes through the heating coil in the stand. When the iron is taken off the stand the current is applied to the tool and cut off from the stand. The heating coil of the stand is of higher resistance than that in the iron and therefore consumes less current, the resistance being sufficient to maintain the tool at a low heat.

In the accompanying drawing in which I have shown my invention embodied in concrete form, Figure 1 is a view of the stand for the tool partly in section; Fig. 2 is a diagram of the circuit connections; and Fig. 3 is an assembly view of the iron and stand.

Referring to the drawing 10 is an electrically-heated tool, shown for purposes of illustration as a flatiron, having a heating coil 11 therein. The stand for this flatiron consists of a base 12 having pivoted thereto a supporting member 13. The base is supplied with brackets 14 for the pivots 15 which allow the member 13 to tilt back and forth in a vertical plane. A spring 16 gives the member 13 a bias toward the position shown in Fig. 1. The member 13 consists of a shallow plate substantially the shape of the face of the iron having an insulating lining 17 in its lower portion and a heating coil 18 mounted thereon, the terminals of which are studs 19 and 20. Above the heating unit is a grating 21 upon which the iron rests so as to be out of contact with the unit. A contact plate 22 is secured to but insulated from the bottom of the member 13 so as to coöperate with and bridge contacts 23 and 24. Similar contacts 25 and 26 are mounted upon the base so as to coöperate with studs 19 and 20 when the iron is placed upon the stand as shown in Fig. 3.

The arrangement of circuits and the mode of operation are as follows: When the flatiron is in use the stand will be in the position shown in Fig. 1 and current will pass from the positive main through coil 11, conductor 27, contact 23 thence across contact-plate 22, contact 24 and conductor 28 back to the negative main. The flatiron is thus heated during normal operation. When the iron is not in use it is placed upon the stand and the weight of the iron is so distributed and the pivots 15 so arranged that the tension of the spring 16 will be overcome and the parts will assume the position shown in Fig. 3. Current will now pass from the positive main to contact stud 19 thence through the coil 18, stud 20 and back to line through conductor 28. Current is cut off from the flatiron and the resistance of the coil 18 is sufficient to keep the flatiron at a moderate temperature by radiation.

It will be seen that I have provided a very simple and efficient arrangement for automatically cutting down the heat in a flatiron or other tool when not in use and while I have described my invention in connection with a specific mechanism and arrangement of circuits, it should be understood that I do not limit my invention in these particulars except in so far as it is limited by the scope of the claims annexed hereto.

What I claim as new and desire to secure by Letters Patent of the United States, is—

1. The combination with an electrically-heated tool, of a supporting stand therefor, and connections whereby the heating current is cut off from the tool and automatically applied to the stand when the tool is placed upon the stand.

2. The combination with an electrically-heated tool, of an electrically-heated stand therefor having its heating coil normally out of circuit, and connections whereby said coil is automatically connected in circuit and the heating current of the tool cut off when the tool is placed upon the stand.

3. The combination with an electrically heated tool, of a pivoted supporting stand therefor normally in one position and arranged to assume a second position when engaged by the tool and contacts associated with said stand for cutting off the heating current from the tool and automatically applying it to the stand when the tool is placed upon the stand.

In witness whereof, I have hereunto set my hand this twenty-seventh day of March, 1908.

WALTER SPRENGER.

Witnesses:
JOHN A. MCMANUS, JR.,
CHARLES A. BARNARD.