R. E. CLISBY.

ELECTRICALLY HEATED SAD IRON.

APPLICATION FILED MAY 13, 1912.

1,041,241.

Patented Oct. 15, 1912.

2 SHEETS—SHEET 1.

Fig. 1

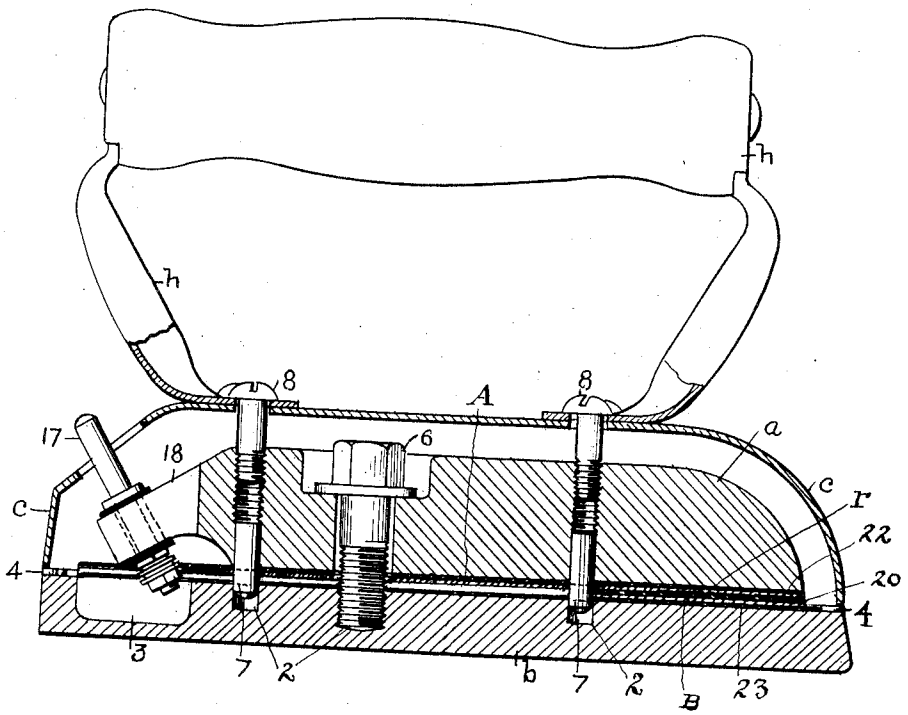
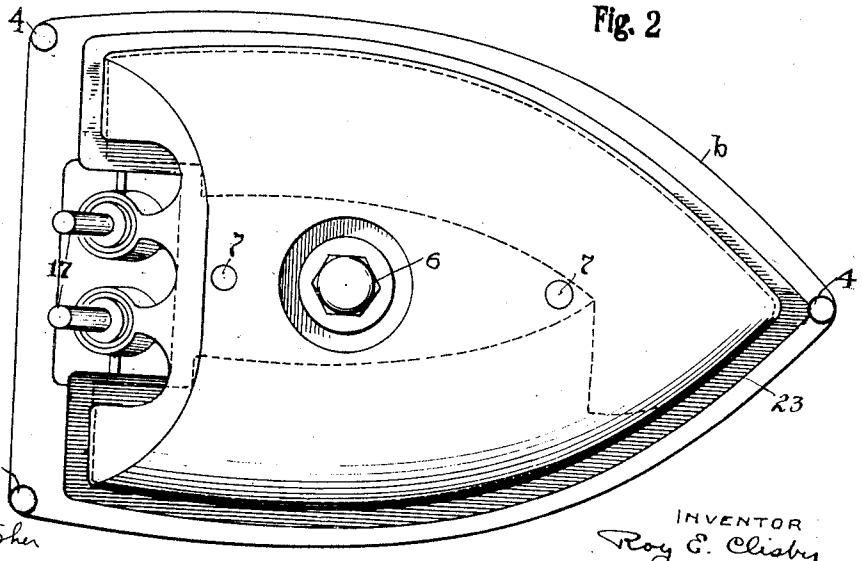


Fig. 2



ATTEST

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Fig. 3

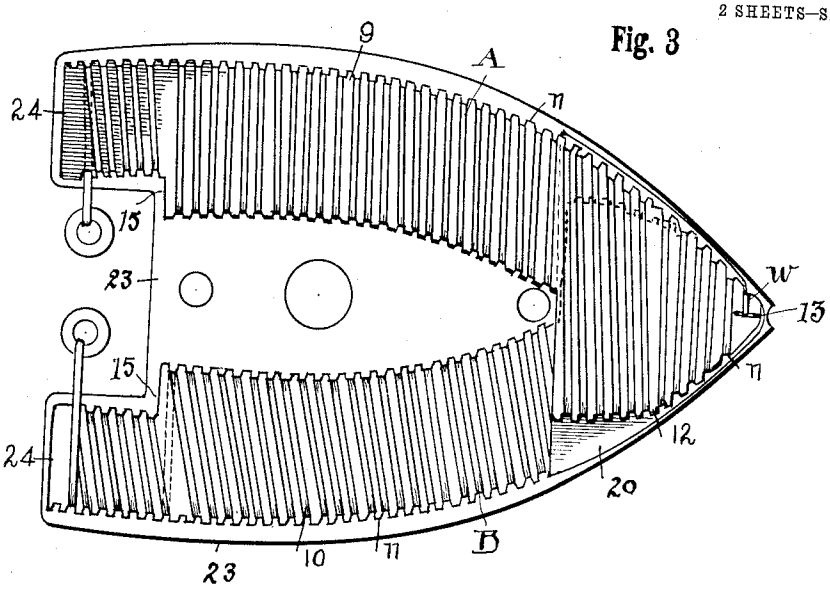


Fig. 4

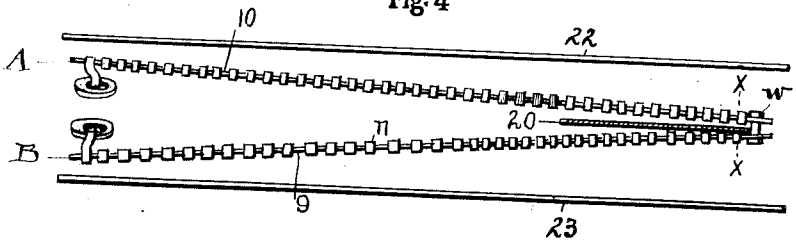


Fig. 7

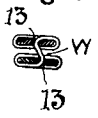


Fig. 5

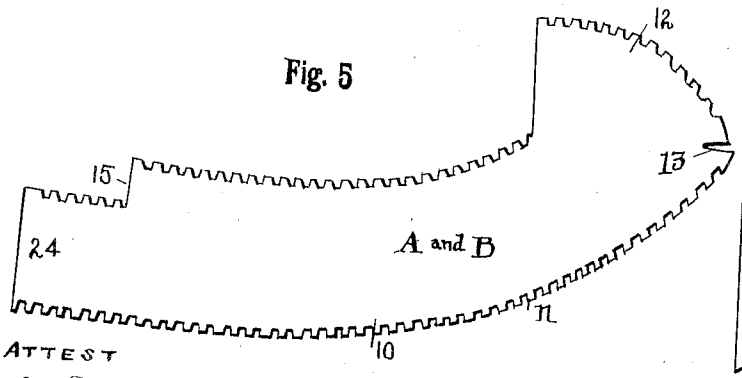
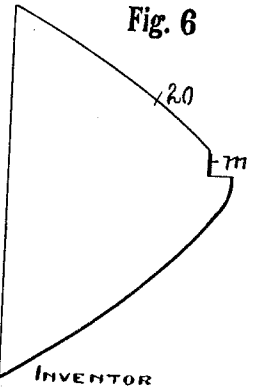


Fig. 6



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UNITED STATES PATENT OFFICE.

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ELECTRICALLY-HEATED SAD-IRON.

1,041,241. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed May 13, 1912. Serial No. 696,967.

To all whom it may concern:

Be it known that I, ROY E. CLISBY, citizen of the United States, residing at Wellington, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Electrically-Heated Sad-Irons, of which the following is a specification.

This invention appertains to electrically heated sad irons, and the invention consists in the construction and arrangement of the elements therein, substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation lengthwise of the iron, and Fig. 2 is a plan view thereof with the handle removed. Fig. 3 is a plan view of the electrical elements separate and apart from the sad iron sections, showing the overlapping position and relations of said elements, one to another. Fig. 4 is a view of the two elements and the mica or other insulating plates respectively above and below the same, the said parts being separated to more clearly disclose the relations thereof. Fig. 5 is a plan view of one of the elements unwound, and Fig. 6 is a plan of the insulating or mica sheet which comes in the point of the iron between the two elements as seen in Fig. 4. Fig. 7 is a cross section of the points of the two electrical elements on a line corresponding to x—x, Fig. 4.

As thus shown the iron body as such is constructed of two separate parts or sections a and b, respectively, the said sections or parts being positioned one over the other with the two electrical elements A and B between the same, and the said sections have individual features of construction peculiar to themselves. For example, the bottom or lower section is provided with a recess 3 in its rear and middle adapted to provide room for the electrical connections, as seen in Fig. 1, and also has three holes 2 in a line in its top for purposes presently to be seen, and low studs 4 on its point and its rear corners respectively and on which studs is adapted to rest the edge of the outer or inclosing casing c. As to these studs and the casing, it may be observed here that by resting the edge of the casing directly and only on said studs I minimize the contact of the casing with the iron and thereby avoid the loss of heat by conduction through said casing and also provide a slight intervening air space between said parts to admit of an inflow of air to the space occupied by the said elements.

The upper section or part a of the body of the iron is smaller in plan than the lower section b, while the casing c is substantially flush all around with the outer edge of the lower section. Thus the upper section a out of contact at all points with said casing and provides an air space between it and the casing which operates to keep the temperature about the handle h comparatively low. The said upper section, furthermore, is provided with a comparatively large bore hole near its center and top adapted to receive the cap screw 6 which has its head seated down in a recess in the top of said section and enters a threaded bore in the top of section b and serves to lock the said sections firmly together. Partially threaded holes are provided front and aft of screw 6 in section a which match unthreaded holes in the top of the lower section, and dowel pins 7 in the said holes center and aline the top section on the lower section while screws 8 in the upper and threaded portions of said holes secure the handle h on the casing and the casing itself firmly upon the iron.

Now having the parts constructed and arranged as described, the iron is heated by means of the elements A and B. The said elements are duplicates of one another and are arranged in the side portions of the iron rather than in the center and have curved outer edges conforming to the shape or contour of the iron while the inner edges are curved in like manner except that the point of each of the elements has an offset or wing 12 which gives the whole point an approximately V-shape including said wing or offset. A slight slot 13 is formed in the intermediate point of each element adapted to receive the cross portion of the wire w which passes from one element to the other and connects the wire wound about both elements. The said elements are preferably of mica and have each a shouldered recess 15 at its rear end inside, and both edges thereof have comparatively deep and uniform serrations n in which the resistance wire is tightly wound, the wire as such running say from the free end of the leg 9 to and across the point thereof and thence by the cross portion

w seen in Fig. 7 to the point of element A and back to the end thereof where connection is made in each case with a binding post or its equivalent 17 in the short downwardly inclined arms 18 on the rear of the upper body section *a* and where electrical connection is made with the service wires.

Now, returning to the particulars of construction in the said elements and body sections, it is to be observed that the front ends or points of the elements overlap or are arranged one directly over the other so as to practically double the amount of heat given off at or through said points above what would be possible without such cumulative arrangement. This is material because the point of the iron is always most exposed and has to encounter most of the chill that comes by use, and the point especially must be kept hot if successful ironing is to be accomplished. Furthermore, since the point of the iron is most exposed and smallest it is also most apt to become too cool to be effective. The small insulating or mica sheet 20 is interposed between the points of the two elements A and B, so as to perfectly insulate them from one another, and its point is notched at *m* to make room for the cross wire *w*, Fig. 7. Other mica or like insulating sheets 22 and 23 are placed over and beneath the said elements A and B which electrically separate the elements from the sections *a* and *b* of the iron, and the ends 24 of the said elements are wound to their extremities so as to heat the rear of the iron as effectually as possible. The recesses 15 in said ends leave room to make the necessary electrical connections between, and the mica sheets 22 and 23 extend laterally all around beyond the edges of said elements to afford insulation about the edge thereof as against casing *c*, the notches thereof being considerably deeper than the wires.

The insulating plates or sheets 22 and 23 extend the full width of the iron, and the top section is cored out between the arms 18 for the terminals to promote cooling thereof, and said arms have tubular sockets considerably larger than the terminals or posts inserted therein to avoid electrical contact while suitable insulation protects said posts or terminals both above and below on said sockets.

Finally it will be noticed that by reason of doubling the points or front portions of the elements one upon the other a double thickness is produced which is accommodated by a recess in the bottom of the top section overspreading the said points of the elements as seen at *r*, Fig. 1.

What I claim is:

1. An electrically heated sad iron having an upper section provided with rearwardly and downwardly extending arms at its rear adapted to receive electrical terminals and a lower section having a recess next beneath said arms, in combination with heating elements having narrowed ends corresponding to said recesses and extending behind the same between the said sections.

2. An electrically heated sad iron having electrical elements doubled one over the other in the point portion of the iron and diverging therefrom to the rear, in combination with upper and lower body sections between which said elements are clamped, and the said upper section recessed over the front doubled portions of said elements.

3. An electrically heated sad iron having two flat non-conducting heating elements provided with serrated edges and each having a substantially V-shaped point at its front in overlapping relations with the point of the other element, resistance wire wound continuously about both elements, the said elements having inwardly extended slots in their points adapted to pass the wire through from side to side and an insulating plate between the said V-shaped points having a notch in its point corresponding to said slots.

4. An electrically heated sad iron having two non-conducting elements shaped to conform to the sides of the iron at their outer edges and serrated from end to end on both side edges and at the point, resistance wires wound on said elements and each element having a relatively narrowed rear extremity adapted to extend into the heel of the iron and provided with an inwardly extended wing at its front end in lapping relation to the corresponding wing of the other element, in combination with upper and lower body sections of the iron between which the said elements are secured, the upper of said sections having a recess in its point and bottom conforming to the shape and size of said wings, and insulating sheets between said sections and said serrated members.

In testimony whereof I affix my signature in presence of two witnesses.

ROY E. CLISBY.

Witnesses:
INA M. BIGGS,
ROBERT L. WALDEN.