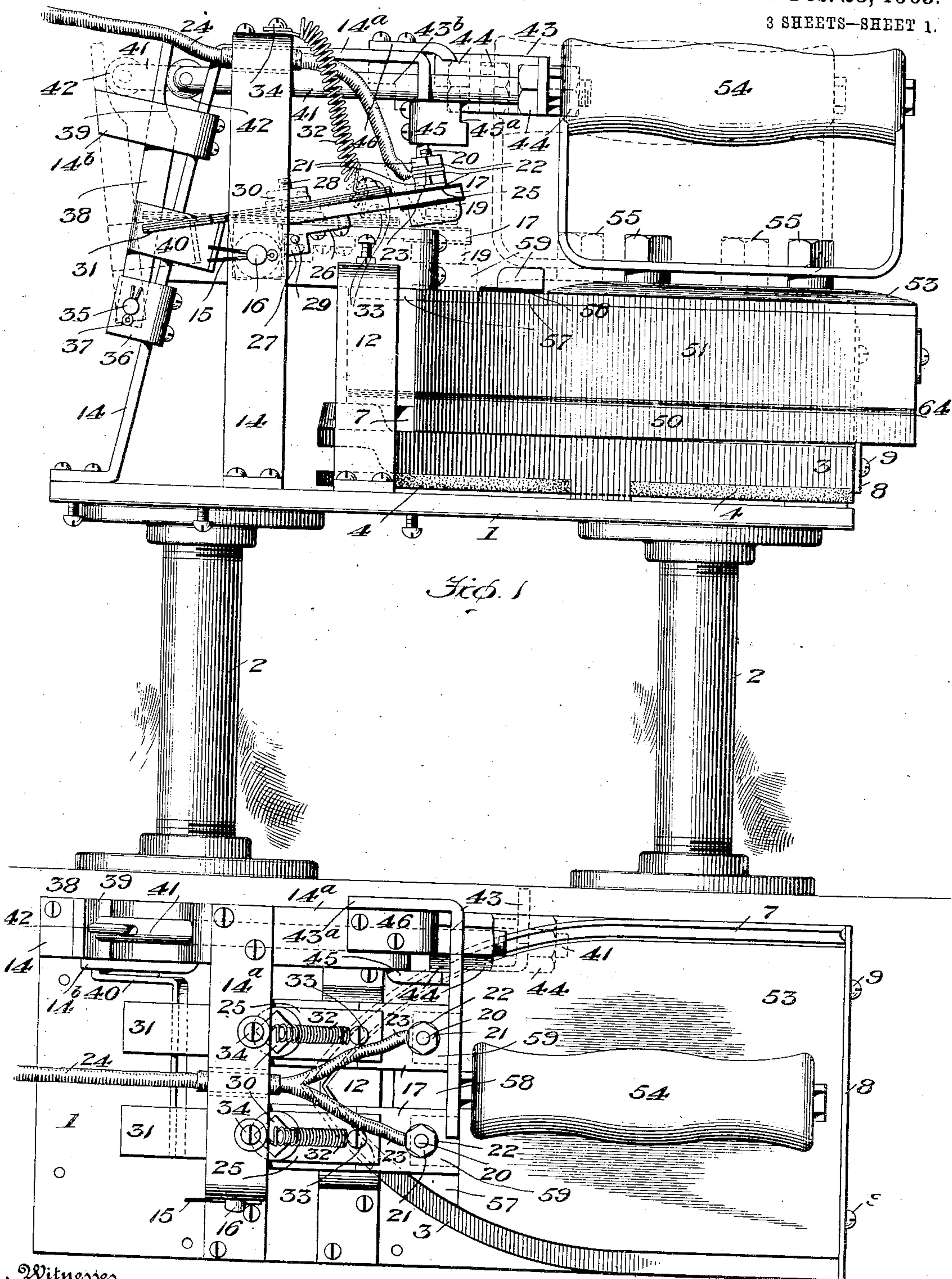


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 AUTOMATIC SWITCH AND STAND FOR PRESSING IRONS.  
 APPLICATION FILED MAR. 27, 1908.

913,480.

Patented Feb. 23, 1909.

3 SHEETS—SHEET 1.



Witnesses

*Mr. Louis Newcomb*

Fig. 2.

By

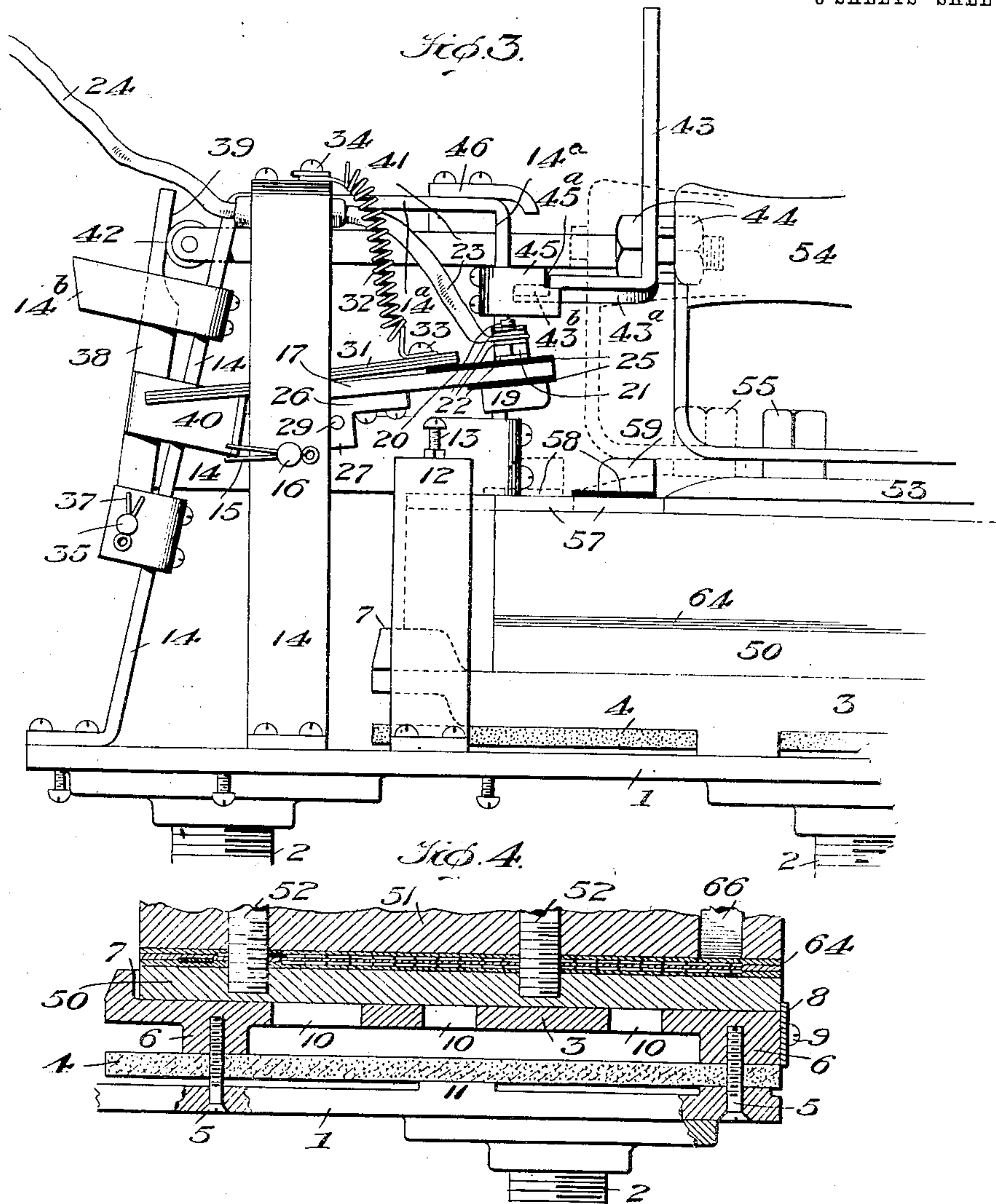
*Frank E. Emery* Inventor  
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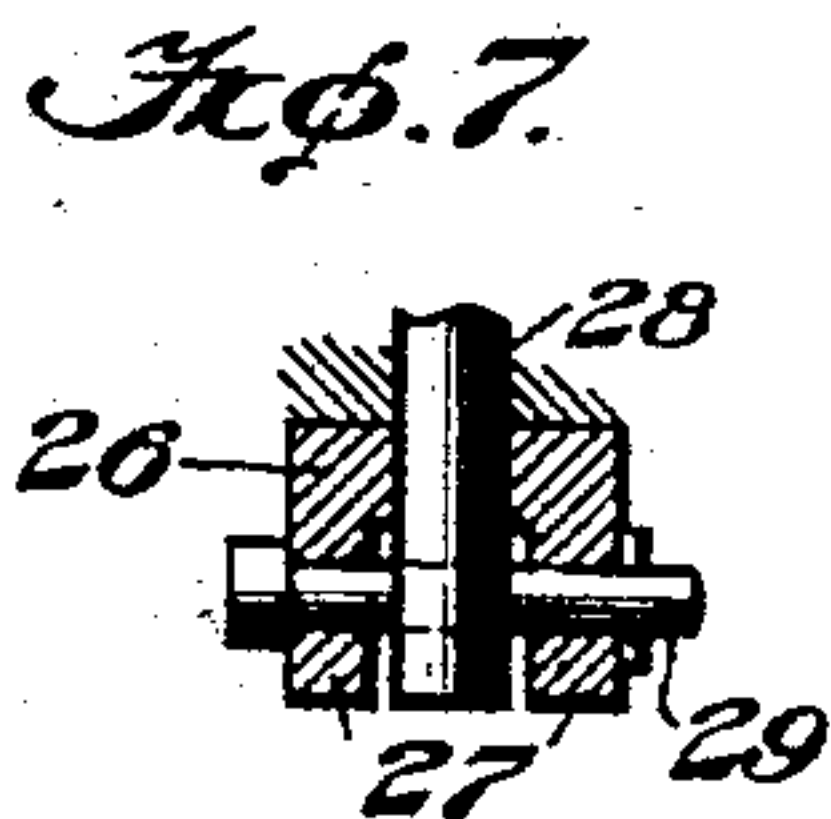
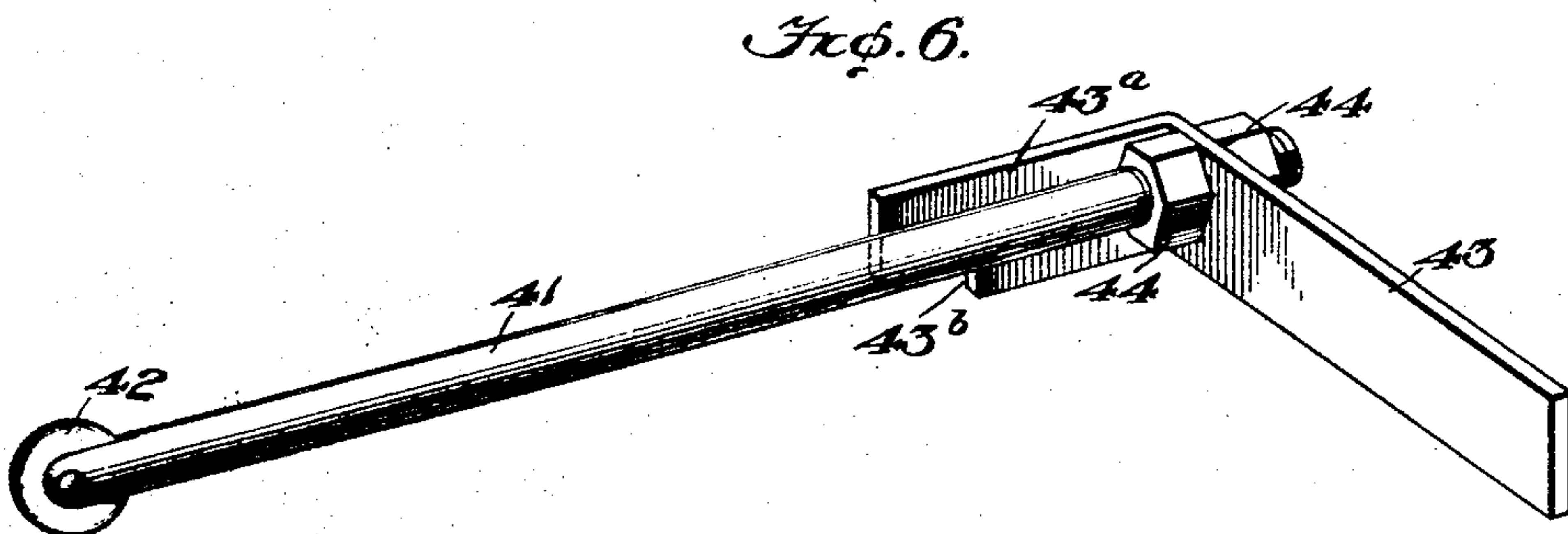
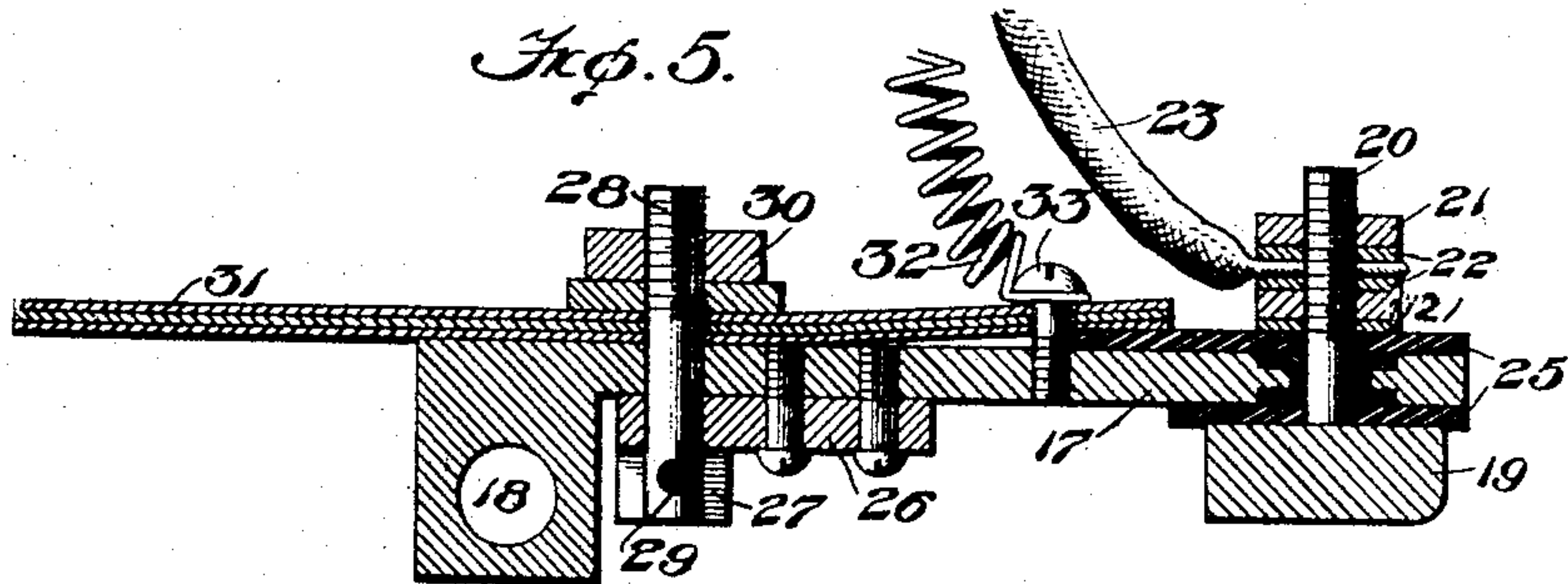
*L. H. Shuler*  
 his Attorney



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Witnesses  
 Lloyd W. Patch  
 M. Louise Newcomb.

Inventor  
 Frank E. Emery  
 By *[Signature]*  
 Attorney



# UNITED STATES PATENT OFFICE.

FRANK E. EMERY, OF NEW YORK, N. Y.

## AUTOMATIC SWITCH AND STAND FOR PRESSING-IRONS.

No. 913,480.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed March 27, 1908. Serial No. 423,739.

*To all whom it may concern:*

Be it known that I, FRANK E. EMERY, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Automatic Switches and Stands for Pressing-Irons, of which the following is a specification.

My invention relates to automatic switches and stands for pressing irons.

The object of the present invention is the provision of an automatic switch and heating stand for electrically heated pressing or sad irons which will insure completion of the circuit and heating of the pressing or sad iron without requiring care or precision in placing the pressing or sad iron on the stand; novel switch mechanism which will cause a quick make or break of the circuit and thus minimize sparking when the pressing or sad iron is placed on the stand or removed therefrom; novel switch operating means actuated by the placing of the pressing or sad iron on the stand or its removal therefrom, which may be set so that the circuit cannot be completed when the pressing or sad iron is placed on the stand and also serve as a signal to show whether the current is on or off when the pressing or sad iron is on the stand; and a heating stand of novel construction permitting radiation of the heat so that the stand itself will not become unduly heated.

Another object is the provision of an electrical pressing or sad iron having its contacts arranged in a novel manner so that while they will be positioned for engagement by the switch on the stand, they will not interfere with the use of the pressing or sad iron in any of the usual pressing or ironing operations.

The invention is susceptible of many changes without departing from the spirit and scope thereof.

In the following specification a full disclosure is given of the one embodiment of the invention which is shown in the accompanying drawings, where:—

Figure 1 is a side elevation, full lines showing the pressing or sad iron when being placed on the stand and the switch and combined operating device and signal in normal position, and dotted lines showing the posi-

tion of the parts when the switch is closed and the sad iron is being heated; Fig. 2, a plan view showing the pressing or sad iron in the position it assumes when being heated, the switch operating device and signal being shown by dotted lines in the position assumed when thrown back to prevent operation of the switch by the pressing or sad iron; Fig. 3, a side elevation showing the combined signal and switch operating device thrown up so that it will not be engaged by the pressing or sad iron, dotted lines showing the extreme forward position of the pressing or sad iron; Fig. 4, a longitudinal section of a portion of the pressing or sad iron and stand; Fig. 5, a longitudinal section of one of the switch arms; Fig. 6, an enlarged detail of the switch operating device; and Fig. 7, a detail view of a part of one of the switch arms.

The support 1 for the pressing or sad iron stand is supported in any suitable way, as by short pillars or columns 2, so that it will be at a suitable height to permit ready placement and removal of the pressing or sad iron to and from the ironing board or table. The pressing or sad iron stand 3 rests upon a slab or suitable piece of fireproof or heat insulating material 4, the stand 3 having lugs or feet 6 resting upon the slab 4 and secured thereto and to the support 1 by screws 5. At the nose and along the rear edge of the stand 3 is a retaining flange 7, but the front portion of the stand being open permits ready placement, or removal of the pressing or sad iron, which, however, is retained when once placed by a detachable strip 8 secured by screws 9 to the stand 3. The stand is provided with suitable openings 10 which permit free circulation of air, and the stand construction, combined with the use of the slab 4, which is in turn held above the support 1 by the lugs 11, prevents the heat of the pressing or sad iron from being transmitted to the columns 2 to any appreciable extent, and thus danger from fire is obviated.

Bridging the nose of the stand 3 is an arch 12, which is secured to the support 1 and provided with duplicate stop screws 13, which may be adjusted to regulate the play of the switch arms.

A frame-work composed of the three legs 14 and cross-pieces 14<sup>a</sup>, is secured to the



support 1 and all of the switch mechanism and operating devices therefor are carried by this frame-work. Connected to one of the legs and to one of the cross-pieces by coppers 15 is a shaft 16, on which is journaled the switch arms 17 (Fig. 5) by virtue of the aperture 18 provided in the rear ends of said switch arms. The switch arms are preferably rigidly connected together so that they will move as one, but they may be separately formed.

On the under faces of the switch arms are copper or other suitable contact blocks 19 which are provided with screw stems 20 passing through the switch arms and retained by nuts 21, between which are washers 22, and between the washers the wire terminals 23 encircle the screws 20, and the insulated wire 24 leads to any suitable circuit, such for instance, as an incandescent lamp socket. Suitable insulating material 25 is disposed between the contact 19 and the switch arm and between the lower nut 21 and said arm to thoroughly insulate the contact 19 from the switch arm. Secured to the under face of the switch arm, in each instance, is a block 26 having a pair of depending ears 27.

Screw bolts 28, which pass through the arm 17, are detachably connected to the ears 27 by a pin 29 so that the screw bolt can be quickly removed when desired (Fig. 7). The screw bolt 28 and the nut and washer 30 secure to the arms 17 leaf springs 31. The switch arms are retracted upwardly by coil springs 32 secured to screws 33 and to other screws 34 on the cross-piece 14<sup>a</sup>.

Pivoted on a pin 35, which is held to ears 36 on one of the legs 14 by coppers 37, is a lever 38 which has a cam face 39 on its upper end, an arm 40 being secured to the lever and bearing against the free outwardly extending portions of the springs 31, the engagement of the springs 31 with the arm 40, and the action of the springs 32 serving to keep the parts in the position shown in full lines. The lever 38 may be guided in any suitable manner, as for instance, by a finger 14<sup>b</sup>.

Slidable through two of the legs 14 is a round rod 41 which carries a wheel 42 at one end to bear against the cam surface 39. This wheel could be dispensed with and the end of the rod 41 made to bear directly against the surface 39. The other end of the rod 41 carries an L-shaped combined arm and signal 43, one leg of which is made adjustable to different positions on the rod 41 by the nuts 44 the longer of the two arms being of sufficient length to be made to extend horizontally (Figs. 1 and 2) to lie in the path of the pressing or sad iron, and the whole rod and arm being adapted to be turned to bring said longer part of the arm into upright position,

as shown in Fig. 3, when it is desired to prevent engagement of the arm by the pressing or sad iron. The part 43 then serves as a signal to show that the current is not on. The shorter arm 43<sup>a</sup> is adapted to strike against the leg 14 adjacent thereto when the signal is turned to the position shown in Fig. 3, so that when in this position, the rod 41 cannot be shifted from the position shown in Fig. 3. To prevent the weight of the longer part of the arm 43 from causing the arm to drop, a stop plate 45 is provided on leg 14<sup>a</sup> and the parts may be notched, as shown at 43<sup>b</sup> and 45<sup>a</sup> to permit the longer part of arm 43 to lie in an inclined position, as shown by dotted lines in Fig. 2. The notch 45<sup>a</sup> also receives the longer part of the arm 43 when the pressing or sad iron handle is engaged with said arm, as shown in Figs. 1 and 2, and the top-piece 14<sup>a</sup> is provided with a stop 46 which, when the parts are in said position, engages the inner nut 44 and prevents turning of the arm 43 and the rod 41.

The pressing or sad iron, may be of any preferred type, that shown being composed of a shoe 50 to which the body 51 is secured by bolts 52, the top being shown at 53 and the handle at 54 as secured to the top and the body 51 by bolts 55. Fastened by screws to the nose of the sad iron is a plate 57, which is surmounted by suitable insulating material 58, on which are contact blocks 59 corresponding to the contact blocks 19 and fastened to the body 51 by screws which pass through larger openings in the plate 57 and are suitably insulated.

The contacts 59 are electrically connected to a suitably insulated resistance 64 lying between the shoe 50 and body 51 by metal strips 66 which are also suitably insulated.

The pressing or sad iron may be of any preferred form, the only novelty I claim in connection therewith being the disposition of the contacts 59 on the top of the pressing or sad iron.

Normally the switch arms 17 are raised and the different parts in the positions shown by full lines. If it is desired to merely place the pressing or sad iron on the stand without heating it, the arm 43 is turned upwardly to the position shown in full lines in Fig. 3 and in dotted lines in Fig. 2, the shorter arm 43<sup>a</sup> then being adapted to abut the leg 14 and prevent movement of the rod 41, and the arm 43 is prevented from dropping by reason of the engagement of arm 43<sup>a</sup> with stop 45. The pressing or sad iron may then be placed as far on the stand as desired without any engagement of the contact blocks 19 and 59 resulting, and the arm 43 then constitutes a signal showing that the current is off.

If it is desired to heat the pressing or sad iron, the arm 43 will be turned down to the position shown by full lines in Figs. 1 and 2, and upon the handle of the pressing or sad



iron reaching the position shown in full lines in Fig. 1, it engages with the arm 43 and further pushing of the pressing or sad iron on the stand results in the rod 41 sliding through the legs 14 and by the engagement of wheel 42 with cam 39, causing the lever 38 to be pushed to the position shown by dotted lines in Fig. 1 and full lines in Fig. 2, the arm 43 finally resting in the notch 45<sup>a</sup> and the stop 45 engaging the inner nut 44 and preventing it from turning. When the lever 38 moves, the arm 40 wipes against the under faces of the free ends of the leaf springs 31, which by their yielding action permit the travel of the arm 40, and at the same time, said arm 40 causes the forward end of the switch arm 17 to be thrown down, thus bringing the contact blocks 19 down upon the contact blocks 59, where they are held as long as the handle 54 of the pressing or sad iron is in engagement with the arm 43, and the current then traverses the strips 66 and 64 and heats the pressing or sad iron.

The construction of the stand prevents the heat from being transmitted to any dangerous degree to the columns 2. Immediately the user slides the pressing or sad iron off of its stand, as shown in Fig. 1, the springs 32 and the spring action of the springs 31 on arm 40 cause the parts to assume the positions shown in full lines and, by reason of the manner in which the arm 40 coöperates with springs 31, the contacts 19 are snapped out of engagement with contacts 39 and sparking is minimized. The screws 13 can be adjusted as found desirable to regulate the downward play of the switch arms 17, and adjustment of the arm 43 can be had by moving the nuts 44. Whenever it is desired to place the pressing or sad iron on the stand without heating it, the arm 43 may be first thrown up into the position shown in Fig. 2, (see dotted lines) and 3 and a signal is thus provided showing that the current is off.

I desire it understood that, aside from the other features of the invention, I consider myself the first to provide a signal for a pressing or sad iron heating stand, whether such signal be mechanical, electrical or otherwise, and to operate or control the electrical circuit switch or controller by a device operated by the pressing or sad iron and shiftable from operating position and I am aware that various changes of construction may be resorted to without departing from the spirit of the invention and lay claim to all modifications coming within the spirit thereof.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In an electric heating stand and pressing or sad iron, the combination with contacts on the pressing or sad iron, of a movable electric switch on the stand adapted for posi-

tive operation by the pressing or sad iron to engage said contacts, and an indicator for showing whether the switch is open or closed.

2. In an automatic switch and stand for pressing or sad irons, the combination with means for controlling the circuit for heating the pressing or sad iron, of a shiftable member for causing operation of said circuit controlling means aforesaid which is adapted to be positioned to be engaged by the pressing or sad iron when on the stand for the operation of the circuit controlling means or to be shifted so that the pressing or sad iron cannot engage it.

3. In an electric heating stand and pressing or sad iron, the combination with contacts on the pressing or sad iron, of a movable electric switch on the stand adapted for positive operation by the pressing or sad iron to engage said contacts.

4. In an automatic switch and stand for pressing or sad irons, the combination with a movable switch arm adapted to control the circuit for heating the pressing or sad iron, of a leaf spring carried thereby, an arm coöperating with the leaf spring, a spring for operating the switch arm, and means operable by the pressing or sad iron for shifting the arm to move the switch arm.

5. In an automatic switch and stand for pressing or sad irons, the combination with a movable switch arm adapted to control the circuit for heating the pressing or sad iron, of a leaf spring carried thereby, an arm coöperating with the leaf spring, a spring for operating the switch arm, a longitudinally movable rod for shifting said arm, and means for shifting the rod by the pressing or sad iron.

6. In an automatic switch and stand for pressing or sad irons, the combination with a switch for controlling the circuit for heating the pressing or sad iron, of a longitudinally shiftable rod for operating said switch, and means for shifting the rod from the pressing or sad iron.

7. In an automatic switch and stand for pressing or sad irons, the combination with a switch for controlling the circuit for heating the pressing or sad iron, of a longitudinally shiftable rod for operating said switch, and means carried by the rod adapted for engagement by the pressing or sad iron and for shifting out of the path of the pressing or sad iron to prevent movement of the said rod.

8. In an automatic switch and stand for pressing or sad irons, the combination with a switch for controlling the circuit for heating the pressing or sad iron, of a longitudinally movable rod adapted for turning on its axis which controls the switch, and means carried by the rod adapted to be positioned for engagement by the pressing or sad iron to cause operation of the switch by said sad iron or to be turned with the rod to prevent engagement with the pressing or sad iron.



9. In an electric heating stand for sad irons, the combination with a sad iron carrying an electric heating device, of electric terminal contacts for said heating device which are on top of the sad iron, and a movable electric switch on the stand adapted to engage said contact terminals.

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

FRANK E. EMERY.

Witnesses:

FRANCIS DEPEW,  
MARY T. COOGAN.