

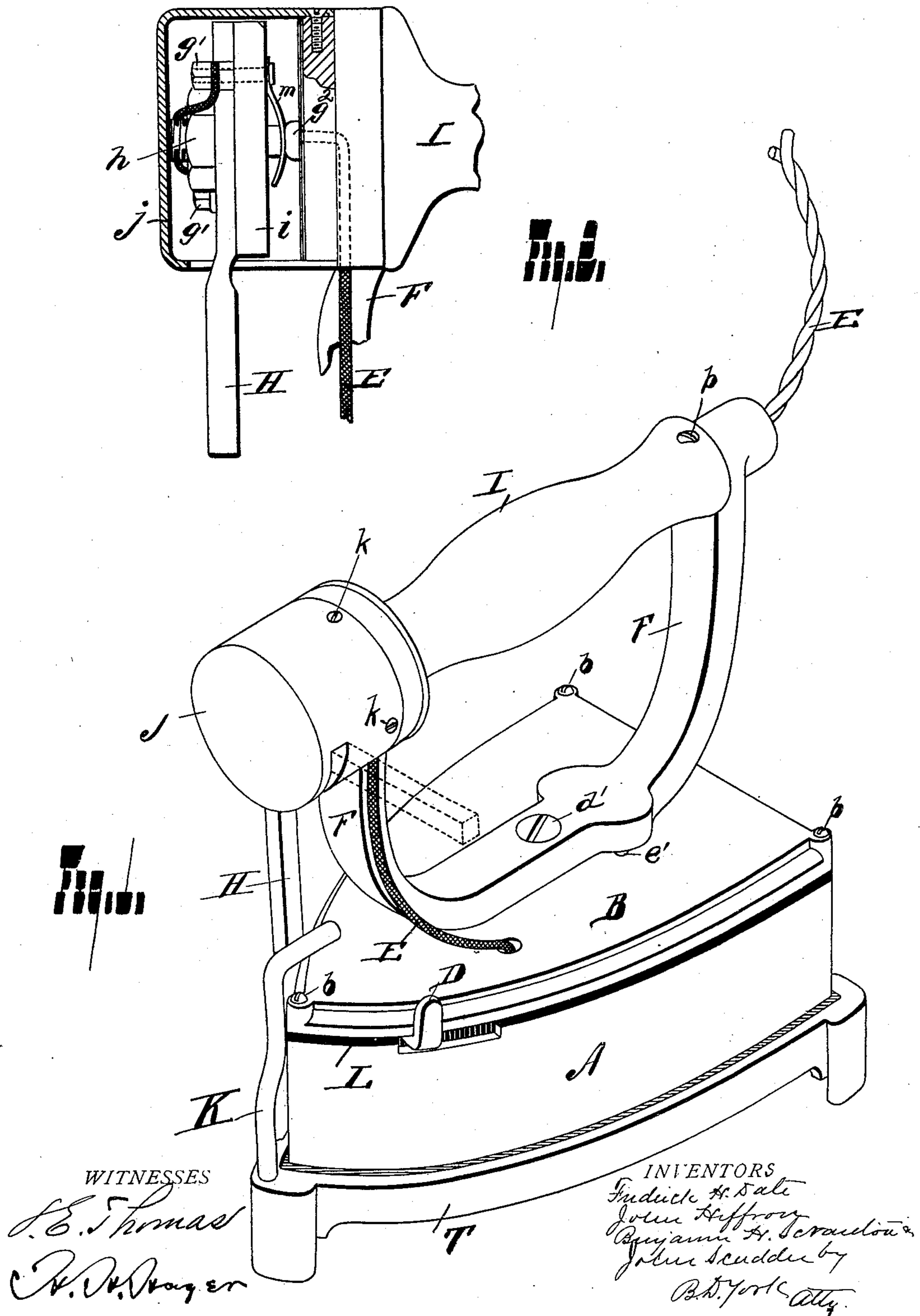
(No Model.)

3 Sheets—Sheet 1.

F. H. DATE, J. HEFFRON, B. H. SCRANTON & J. SCUDDER.
ELECTRIC SAD IRON.

No. 565,136.

Patented Aug. 4, 1896.



(No Model.)

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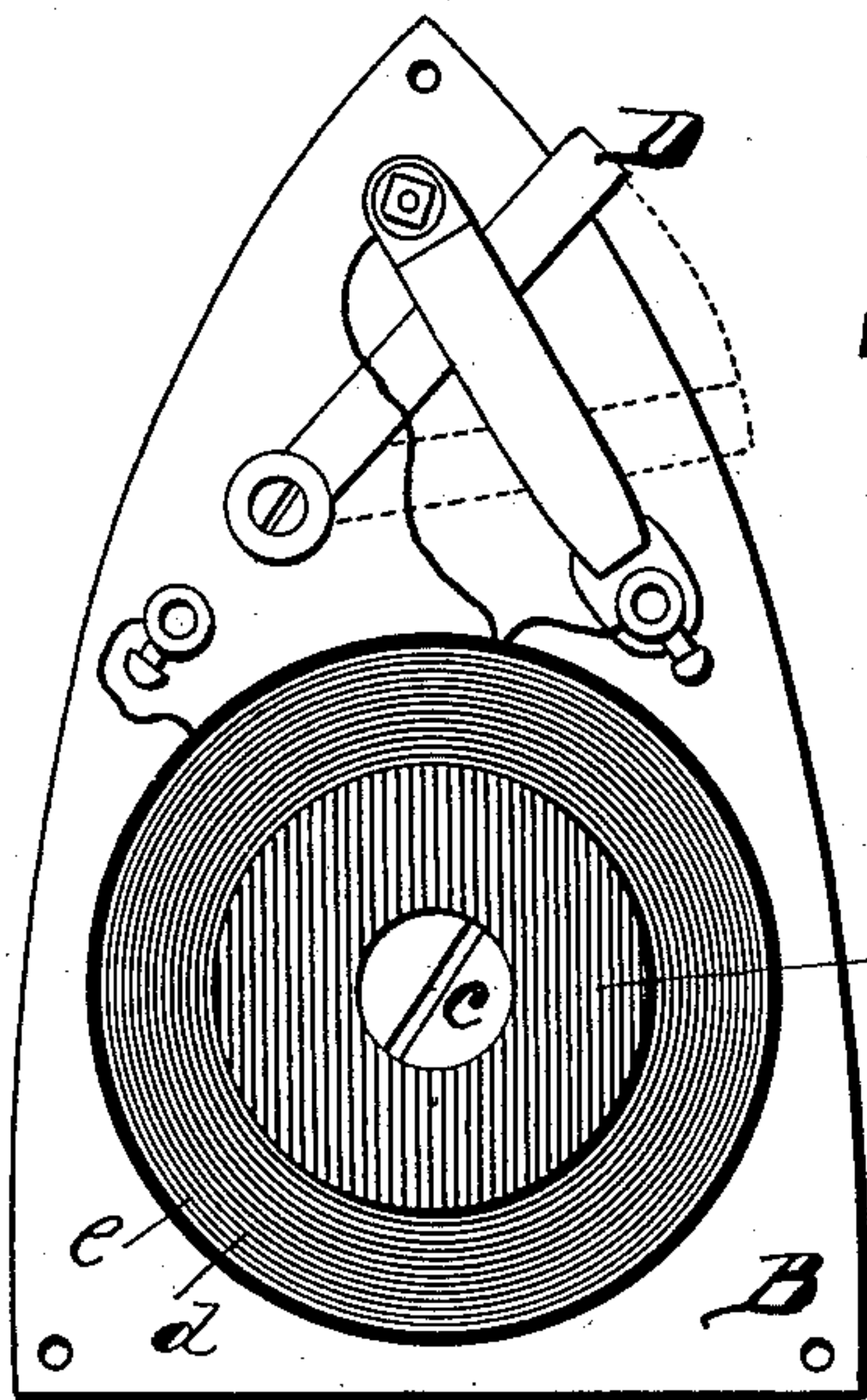


Fig. 1

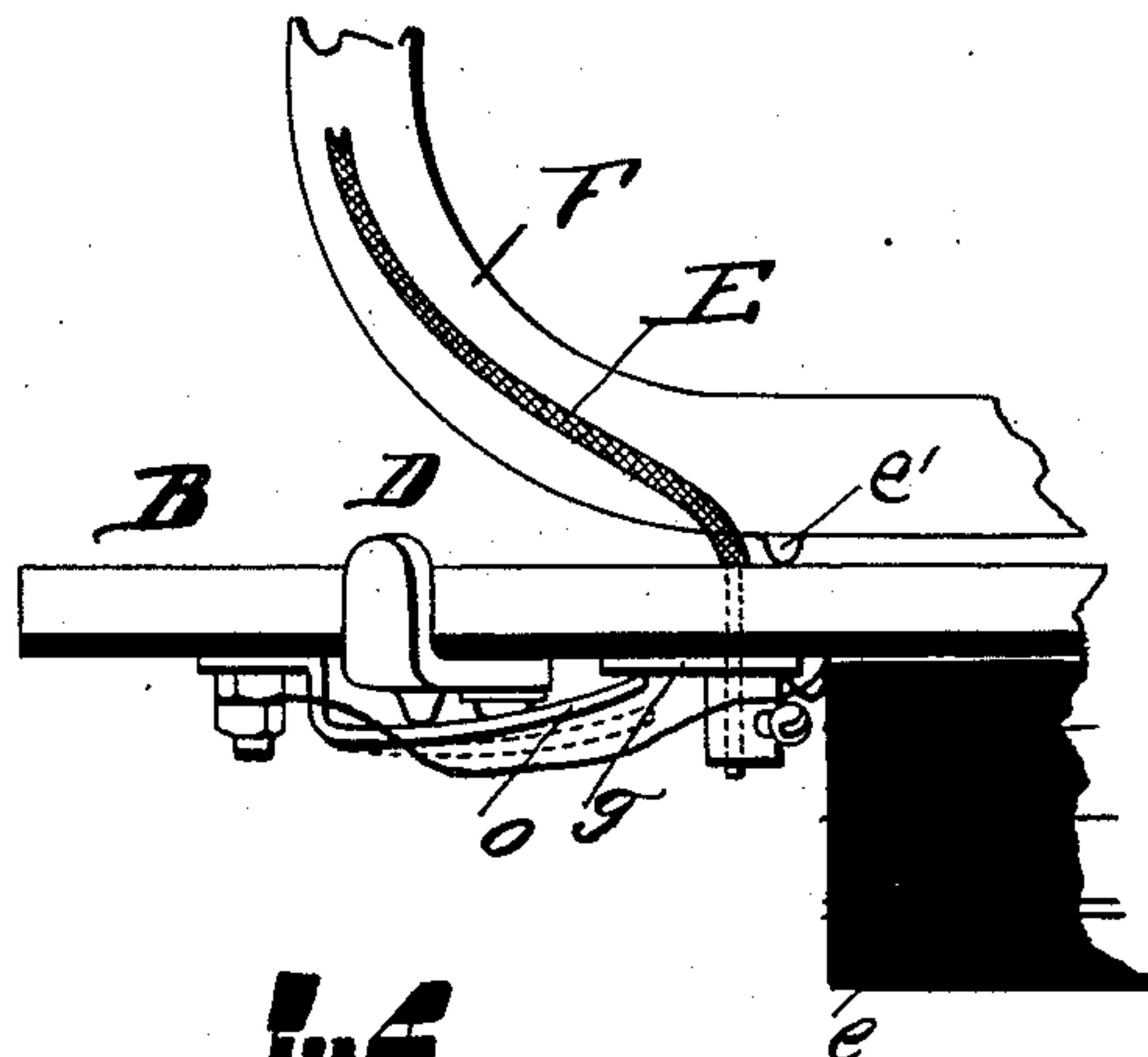


Fig. 2

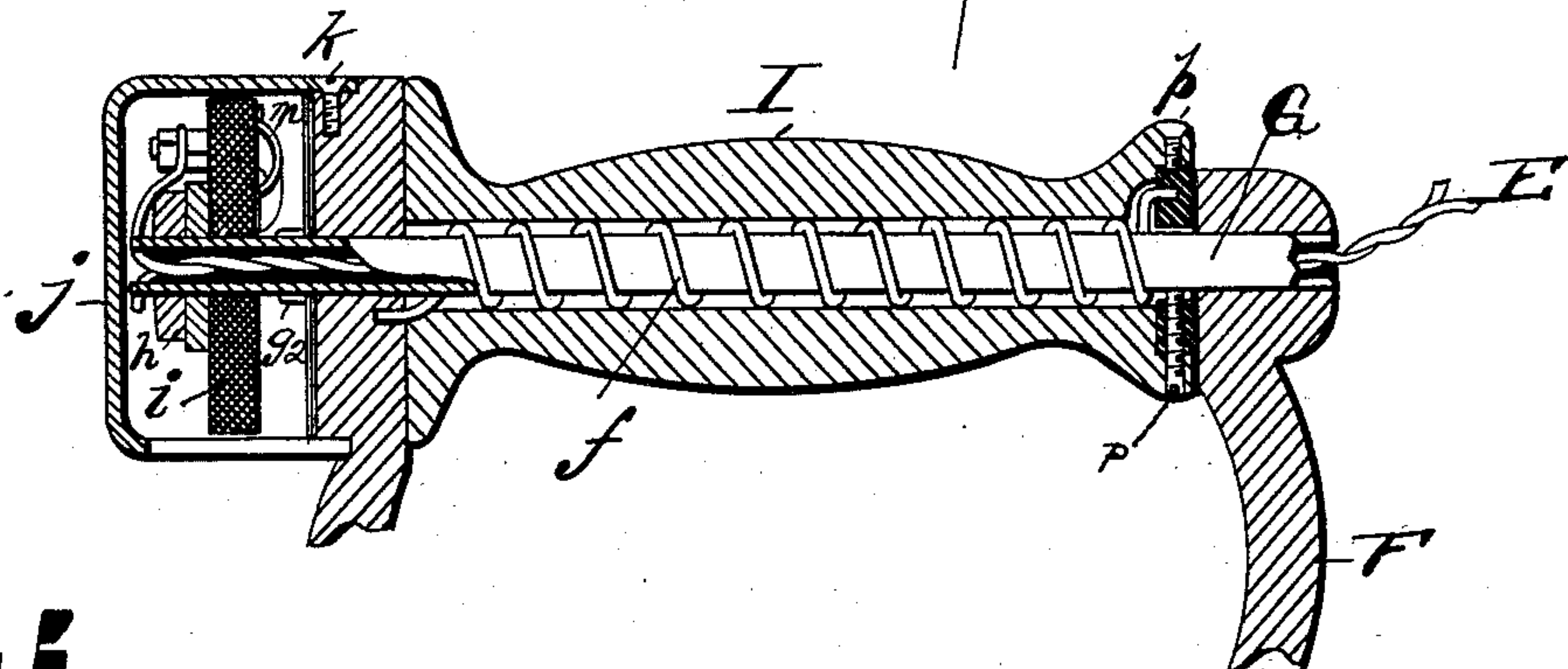


Fig. 3

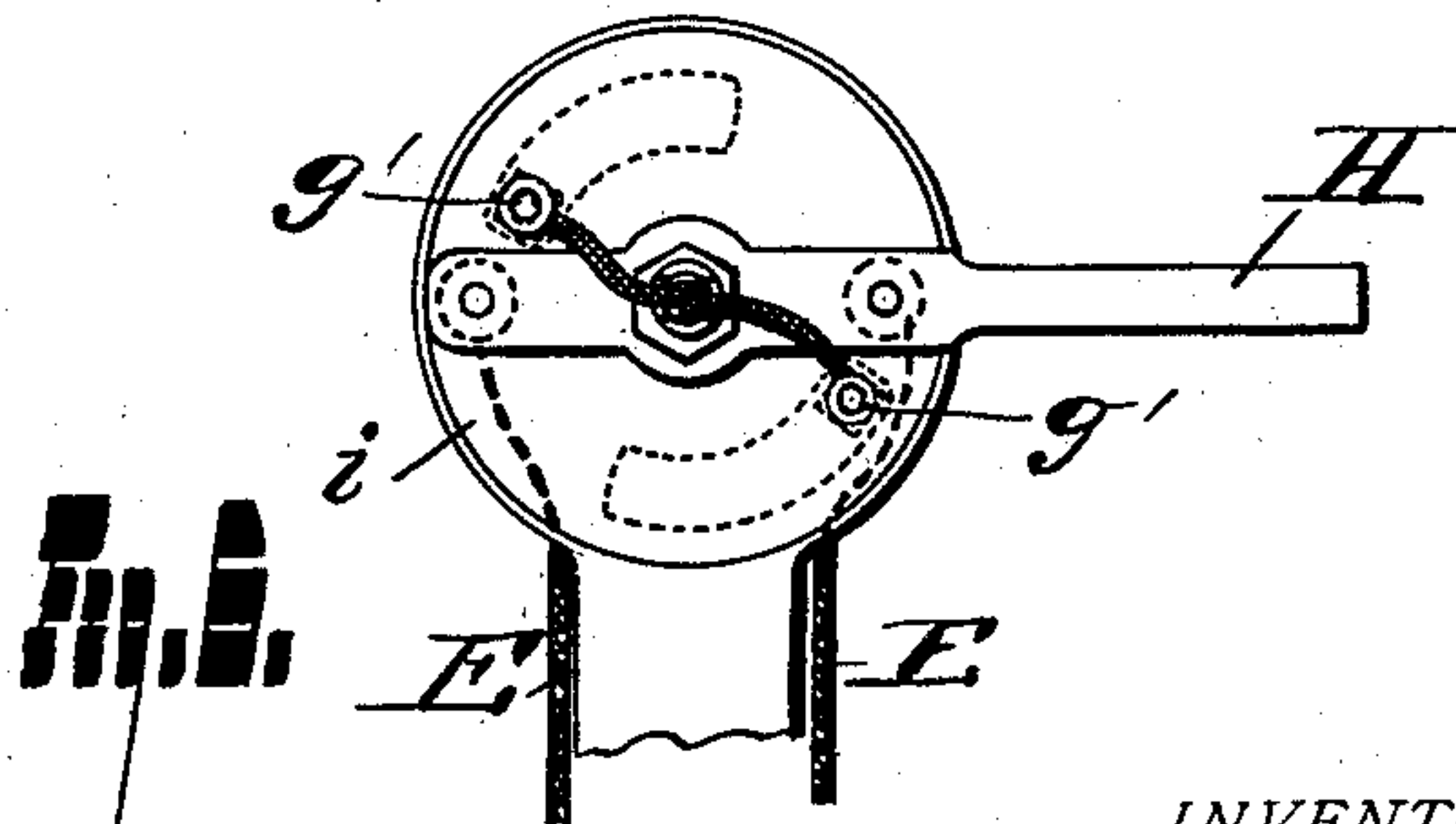


Fig. 4

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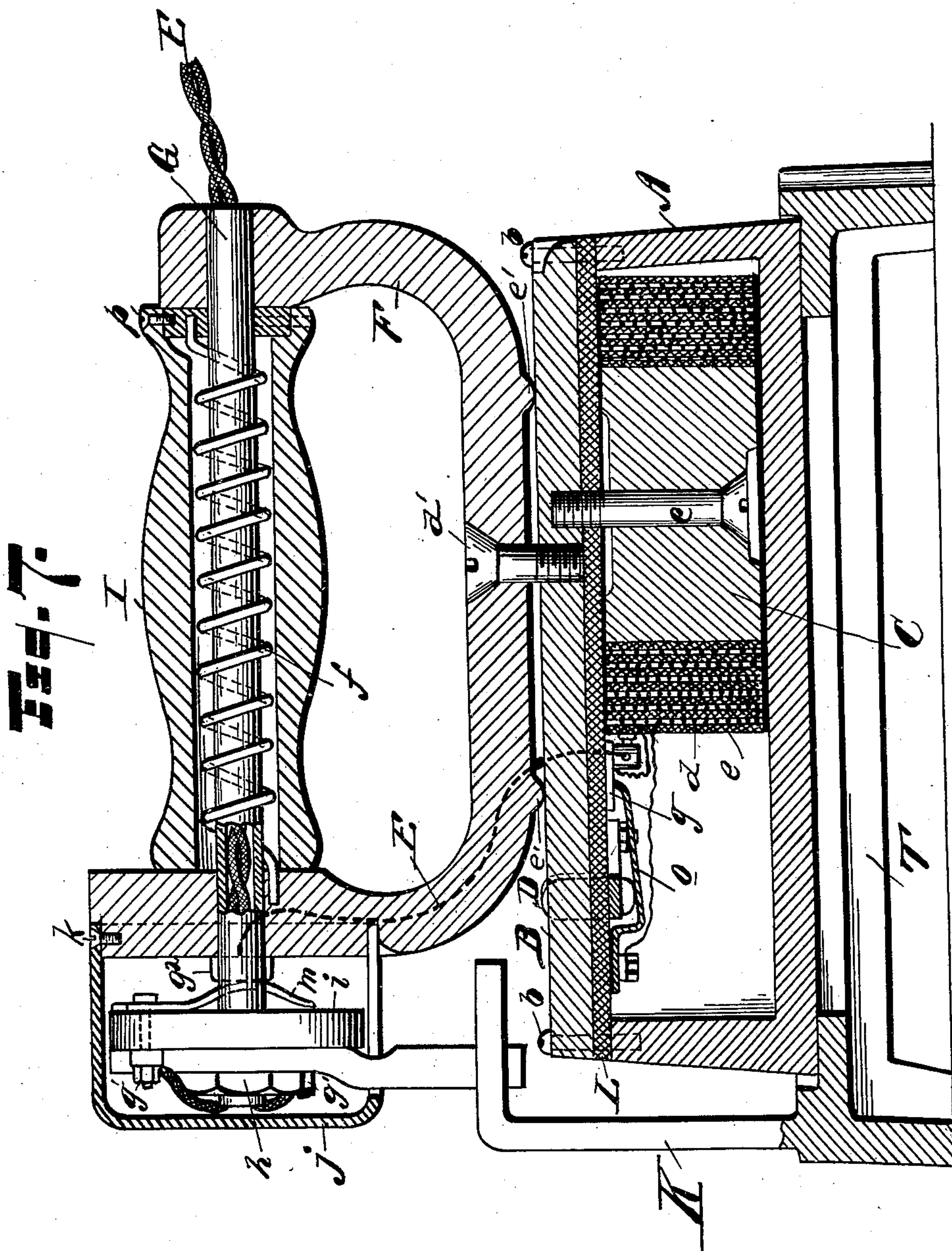
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UNITED STATES PATENT OFFICE.

FREDERICK H. DATE, JOHN HEFFRON, BENJAMIN H. SCRANTON, AND JOHN SCUDDER, OF DETROIT, MICHIGAN, ASSIGNORS TO THE AMERICAN ELECTRICAL HEATER COMPANY, OF SAME PLACE.

ELECTRIC SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 565,136, dated August 4, 1896.

Application filed May 31, 1895. Serial No. 551,319. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK H. DATE, JOHN HEFFRON, BENJAMIN H. SCRANTON, and JOHN SCUDDER, citizens of the United States, residing in the city of Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Electric Sad-Irons, of which the following is a specification.

Our invention relates to sad-irons which are to be heated by a current of electricity passing through a conductor of high resistance and small capacity; and it consists in the improvements hereinafter particularly set forth and claimed.

The objects of our invention are to produce a practical electric sad-iron which will be economical in the amount of electricity required to heat the said iron and to keep it at the required degree of heat; also, one in which the current will be automatically "cut out" if left to itself, and one in which the interior construction can easily be reached and examined.

In the drawings, Figure 1 is a perspective view of our sad-iron placed on a stand. Fig. 2 is a view, part in section, of the commutator at the front end of the handle. Fig. 3 is a view of the top of the iron, looking at it from the under side. Fig. 4 is a view showing the arrangement of the switch. Fig. 5 is a longitudinal sectional view of the handle and commutator. Fig. 6 is a view of the front end of the commutator. Fig. 7 is a sectional view of the device.

Similar letters refer to similar parts throughout the several views.

Referring now to the drawings, A is the hollow bottom part of our sad-iron, and is cast of iron or other suitable metal in the form shown or other desirable shape. At the point and corners of this bottom are apertures provided with screw-threads to receive the screws b to fasten the top or cover B to the bottom.

Attached to the cover B, which is cast in the same shape and of the same material as the smooth bottom, is the spool C. This spool may be of iron or other suitable material, and is rigidly attached to the cover B with the screw c. Around this spool we wind the coil

of resistance-wire, which is made up of the coils or layers of wire d, each layer being insulated from the next one by a layer e of mica, asbestos, or other insulating material. The coil is made in two sections and so arranged that they can both be used together or one part or section can be cut out, as hereinafter more fully explained.

In the drawings we have shown the coil and spool made round, but we do not wish to be understood as confining ourselves to that form, as the spool and coil may be made in other desirable forms, as oblong, triangular, and the like; but we find from experience that the round coil answers the purpose and is the most convenient. In winding the coil we sometimes insert a cord of asbestos between each lap of the wire, so as to more perfectly insulate the same. We do not consider this absolutely necessary, but find it desirable in many cases.

D is the handle to the switch which is arranged to control the current passing from the conducting-wire E to the coil of resistance-wire, and by the use thereof either, both, or only one section of the coil can be used, as is plainly shown in the drawings in Figs. 3 and 4.

When it is desired to heat the iron quickly, the current is allowed to pass through both sections of the coil, and to do this the switch is left in the position as shown in the drawings by full lines; but as soon as the iron has attained to the desired heat the switch is turned, which lifts the spring o from the plate g, and one-half only of the coil is then being used, which is usually sufficient to keep the iron at the required heat, the switch then being as is indicated in the drawings by the dotted lines.

The handle-standard F is cast of iron or other suitable material and is of a U-shape form with a round disk or plate at the front upper end having an aperture, the back upper end also being provided with an aperture. This handle-standard is rigidly attached to the top of the iron B with screws d' and is provided with the projections e' to raise it from the cover and allowing free passage of air to prevent the handle from becoming very

hot. Through the apertures in the upper ends of the handle-standard the handle-stem G passes. This handle-stem is a metal tube or pipe, and through it the conducting-wire E passes and is then connected to the binding-posts g' of the commutator. To the front end of the handle-stem is attached the arm H, which operates the commutator.

I is the wooden cover or jacket of the handle, and through a suitable aperture in this wooden jacket the handle-stem passes and is secured thereto by the set-screws p . Around the handle-stem and within the wooden jacket is arranged the coil-spring f , extending from end to end of the handle, and so arranged that when no external force is being exerted on the arm H or the handle this spring forces it around and the arm H (which is attached to the handle-stem) takes the position as shown by the dotted lines in Fig. 1, and the connection is broken by carrying the springs m from the binding-posts g^2 , to which the wires running to the coil are attached, the spring m being connected at the binding-posts in the vulcanized-rubber disk i with the conducting-wire, as is plainly shown in the drawings. The spring f is arranged and adjusted so as to continually exert sufficient force to raise the arm H and keep the connection broken, or the current cut out only as some force is applied or contrivance arranged to overcome the same and hold the arm H down, as shown by full lines in drawings, Fig. 1, thus making the connection and allowing the current to pass to the coil in the hollow bottom.

We have arranged the iron-stand T, having the upright standard K with the top thereof bent at right angles with the upright part, as shown, so that when the iron is placed on this stand the arm H is held down, and the conducting-wire E being connected with an electric current the connection to and with the coil of resistance-wire is complete and the iron will soon become hot.

When in use, the connection is maintained by holding the arm H down by the force of the hand on the handle. By this arrangement we have a very safe electric sad-iron, for if by any accident or carelessness on the part of the user of the iron the same should be left on a table, board, or other combustible material connected with an electric current the spring f in the handle would at once throw the arm H up and the current would be cut out from the coil and the iron would at once commence to become cool and all danger of setting fire to whatever the iron was standing upon would be then prevented.

Connections with the conducting-wire and

the resistance-coil are made with binding-posts g , which are such as are well known and in common use. The nut h is screwed onto the stem G, which is threaded for that purpose, after the same passes through in the disk i , and thus the stem and commutator are held together. The cap or cover j of the commutator is held in place with screws k , which pass through apertures in said cap and screw into threaded apertures in the disk attached to the handle-standard F. Between the bottom A and the cover B we place a layer L of asbestos or other insulating material and also place a disk of mica L or other insulating substance under the resistance-coil.

We do not wish to be understood as limiting ourselves to the construction shown and described, as many of the details may be varied and many of the elements of the device may be replaced by their equivalent without departing from the spirit of our invention and without in any way interfering with its usefulness.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In an electric sad-iron, the combination with the body, containing a resistance-coil having suitable conductors; of the hollow handle, the tube located therein and surrounded with a spiral actuating-spring, and the switch consisting of a disk located on the forward end of the tube, the conductor extending through said tube and connected to the contact-springs, and the switch-arm having conducting-wires leading to the resistance-coils, whereby the current may be switched on or off of the coils, substantially as specified.

2. The combination, in an electric sad-iron, of the hollow body, containing a resistance-coil constructed in two sections, of the switch-handle, pivoted to the lower side of the top of the iron, the contact-spring against which it bears, the contact-plate and conductors connecting said spring and the contact-plate, the switch-handle being adapted to operate the spring to make and break contact with the contact-plate, to switch one of the sections into or out of circuit, substantially as and for the purposes specified.

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