March 28, 1939. A. C. SCHMIDT ET AL 2,152,502

ELECTRIC IRON

Filed March 27, 1937 2 Sheets-Sheet 1

Fig. 1

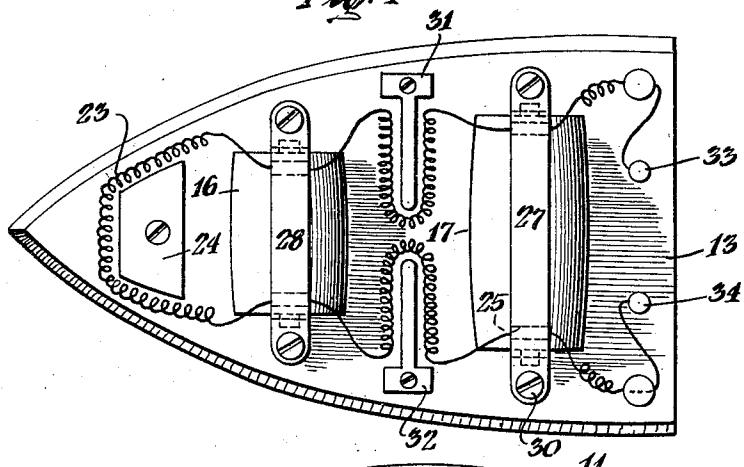


Fig. 2

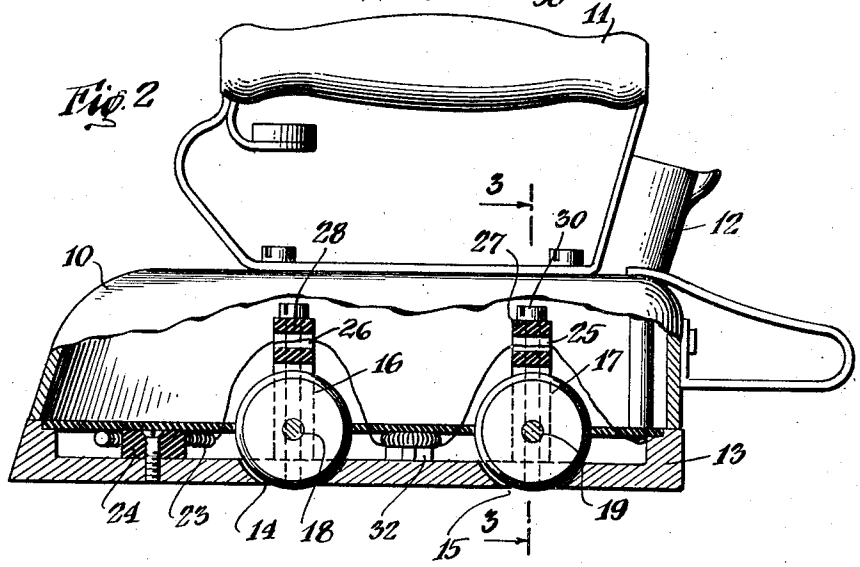
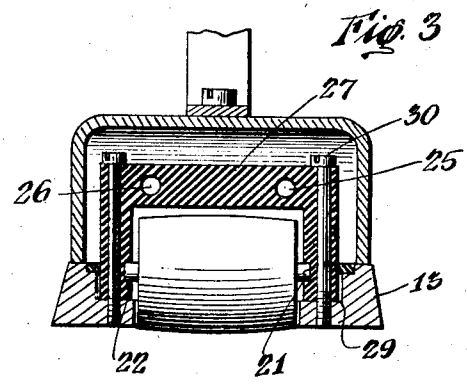


Fig. 3



INVENTOR
Alfred C. Schmidt
BY Charles W. Bruger
Byrne C. Hinton
ATTORNEY

March 28, 1939. A. C. SCHMIDT ET AL 2,152,502

ELECTRIC IRON

Filed March 27, 1937 2 Sheets-Sheet 2

Fig. 4

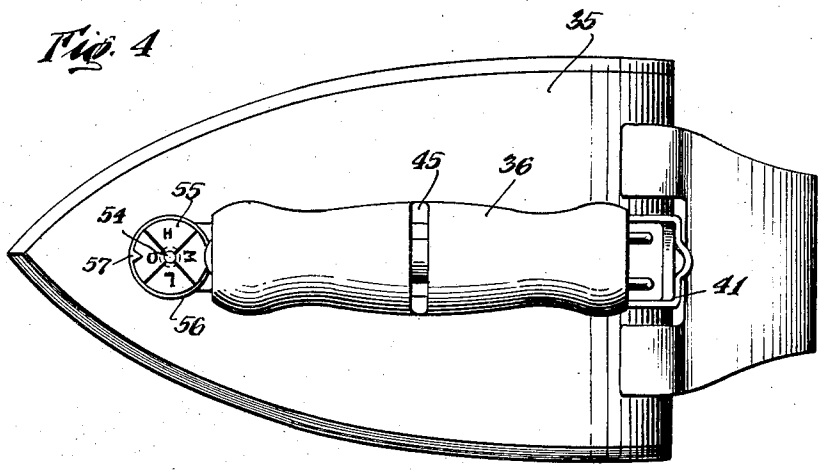


Fig. 5

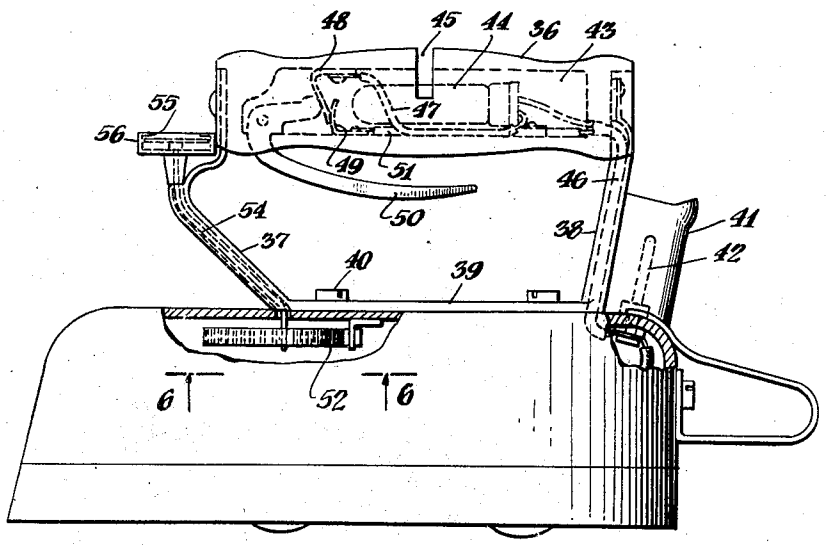
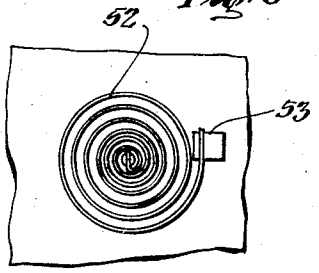


Fig. 6



INVENTORS
Alfred C. Schmidt
BY Charles W. Bruger
Jno. C. Fennick
ATTORNEY

Patented Mar. 28, 1939 2,152,502

UNITED STATES PATENT OFFICE

2,152,502

ELECTRIC IRON

Alfred C. Schmidt, Teaneck, and Charles W. Bruger, North Bergen, N. J.

Application March 27, 1937, Serial No. 133,292

3 Claims. (Cl. 219—25)

Our invention relates to improvements in electric sadirons or flatirons for use in the home and by tailors, as they are for instance described in our co-pending application, Serial No. 53,572, filed December 9, 1935, and it is the principal object of our invention to provide an electric pressing iron which will indicate at a glance the fact that the current is still on, if for instance the operator has been called away, and which when in use, when the current is interrupted, will indicate the amount of latent heat still present in the iron, so that the operator at a glance can see whether the heat still maintained in the iron is of high intensity, medium, low, or altogether spent.

Another object of our invention is the provision of a sadiron which will dispense and maintain a considerably greater amount of heat than the commonly used irons by virtue of the increase in the ironing surface and the increase in length of the resistance coil wires and their guidance in a novel, peculiar and special manner, so that the iron will keep the heat for a considerable time after shutting off of the current as indicated by a vari-colored indicator showing to the operator the intensity of the heat still maintained within the iron, and consequently its usefulness for ironing purposes, which, as the practice has shown, in some instances amounts to about two hours, which thus results in a considerable saving of current.

Still another object of our invention is the provision of an electric flatiron which does not scorch the laundry, and requires no thermostatic regulation, and no special heat control, as the wires are suspended from asbestos supports and passed through the same and over and between rollers by means of which the iron is guided across the surface to be pressed.

A further object of our invention is the provision of an electric iron provided with a plurality of rollers rotating in suitable chambers formed in the body of the flatiron with their outer peripheries flush with the smoothing or bottom face of the iron, and which are substantially conically-shaped in opposite directions.

A still further object of our invention is the provision of an electric iron in which the bearings for the rollers are given various forms, by for instance arranging in the roller a female center to be engaged by a male, pointed screw, or, by constructing the roller with a male center, to be engaged by or to engage a female screw. Or, the roller may be made hollow to be engaged by a hollow screw, while balls are arranged between screw and roller.

Our invention further relates to a sadiron, the rollers of which are equipped with a shank to fit into a hollow screw, or the screw may be pointed and engage thrust ball bearings in the rollers, or, hollow screws and thrust ball bearings may be provided in the rollers having a straight shank passing through thrust bearings in the screw.

Other objects of our invention are the arrangement of the bearings, staggered, one higher than the other, opposite to one another, so that the straight roller is given a tape-ring effect. We may furthermore, construct the rollers of a number of wheels or discs put together so as to form a roller, either a straight roller or a tapered or conical one. A straight roller may be arranged with staggered bearings, or any number of balls may be replacing the rollers protruding from the surface of the iron.

With these ends in view, it will be clear that notwithstanding the somewhat increase in the iron's weight, the rollers will greatly facilitate its operation and allow an operation of the iron in all directions by a child even, while the rollers, which are arranged in convenient numbers and sizes, parallel to one another, staggered or not, protrude very little beyond the ironing surface, are flush with the same, and will increase the heating surface of the iron by the even distribution of the heat through the chambers opening towards the bottom.

These and other objects and advantages of our invention will become more fully known as the description thereof proceeds, and will then be specifically defined in the appended claims.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a plan view of the inner face of the bottom of the iron constructed according to our invention.

Fig. 2 is a side elevation of the iron, partly in section.

Fig. 3 is a section on line 3—3 of Figure 2.

Fig. 4 is a top plan view of another form of our sadiron.

Fig. 5 is a side view thereof partly in section and having outer parts broken away to disclose the interior construction of the iron and its handle.

Fig. 6 shows in detail view a spring of thermostatic metal to operate the indicator.

As illustrated in Figures 1 to 3, a flatiron of any well known type including its body 10, and handle 11, suitably connected to the body and equipped with a contact socket 12, has its bottom or ironing face, such as for instance plate 13, provided with openings 14, 15 through which are visible the outer peripheries or mantles of rollers 16, 17, substantially flush with the bottom 13 of the iron. The rollers are substantially cone shaped at both ends, and rotate on the spindles 18, 19 suitably journaled in the bearings 21, 22 within the body of the iron, and adjustably held in place by means of screws or the like.

The resistance wire or coil 23 of the heating

element is guided about a block 24 or the like of insulating material and through the openings 25, 26 of preferably asbestos brackets 27, 28, the foot branches of which are held in suitable depressions 29 of the plate 13 by means of the screws 30 or the like. Between the rollers over which the coil wires are guided, the same are guided about suitable holders 31, 32 also preferably made from asbestos and then through the openings in the brackets 27 of the next adjoining roller towards their contact sockets 33, 34.

In the preferred form of our invention, illustrated in Figures 4 to 6, the iron 35 has its handle 36 attached thereto by means of the hollow members or braces 37, 38 having their lower connecting member 39 secured to the iron by means of the screws 40 or the like, while the contact socket is designated 41 with the contacts 42.

Within the handle 36 is formed a chamber 43 in which a lamp 44 is arranged, the light of which becomes visible to the user through an arcuate opening 45. The light is connected by means of a cable 46 passed through the hollow brace 38 to one of the contacts 42 and by means of a cable 47 to a switch contact spring 48 adapted to be engaged by a similar contact 49 or to engage the same upon the suitable operation of a handle 50, while a cable 51 connects contact 49 with the other of the contacts 42.

Within the iron a thermostatic spring 52 is secured to a suitable bracket 53, the inner end of which spring has connected thereto one end of a flexible shaft 54 passing through the hollow brace 37 and carrying at its outer end an indicator disc 55 within its housing 56. This housing is provided with a stationary hand 57, while the indicator disc is divided into four equal fields provided with suitable marks and differently colored, as for instance red to indicate that the intensity of the heat within the iron is high, blue to indicate a heat prevailing in the iron of medium intensity, yellow to indicate heat of low intensity and black to indicate that no heat is present in the iron, the marks may correspondingly be the letters H. M. L. O. or any other suitable letters.

In operation, the depression of the handle 50 when the operator is gripping the iron will separate contacts 58 and 49 so that no light will show through the slot 45 in the handle, if however, the operator is compelled to leave the iron for a certain time, he will be able to ascertain by the light showing through slot 45, as now the circuit in which the lamp is located is closed, whether the current is still on or not. The heating of the iron will also heat the thermostatic coil or spring 52 and its inner end will turn and turn the flexible shaft and the indicator connected therewith to indicate the degree of heat still maintained or prevailing in the iron even if the current has been cut off, and inasmuch as the iron is capable of keeping the heat for a very considerable time after being disconnected from the circuit, it will be found very convenient to ascertain at a glance upon the dial or indicator disc how much heat is still left for ironing purposes. The novel way of guiding the heating coil through the iron will allow to use heating coils of considerable length and thus to maintain within the iron an appreciable amount of heat long after the current has been shut off, in some instances, as the practice has shown, for about 2 hours. The arrangement of the rollers will greatly increase the ironing surface and contribute to the facility of operating the iron and the conical shape of the rollers will also tend to smoothen and facilitate the operation so that all wrinkles etc., are effectively flattened and the ironing is uniform throughout.

It will be understood that we have described and shown the preferred forms of our invention only as a few examples of the many possible ways to practically construct the same and that we may make such changes in the general arrangement of the iron and in the construction of the minor details thereof as come within the scope of the appended claims, without departing from the spirit of our invention and the principles involved, so for instance we may just as well employ the thermostatic spring, indicator, and the light to indicate the latent heat still prevailing in toasters, waffle irons, mangles, or any other similar article, if the current to the same has been shut off, or to indicate that the current is still on while the operator has left the article for a short time. It will also be clear that the colors of the indicator fields may be changed to suit or provided with other denominations than those disclosed without departure from our invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1. An electric sadiron comprising a plurality of rollers tapered from the center towards the ends, and located within chambers in said iron extending from said chambers in part substantially flush with the bottom or smoothing plate of the iron, a heating coil within said iron of considerable length, and means to guide said coil over and between said rollers.

2. An electric sadiron comprising a plurality of shaped rollers tapered from the center towards the ends, and located within chambers in said iron opening towards its smoothing plate, and having their peripheries in part substantially flush with said plate, means to rotatably hold said rollers in said iron, a heating coil of considerable length, asbestos brackets having perforations through which said coil is guided above said rollers and asbestos guides between said rollers to guide said coil to its terminals.

3. In an electric sadiron, as described, a chambered body having openings in its bottom or smoothing plate, a plurality of rollers tapered from the center towards the ends and located within the chambers in said body, the rollers extending from said chambers through the openings in the smoothing plate in part substantially flush with said plate, spindles for said rollers journaled in bearings in said body, and screws to adjustably hold said spindles in place, a heating coil of considerable length in said body, a block of heat insulating material about which said heating coil is guided and perforated blocks of a heat insulating material secured to the bottom plate through the perforations of which said coil is guided, and asbestos holders on said bottom plate between said rollers about which the coil is guided.

ALFRED C. SCHMIDT.
CHARLES W. BRUGER.