

W. B. MATHESON & I. D. BRODEK.
 AUTOMATIC MECHANICAL OUT-OFF FOR ELECTRICAL HEATING APPLIANCES.
 APPLICATION FILED JAN. 13, 1909.

952,681.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

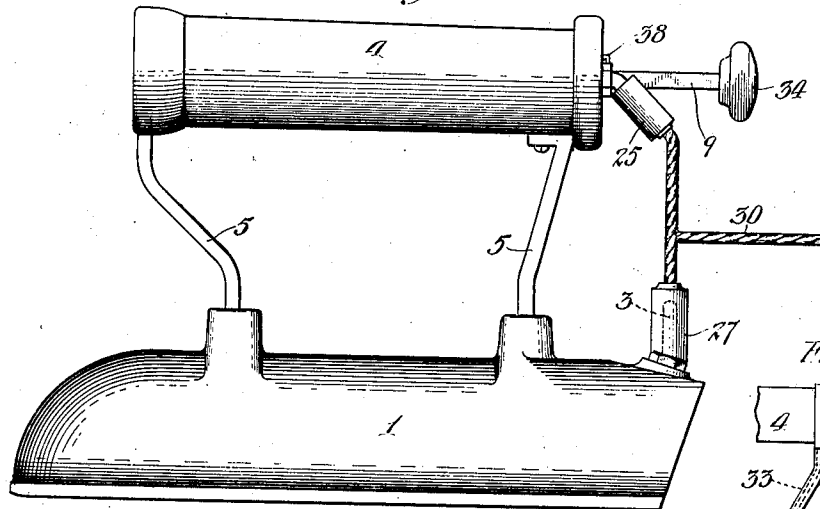


Fig. 5.

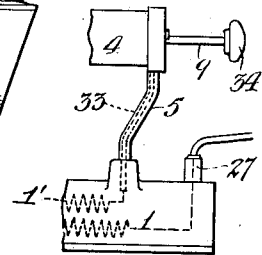


Fig. 2.

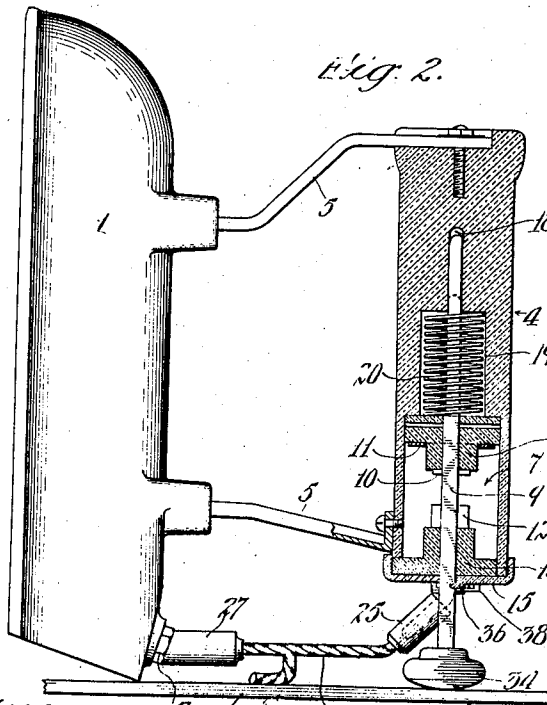


Fig. 4.

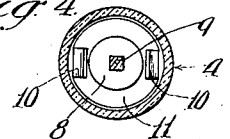
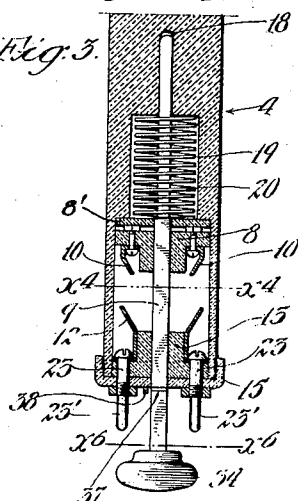
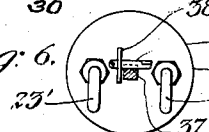


Fig. 3.



Witnesses:
 Louis W. Gray
 Frank Calhoun

Fig. 6.



Inventors:
 William B. Matheson
 Isidore D. Brodek
 Edmund H. Hockley

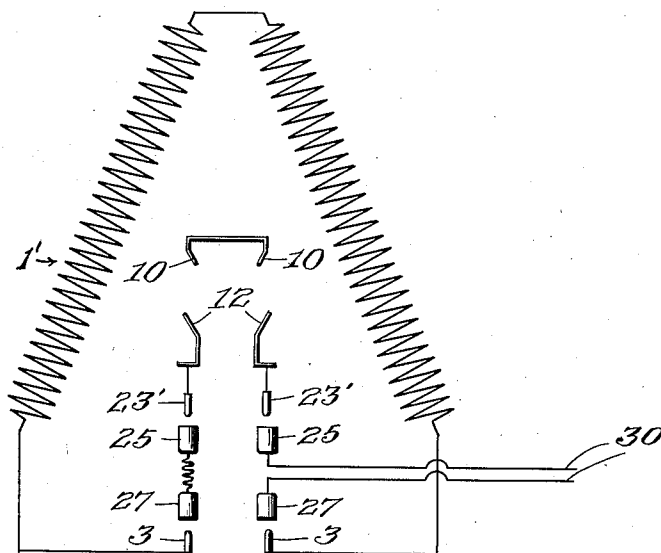
W. B. MATHESON & I. D. BRODEK.
 AUTOMATIC MECHANICAL CUT-OFF FOR ELECTRICAL HEATING APPLIANCES.
 APPLICATION FILED JAN. 13, 1909.

952,681.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 2.

Fig. 7.



Witnesses.

Geo. J. Huting.
Louis W. Gratz.

Inventors.

William B. Matheson.
Isidore D. Brodek.

By [Signature] [Signature]

UNITED STATES PATENT OFFICE.

WILLIAM B. MATHESON AND ISIDORE D. BRODEK, OF LOS ANGELES, CALIFORNIA.

AUTOMATIC MECHANICAL CUT-OFF FOR ELECTRICAL HEATING APPLIANCES.

952,681.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed January 13, 1909. Serial No. 472,134.

To all whom it may concern:

Be it known that we, WILLIAM B. MATHESON and ISIDORE D. BRODEK, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Automatic Mechanical Cut-Offs for Electrical Heating Appliances, of which the following is a specification.

This invention relates to an automatic mechanical cut-off and is applicable particularly in connection with electrically heated laundry and tailoring irons, but it is also applicable in other connections.

In the use of electric laundry or tailoring irons it frequently happens that the operator is called away from his work for a time and intentionally or inadvertently leaves the iron with the current turned on, with the result that the heating element becomes unduly heated and surrounding objects are burned, and in some cases considerable damage results by fire or otherwise, as well as to the instrument itself.

The main object of the present invention is to prevent such a contingency by providing means which automatically open the operating circuit of the iron when it is placed in an inoperative position; as it is usual with the operator on leaving the iron to turn it on end, this invention makes use of this operation as a means of opening the circuit of the iron.

Other objects of the invention will appear hereinafter.

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation of the iron in a position for use. Fig. 2 is an elevation of the iron in the position in which it is placed when not in use, showing the cut-off means in section. Fig. 3 is a longitudinal section of the cut-off means transverse to Fig. 2. Fig. 4 is a section on line x^4-x^4 of Fig. 3. Fig. 5 is a partial diagrammatic elevation of a different form of the invention. Fig. 6 is a section on the line x^6-x^6 in Fig. 3. Fig. 7 is a diagram of the circuit connections.

Referring to Figs. 1 and 2 the iron comprises a body 1 in which is contained the usual or any suitable heating element, not shown, which is supplied with electrical energy through suitable terminal means 3. 4 represents a handle of the iron connected to the body 1 by standards 5 and containing

a cut-off means hereinafter described. Handle 4 is preferably formed of insulating material and has an interior chamber 7 within which moves longitudinally the cut-off or switching device, consisting of an insulating block 8 carried by an electrically insulated stem or bar 9, and provided with contacts 10 connected together by a metallic ring 11 (see Fig. 4), said contacts being adapted to engage contacts 12 fixed on the insulating block 13 at one end of the handle member 4. Said block is held in place by a screw cap member 15, also preferably of insulating material, screwing on the outside of the handle member 4, or fastened by other means. Stem 9 is square or otherwise non-circular in shape and fits within a corresponding opening in the block 13 so that the said stem can slide through said opening, so that the stem or bar is mounted on the iron to be movable longitudinally thereof, but is prevented from rotation. The inner end of the stem works in a bore 18 at the inner end of a recess 19 extending from the chamber 7, said recess containing a helical spring 20 engaging with the inner end of the recess and with an insulating washer 8' bearing on the block 8 to press said block outwardly to circuit closing position. In this position of the block 8 the contacts 10 thereon engage with contacts 12 secured on the block member 13 by bolts 23, the outer ends 23' of which are formed as terminal pins for engagement with a connecting plug 25 which is provided with sockets to receive said pins. The connection of the automatic cut-off of the circuit may be variously provided for. In the form shown the usual plug terminals 3 on the body of the iron are used, but the plug 27 therefor is connected to the plug 25 aforesaid at one side. The wire 30 coming from the supply circuit provided, as indicated in Figs. 1 and 2, one side of the line going to one side of plug 27, the other side of said plug being connected to one side of plug 25 and the other side of said plug 25 being connected to the other side of the line 30, so that the two plugs 27 and 25 are in series and the heating element 1' in body 1 and the automatic cut-out in the handle are also in series. If desired, however, the automatic cut-out in the handle may be connected directly in series with the heating element by connections as indicated in dotted lines at 33 in Fig. 5, in which case the ordinary

connecting plug 27 is employed to connect the circuit to the heating element in the body of the iron and to the automatic cut-out.

5 The stem 9 carries at its outer end a button or head 34 and in the normal position of the iron, that is to say, when the iron is in use, this head projects beyond the rear end of the iron, as shown in Fig. 1, so that
10 when the iron is tipped up on its rear end as shown in Fig. 2, the head 34 will engage with a support indicated at 35 which may be the stand, the ironing table or other support and will thereby be shoved in so as
15 to separate the contacts 10 from the contacts 12, thereby opening the circuit. On tipping the iron again in the position for use, the spring 20 automatically throws the cut-out to closed position. In case it is desired to
20 keep the cut-out in open or non-operative position irrespective of the position of the iron, a latch 36 may be provided, the latch being supported on the cap 15 and engaging with a notch 37 in the stem 9 to hold the
25 cut-out in an open or non-operative position. Said latch is located in convenient position for operation by the fingers, so that the head 34 on the stem 9 in connection with the said latch enables the cut-out to
30 be used manually when desired for opening and closing the circuit of the iron. A guide 38 may be provided for latch 36.

What we claim is:

1. The combination of the electric iron
35 and operating electric connections of a switch connected in series with the iron, means for moving said switch to closed position and operating means for said switch consisting of a bar mounted on the iron
40 to be movable longitudinally of the iron and projecting from the iron in position to be engaged and moved longitudinally of the iron by a suitable support when the iron is placed on end on said support, to open
45 the electric connection to the iron when the iron is so placed.

2. An electric iron comprising a body member operating electric connections for the iron and a switch in said connections in
50 series with the iron, a spring pressing said switch to closed position, and a bar connected to the switch said bar being slidably mounted on the iron so as to be movable longitudinally of the iron and extending
55 from the iron in position to be engaged and

moved longitudinally of the iron by a suitable support to open the switch when the iron is placed on end on said support.

3. An electric iron comprising a body member, a handle member, operating electric connections for the iron, and a cut-out for said connections, said cut-out being contained within the handle member, and an operating means for said cut-out consisting of a bar slidably mounted on the handle
65 member so as to be movable longitudinally of the handle member and extending longitudinally from the handle member for engagement with a support when the iron is placed on end on said support to open the
70 operating circuit for the iron by longitudinal movement of the operating means, relatively to the handle.

4. A laundry or tailoring iron comprising a body member, a handle member, operating
75 electric connections for the laundry or tailoring iron, and a cut-out for said connections, said cut-out being contained within the handle member, and an operating means for said cut-out extending longitudinally
80 from the handle member for engagement with a support when the iron is placed in an inoperative position on said support to open the operating circuit for the iron, and means within the handle member pressing
85 said cut-out to closed position.

5. A laundry or tailoring iron comprising a body member, a handle member, operating electric connections for the laundry or tailoring iron, and a cut-out for said connections, said cut-out being contained within the handle member, and an operating means for said cut-out extending longitudinally
90 from the handle member for engagement with a support when the iron is placed in
95 an inoperative position on said support to open the operating circuit for the iron, and means within the handle member pressing said cut-out to closed position, and a releasable detent means for holding the cut-
100 out in open position.

In testimony whereof, we have hereunto set our hands at Los Angeles, California, this 4th day of January, 1909.

WILLIAM B. MATHESON.
ISIDORE D. BRODEK.

In presence of—

ARTHUR P. KNIGHT,
FRANK L. A. GRAHAM.