No. 606,642. Patented July 5, 1898.

W. G. BOUGHTON.

SAD IRON.

(Application filed July 3, 1897.)

(No Model.)

Fig. 1.

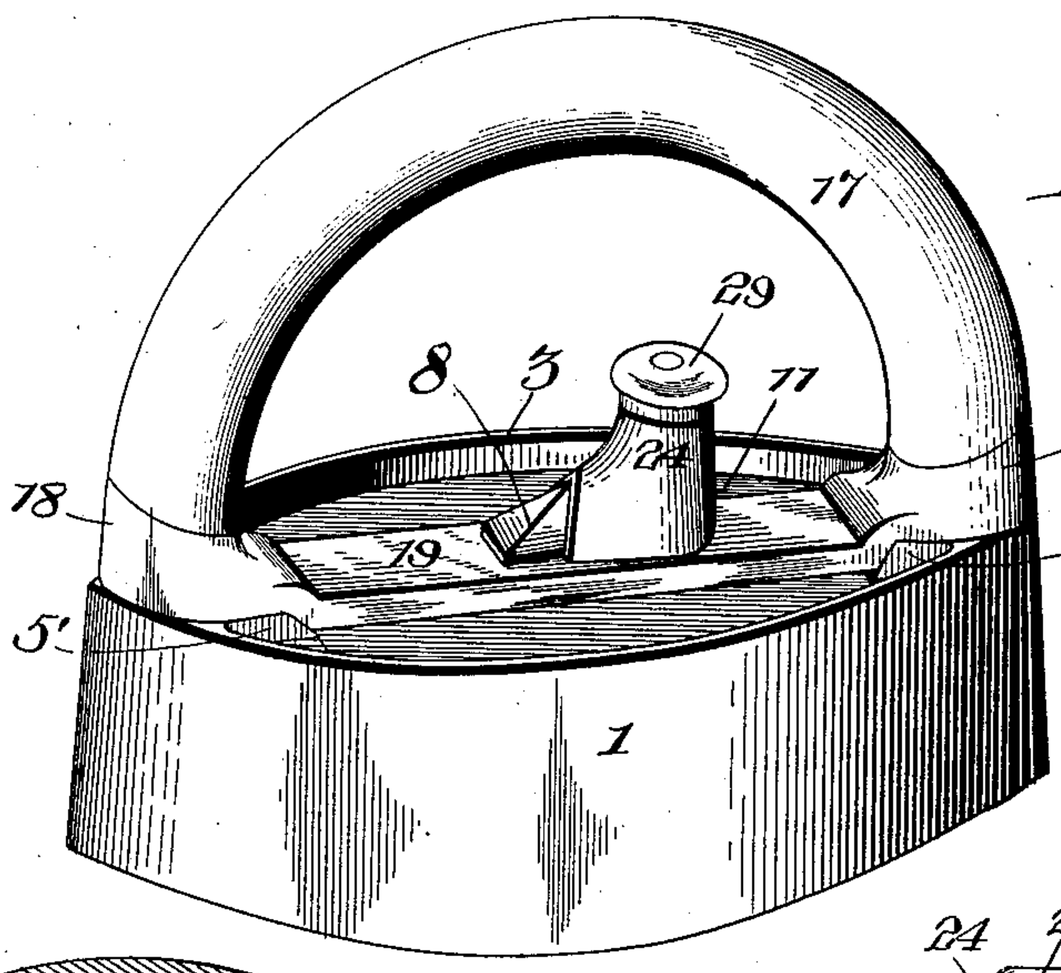


Fig. 5.

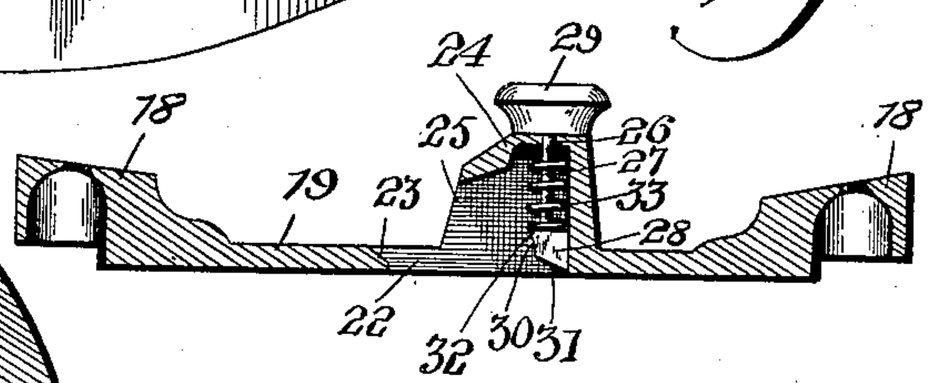


Fig. 2.

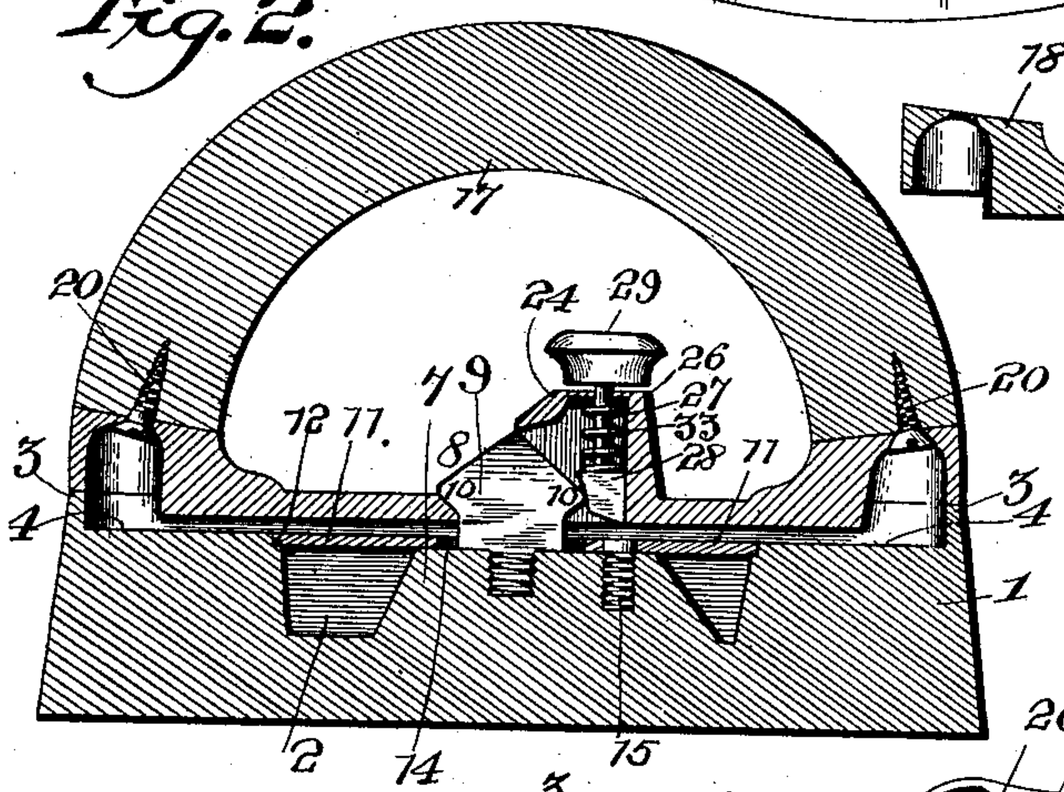


Fig. 4.

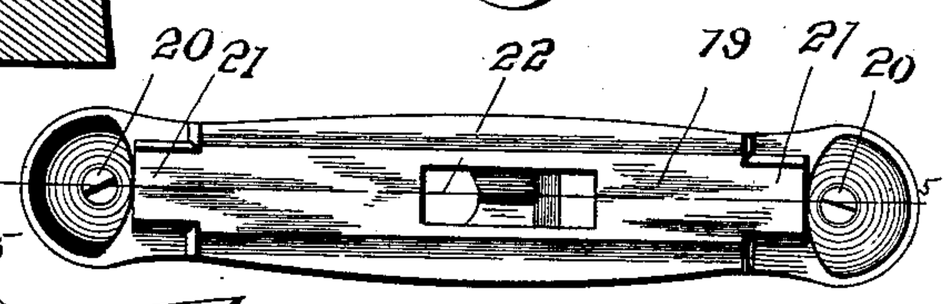
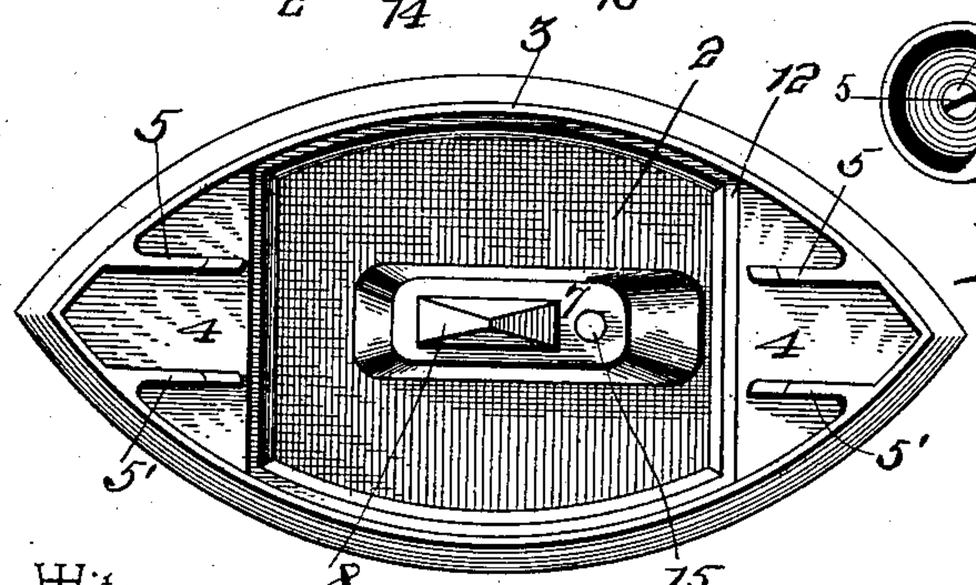


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM G. BOUGHTON, OF FROSTBURG, MARYLAND.

SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 606,642, dated July 5, 1898.

Application filed July 3, 1897. Serial No. 643,409. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. BOUGHTON, a citizen of the United States, residing at Frostburg, in the county of Allegany and State of Maryland, have invented a new and useful Sad-Iron, of which the following is a specification.

My invention relates to improvements in sad-irons; and the object of the invention is to provide a simple construction and arrangement of parts in which the handle may be coupled automatically to the body of the iron and detached easily and quickly therefrom, the connection between the handle and the body being such as to secure the parts against lateral or sidewise displacement or vibration to thus hold the handle in steady relation to the body.

A further object of the invention is to provide a simple and efficient locking device which may be easily and quickly adjusted without liability of burning the fingers or hand by contact with the hot body of the iron.

To the accomplishment of these ends my invention consists in the novel construction and arrangement of parts and in the combination of devices, which will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated the same in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of my improved sad-iron. Fig. 2 is a vertical longitudinal central sectional elevation of the invention. Fig. 3 is a plan view of the body of the iron. Fig. 4 is an inverted or bottom plan view of the handle. Fig. 5 is a detail sectional view on the plane indicated by the dotted line 5 5 of Fig. 4.

Like numerals of reference denote corresponding parts in all the figures of the drawings, referring to which—

1 designates the body of the sad-iron, which is cast in a single piece of metal. This body 1 is of the shape usually given to sad-irons which are used in connection with double-pointed ends and detachable handles, although the particular shape is not material. The body 1 is cast in a single piece with the enlarged central chamber 2, and around the upper edge of the body is the marginal boundary flange 3, integral with the body. Between the ends of the chamber 2 and the ends of the pointed body are the flat horizontal faces 4 4 on planes within the marginal flange or rim 3 of the body, and on these flat faces 4 of the body are arranged the longitudinal short flanges 5 5′. A pair of these short flanges 5 5′ is arranged at each end of the body, and these flanges extend from the marginal flange 3 nearly to the end wall of the chamber 2, said flanges lying flush with the marginal flange 3 of the body. The flanges of each pair lie parallel to each other, and they form pockets to receive the base of the handle in a manner to hold the handle against horizontal or lateral displacement on the body.

Within the chamber 2 of the body is provided a pillar or block 7, which is cast as an integral part of the body and is arranged in a central position thereon and within the chamber 2. This pillar 7 rises a suitable distance from the bottom of the chamber, and it supports a post or stud 8, which constitutes the means for the engagement of the locking device on the handle, whereby the handle may be detachably coupled and locked with the body of the iron. This post or stud 8 has a head 9 of pyramidal form—that is to say, the head 9 has faces which are inclined fore and aft, as well as laterally, with relation to the axis of the body 1—and in the end faces of this pyramidal head 9 is provided the notches or recesses that produce the overhanging lips or ribs 10 10, which lie at the base of the inclined faces of the head 9 and at the front and rear ends of the stud. This post and its head are made or cast in a single piece. The headed post or stud may be made as an integral part of the pillar 7 and the body 1 of the iron, or the headed post may be made separate from the pillar and be provided with a threaded shank, whereby the post may be attached to the pillar 7, as will be readily understood.

I prefer to close the chamber 2 of the body by means of a cap-plate 11, which serves to exclude dust, dirt, &c., from the body and retains the heat, although the cap-plate may be dispensed with and the chamber 2 left open, as may be desired. The walls of the chamber at the upper open side thereof are recessed or cut to provide the seat 12, and the

cap-plate is shaped and proportioned to fit within the recessed part of the body, so as to rest on the seat 12 and to be arranged flush with the faces 4 4 of the body. This cap-plate may be stamped from a single piece of sheet metal or it may be cast in a single piece. At or near its middle the cap-plate 11 has a longitudinal slot 14, through which projects the pyramidal head 9 of the fixed post or stud when the cap-plate is connected to the body 1, and to hold this cap-plate in place I also provide the pin 15, which passes through an aperture provided in the cap-plate at one side of the slot 14 therein. The holding-pin, which passes through the aperture in the cap-plate, is headed or riveted down upon the cap-plate to firmly secure the same in position. This holding-pin 15 may be cast as an integral part of the pillar 7 or it may be provided with a threaded shank for its convenient attachment to said pillar, as will be readily understood.

The handle of my sad-iron is designated by the numeral 17. Said handle is made of wood or other non-conductor of heat, and it is of the curved or arched form, as shown. This non-conducting handle is fitted snugly to the end bosses 18 18 of a base 19, and these end bosses are hollowed out to provide chambers, through which are passed the screws 20, that serve to rigidly attach the handle to its base 19. This base 19 is a single casting, which is fashioned in a peculiar manner to adapt it for service in connection with the headed post 8, and with the pockets formed by the end flanges 5 5′ on the body 1. The bottom face of the base 19 is recessed or cut away at its ends to provide the tongues 21, the dimensions of which are such that the tongues may fit snugly between the flanges 5 5′, whereby the base 19 of the handle is adapted to fit properly to the body and to be retained thereon by the flanges 5 5′ against sidewise displacement. In the middle of the base 19 of the handle is provided a longitudinal slot 22, one end wall or edge of which is inclined or beveled, as at 23, to adapt the lip or rib 10 on one end of the head 9 to engage snugly with said beveled edge 23 of the slot in the handle-base 19.

From the upper face of the handle-base 19 rises a hollow guide or boss 24, one side of which is open at 25 for the reception of part of the pyramidal head 9 of the fixed post. The hollow boss or guide is closed on all sides except at the bottom, where it opens into the slot 22, and at the side where the opening 25 is provided for the pyramidal head 9, and the upper extremity of this boss 24 is pierced by a vertical opening 26 for the passage of the stem 27 of the locking-catch 28. This locking-catch is fitted inside of the hollow guide to lie snugly against a vertical wall thereof and to fit snugly between the sides of said guide; but the catch itself is free to have a limited oscillating play within the guide to enable it to be adjusted into or out of engagement with one recessed end of the pyramidal head 9 of the fixed post 8. The stem 27 of the catch 28 is fitted loosely in the aperture 26 of the guide to insure to the catch the necessary limited play within the guide, and on the protruding end of the stem is fastened a knob 29, of wood or other non-conducting material, to prevent burning the operator's fingers when the knob is grasped and adjusted. The catch 28 has a curved face 30 and a beveled foot 31 to enable the catch to ride over one of the inclined faces of the pyramidal head 9, and said catch also has an abrupt shoulder 32, upon which bears the lower end of the spring 33. This spring tends to normally press the catch downwardly, and it is fitted around the shank or stem of the catch to bear against the closed upper end of the boss and the shoulder of the catch; but the downward movement of the catch, under the influence of the spring, is arrested by the knob 29 when the handle is detached, said knob being arranged to rest upon the closed upper end of the boss or guide.

This being the construction of my improved sad-iron, the operation may be described as follows: The handle is fitted to the body to bring the tongues of the handle-base into the pockets formed by the flanges 5 5′ and to cause the pyramidal head 9 to enter the slot 22 of the handle-base. The handle is pressed downward, the pyramidal head 9 serving as a guide to direct the handle-base into proper engagement with the body. As the handle is forced down the catch 28 yields or gives in an upward direction to permit the head 9 to enter the guide or boss 24, and one of the lips 10 of said head engages with the beveled edge 23 of the base 19, while the curved face of the catch presses against and engages with the other lip 10 of said head. The handle and its base have a limited sliding movement, as well as a downward movement, in the act of connecting the handle to the body. It will be observed that the handle is held against sidewise displacement by the flanges 5 5′; but the handle is coupled by the interlocked base 19, the headed post 8, and the catch 28 to prevent the separation of the parts in a vertical direction when the sad-iron is used or handled. To disconnect the handle from the body, it is only necessary to lift the catch by grasping its knob 29 and then move the handle slightly to withdraw its slotted base free from the head 9 of the post or stud 8, after which the handle can be readily lifted off the body.

From the foregoing description, taken in connection with the drawings, it is apparent that the handle may be coupled automatically with the body by simply placing the handle in position and shoving it into the seat and in engagement with the headed stud. The handle may thus be easily and quickly coupled to the body, and the implement may be used without danger of burning the hand or the fingers, because the only parts required to be grasped by hand are made of non-conducting substance.

In my improved sad-iron the stud 8 is pro-

vided with a pyramidal head 9, which has its end faces and its side faces inclined to meet at an apex lying substantially in the vertical axis of the post or stud 8. This construction of the pyramidal-headed post, in connection with the hollow boss or guide 24, which has inclined or diverging walls, is an important feature of my improved sad-iron, because the parts serve to guide the handle to properly seat itself upon the body of the iron. In the practical use of an implement of this class the operator is frequently in haste to apply the handle to the iron and does not take the time to properly and accurately adjust the handle. In my device the handle may be placed at an angle across the iron-body, with the pyramidal post fitting in the slot 22 of the handle-base, and when downward pressure is applied to the body the inclined faces of the head 9 serve to guide the handle into proper position for the base thereof to fit the iron-body.

The tongues 21 at the end of the handle-base are flared or inclined vertically at their side edges, as represented by Fig. 4, and the tongues are thus adapted to wedge themselves in place between the flanges 5 and 5′, forming the seats at the ends of the iron-body, thus reducing to a minimum the tendency of the handle to swing in a lateral direction when the base of the handle is properly applied to the iron-body.

The base 19 of the handle does not have its tongues rest flat upon the body of the iron, but it fits between the flanges 5 5′, whereby air-spaces are left between the handle-base and the top face of the iron for the circulation of air, which tends to keep the handle somewhat cooler than would be the case if the handle-base rested directly on and in intimate contact with the body.

The body may be made without the chamber 2, so that the top face 4 is continuous. In this case the pyramidal stud is attached directly to the body.

One of the important features of my invention consists in providing the catch with the curved face 30, because this construction provides a means for taking up the wear between the catch and the pyramidal head of the stud. As the parts wear away from use the curved face of the catch enables the necessary connection to be made between the handle and the body.

Various changes in the form and proportion of parts may be made without departing from the spirit of my invention.

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

1. The combination with a body, and a handle, of the base-plate united to the handle and having the slot and the hollow guide, a stud or post rigid with the body and provided with the inclined-faced head and with the overhanging lips, one of which is adapted to interlock with a beveled end of the slot in said base-plate, and a movable spring-pressed catch fitted in the hollow guide to engage with the other lip of said headed post or stud, as and for the purposes described.

2. In a sad-iron, the body, and the pyramidal-headed stud having its faces arranged to converge in an upward direction both transversely and longitudinally of the iron-body to meet in a point at the vertical axis of the stud, combined with a handle-plate provided with a boss adapted to turn on, and be properly positioned by, the laterally-divergent faces of the pyramidal head of said stud, and a catch carried by the handle-plate to engage with said stud, substantially as described.

3. In a sad-iron, the combination of a pyramidal-headed stud on the iron-body, a slotted base-plate provided with a guide, and a tapered catch which rides against one side of the guide and is adapted to bear against one face of the headed stud, substantially as described.

4. In a sad-iron, the combination of a body having flanges, 5, 5′ which extend upwardly in planes parallel to the longitudinal axis of the iron-body, the stud having the pyramidal head with its side faces diverging transversely to the axis of the body, the handle-plate carrying the boss to fit the headed stud and the flared tongues to fit snugly between the flanges of the body, and a catch mounted on the handle-plate to engage said stud, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM G. BOUGHTON.

Witnesses:

JOSEPH BEAR,

O. B. BOUGHTON.