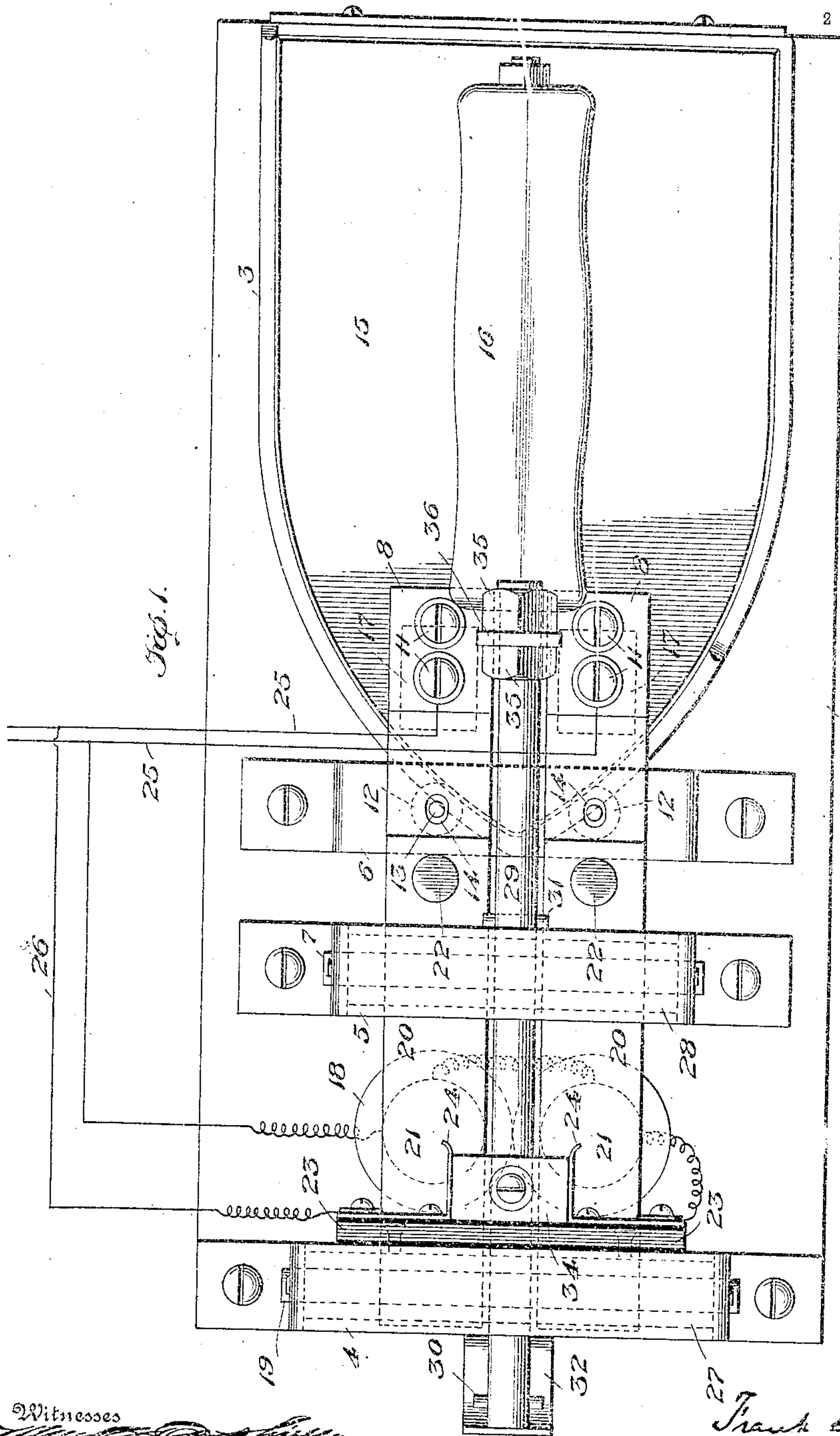


F. E. EMERY.
 AUTOMATIC ELECTROMAGNETIC SWITCH AND STAND FOR PRESSING IRONS.
 APPLICATION FILED AUG. 24, 1908.

913,481.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.



Witnesses
G. V. Lockwood

34

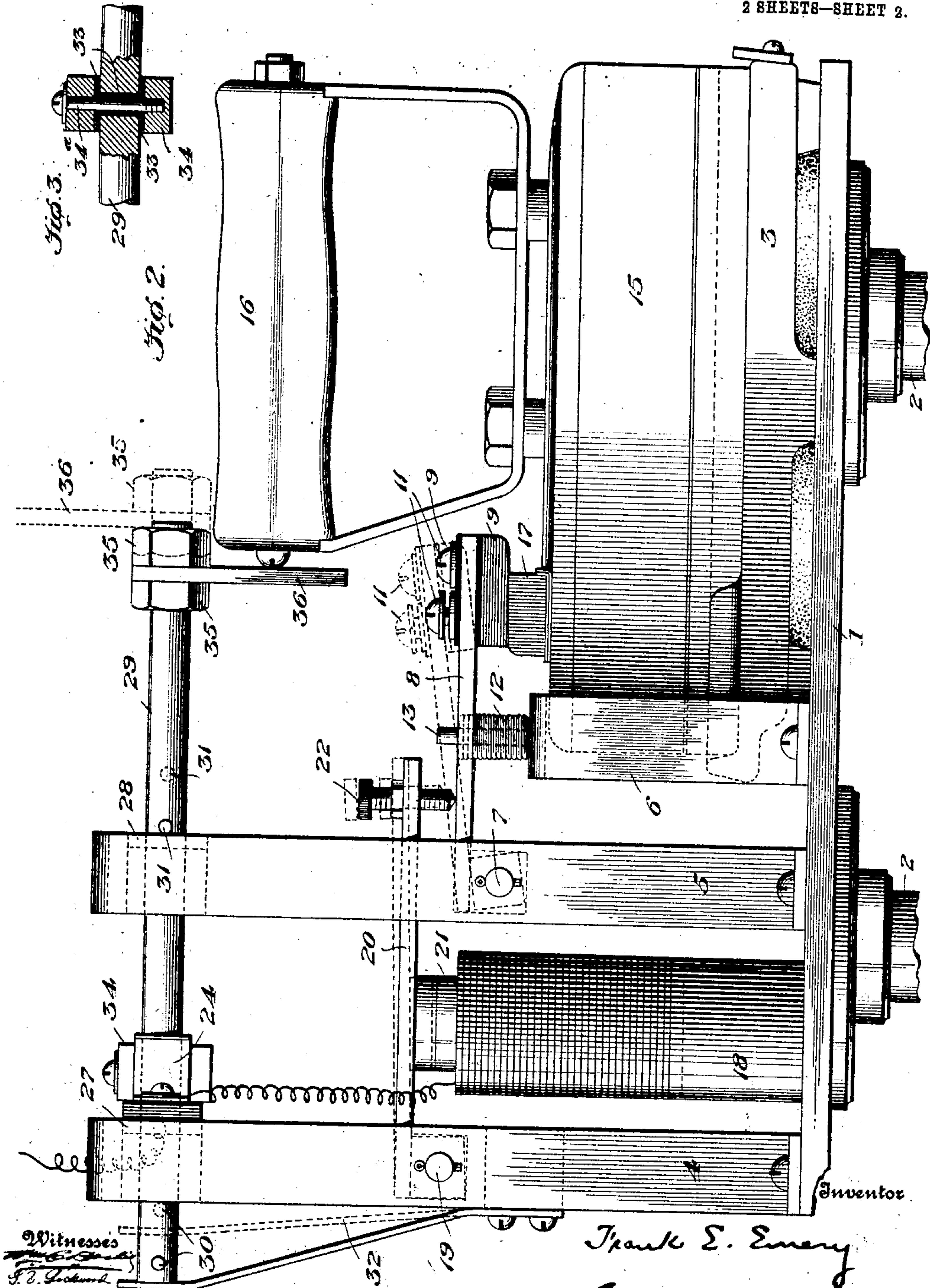
Inventor
Frank E. Emery
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 his Attorney

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Louis H. Franklin
 his Attorney

UNITED STATES PATENT OFFICE

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

AUTOMATIC ELECTROMAGNETIC SWITCH AND STAND FOR PRESSING-IRONS.

No. 913,481.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed August 24, 1908. Serial No. 428,964.

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 Electromagnetic Switches and Stands for Pressing-Irons, of which the following is a specification.

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

The object of the present invention is the provision of an electro-magnetic switch and stand for electrically heating pressing irons which will have novel switch mechanism adapted to cause a quick make or break of the circuit and thus minimize sparking when the pressing iron is placed on the stand or removed therefrom; novel operating means actuated by the placing of the pressing iron on the stand or its removal therefrom, which electrically controls the operation of the switch which closes or opens the circuit to the pressing iron, which may be set so that the circuit cannot be completed when the pressing iron is placed on the stand and will also serve as a signal to indicate whether the current is on or off when the iron is on the stand; and, generally, to provide a novel electro-magnetically operated switch and stand of simple and efficient construction, adapted for adjustment to suit conditions of use, certain in its operation, inexpensive of manufacture, and which will require no special knowledge for its use and will be practically incapable of derangement through carelessness.

The invention is susceptible of many changes without a departure from the spirit and scope thereof, but in the following specification a full disclosure is given of a convenient form the invention may assume.

In the accompanying drawings:—Figure 1 is a plan view; Fig. 2, a side elevation, dotted lines showing the normal position of the parts with the exception that the combined arm and signal is also shown by dotted lines in raised position as when it is desired to use the stand without heating the iron; and Fig. 3, a detail of the contact block and rod.

The support 1 for the pressing iron stand may be supported in any 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 iron to and from

the ironing board or table. The pressing iron stand 3 is suitably secured to the support 1.

The support 1 carries three upright arched frames 4, 5 and 6. A rod 7, which is journaled in the sides or legs of the arch 5, has securely connected thereto switch arms 8, which carry contact blocks 9 at their outer ends, suitable insulation 10 properly insulating the contact blocks from the arms 8, and also the binding screws 11. The contact arms 8 rest upon coil springs 12 which are supported by the top of the arch 6 and surround stationary pins 13 projecting upwardly from said arch 6 and lying within elongated slots 14 in the switch arms. The pressing iron 15, which has the usual handle 16, is provided with contact blocks 17 on its front upper part, said blocks being suitably insulated from the pressing iron and being in circuit with the resistance carried by the iron from which said iron derives its heat when the current is on. Located between the frames 4 and 5 is a suitable electro-magnet 18 which is secured to the support 1.

Journaled in the legs of frame 4 is a rod 19 to which are secured armature levers 20 carrying armatures 21. The armature levers carry adjustable screws 22 at their outer ends whose tips bear upon the respective switch arms 8. By adjusting the screws 22, the amount of play of the armature levers and switch arms and the strength of the magnetic attraction may be readily regulated. Secured to the upper part of the frame or arch 4 is insulating material 23 to which is fastened contact blocks or arms 24.

The feed wires are shown at 25 as directly connected to the binding screws 11 on the respective switch arms and the electro-magnet 18, and the spring contacts or arms 24 are in a shunt 26 on said feeders 25.

Slidable through cross-pieces 27 and 28 carried by the frames or arches 4 and 5 is a round rod 29 which carries pins 30 and 31 which are adapted to limit its play in both directions, said rod being urged toward the rod by a leaf spring 32 secured to the frame 4 and bearing against the outer end of said rod. Surrounding the rod and extending through an aperture therein is insulating material 33 to which is fastened by a screw 34 (Fig. 3) a square shaped contact 34 of sufficient width to pass between the spring contacts 24 and to engage them with sufficient frictional contact to insure proper completion of the cir-

cuit when the rod 29 is pushed to the left, as shown in full lines, but when the rod is pushed to the right by the spring 32, the block 34 passes out of engagement with the spring arms 24 and the circuit is broken. Secured by nuts 35 to the inner end of the rod 29 is a combined arm and signal 36. The nuts afford means for adjusting the arm 36 lengthwise of the rod and securing it where adjusted.

The arm 36 when turned into downward position, as shown in Fig. 2, is in line to be engaged by the handle 16 of the pressing iron so that when the pressing iron 15 is placed upon the stand 3, if the arm 36 is in lowered position, the handle 16 will engage it and push the rod 29 to the left, thereby bringing the contact 34 into engagement with the spring arms 24 (Fig. 1), whereupon the circuit 26 to the electro-magnet 18 is completed and the armatures 21 are immediately attracted downwardly, and their movement causes the screws 22 to snap the switch arms 8 downwardly against the reactionary effect of the coil springs 12 and causes the contact blocks 9 to engage the contact blocks 17, whereupon the main circuit 25 supplies electrical current to the pressing iron and the latter is heated as long as it remains on the stand. On removing the pressing iron from the stand, the spring 32 pushes the rod 29 to the right and the contact block 34 disengages from the springs 24, whereupon the shunt circuit 26 is opened and the deenergization of the electro-magnet 18 permits the springs 12 to throw the switch arms and armature levers upwardly, and the contact blocks 9 separate from the contact blocks 17, thus breaking the circuit 25 to the pressing iron.

When the user desires merely to place the iron on the stand and does not wish to heat it, the arm 36 is turned, with the rod 29, into the upright position shown by dotted lines in Fig. 2, and hence it is out of position for engagement by the handle 16 and the switch is not operated. When in upright position, the arm 36 serves as a signal to indicate that the current is off, and the iron will not be heated if placed on the stand or is not being heated while on the stand.

I desire it understood that I consider myself the first and original inventor of an electro-magnetically operated switch and stand for pressing irons and of a signal of any kind when used in connection with the same and I lay claim to all modifications of the present invention.

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

1. The combination with a pressing iron stand, of an electro-magnetically operated switch therefor for controlling the electrical heating of the pressing iron, and a self-con-

tained pressing iron having contacts adapted to be engaged by said switch.

2. The combination with a pressing iron stand, of an electro-magnetically operated switch therefor for controlling the electrical heating of the pressing iron, means controlling the circuit of said electro-magnetically operated switch, and a pressing iron adapted to mechanically operate said means when placed on the stand.

3. The combination with a pressing iron stand, of an electro-magnetically operated switch therefor for controlling the electrical heating of the pressing iron, and a signal or indicator adapted to show whether the switch is open or closed.

4. An electro-magnetically operated switch and stand for pressing irons embracing an electro-magnetically operated switch for controlling the circuit for heating the pressing iron, and means mechanically operable by the pressing iron for opening and closing the circuit of the electro-magnetically operated switch aforesaid, said means being shiftable out of position so that it will not be engaged by the pressing iron.

5. An electro-magnetic switch and stand for pressing irons embracing an electro-magnetically operated switch adapted to open and close the circuit for heating the pressing iron, and a self-opening switch controlling the electro-magnetically operated switch and adapted to be mechanically operated by the pressing iron.

6. An electro-magnetic switch and stand for pressing irons embracing an electro-magnetically operated switch adapted to open and close the circuit for heating the pressing iron, a self-opening switch controlling the electro-magnetically operated switch, and an operating device for closing said switch which is adapted to be positioned for engagement by the pressing iron or shifted out of position so that it will not be engaged thereby.

7. An electro-magnetic switch and stand for pressing irons embracing an electro-magnetically operated switch adapted to open and close the circuit for heating the pressing iron, a self-opening switch controlling the electro-magnetically operated switch, said self-opening switch being controlled by a spring-actuated slidable rod having a movable member adapted to be positioned for engagement by the pressing iron or to be moved out of position for engagement thereby.

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

FRANK E. EMERY.

Witnesses:

WM. H. KENYDRY,
HENRY R. CLARK.