

W. P. PINEL.
DETACHABLE HANDLE FOR SAD IRONS.
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983,312.

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Fig. 1.

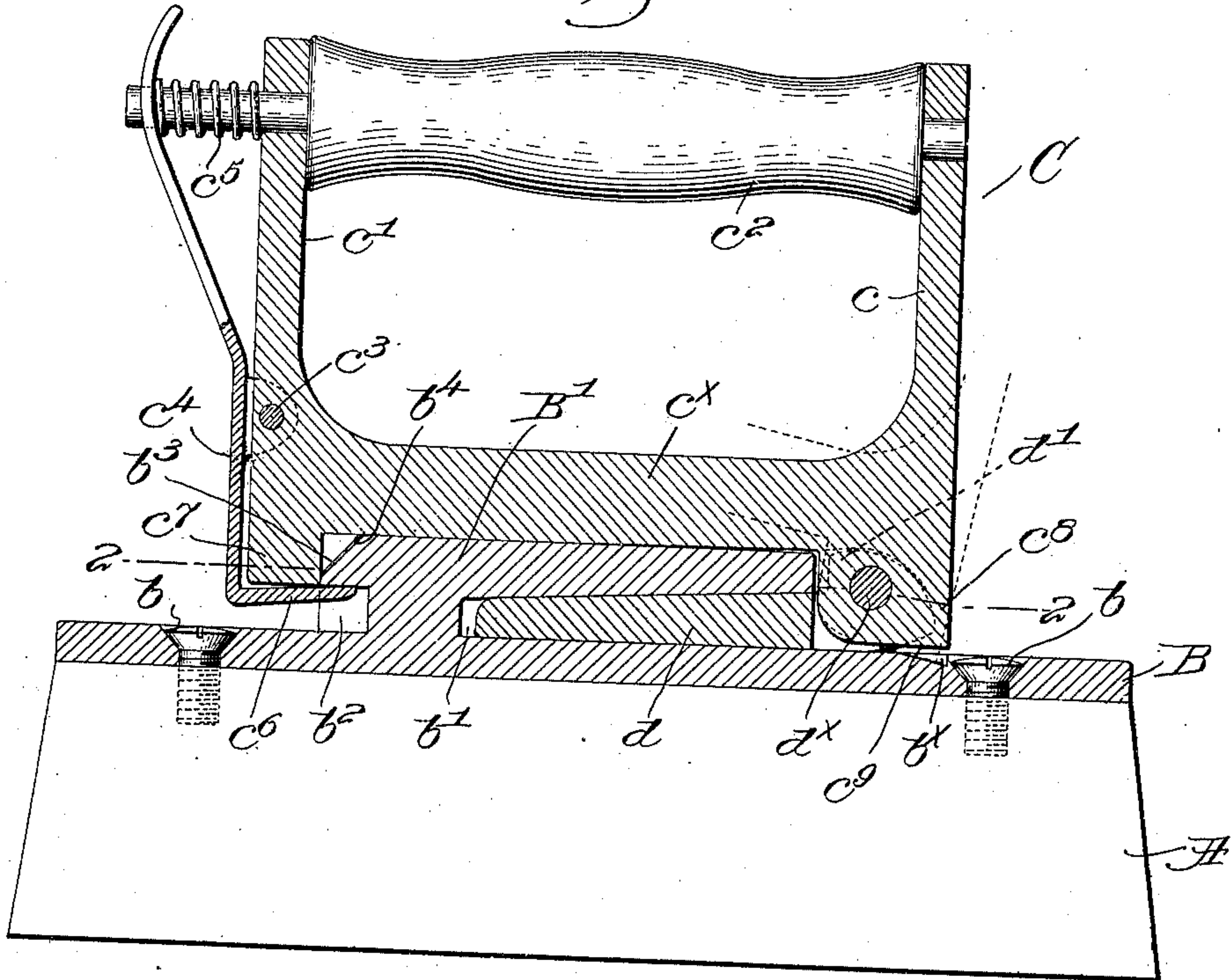


Fig. 2.

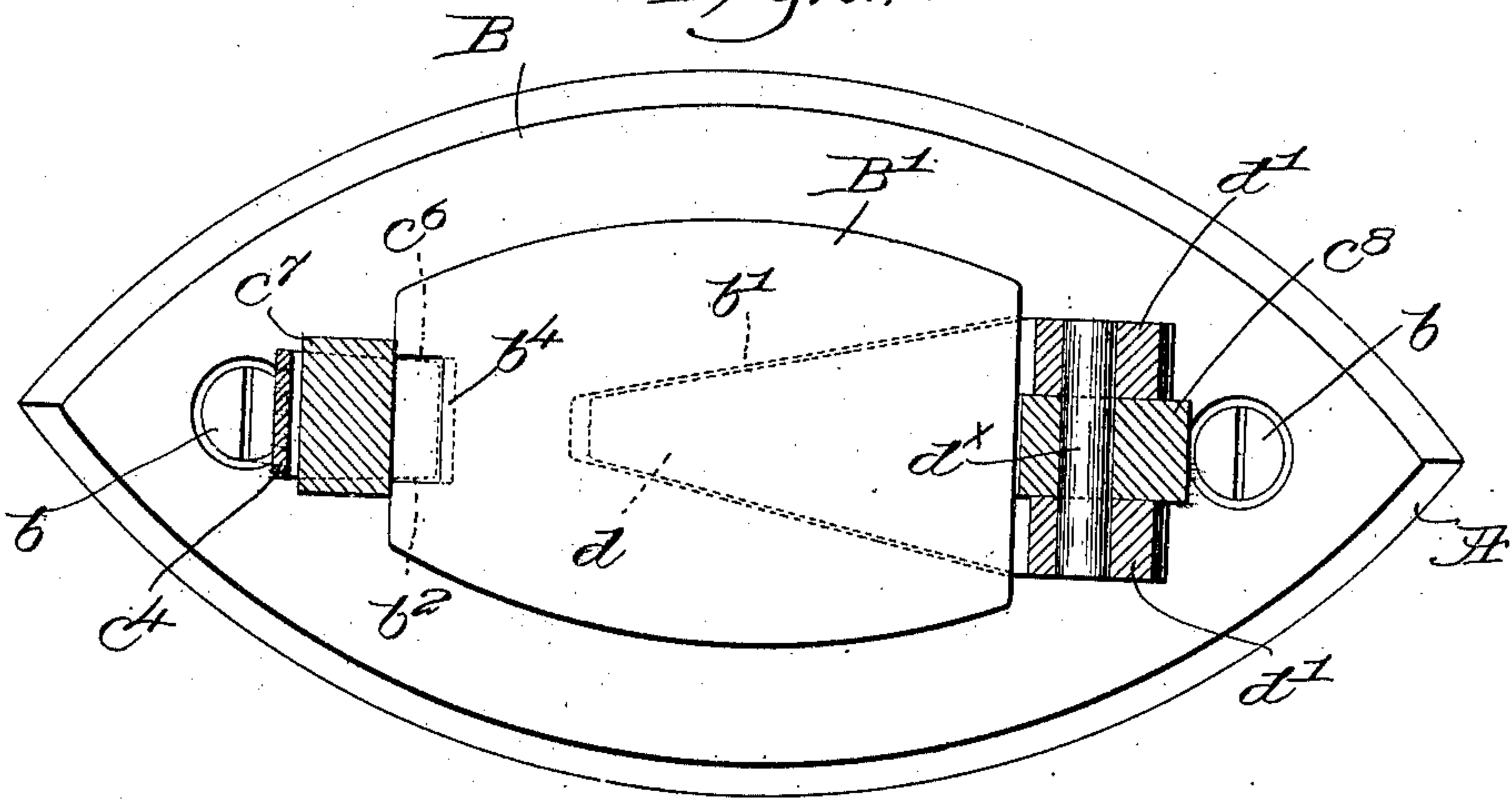
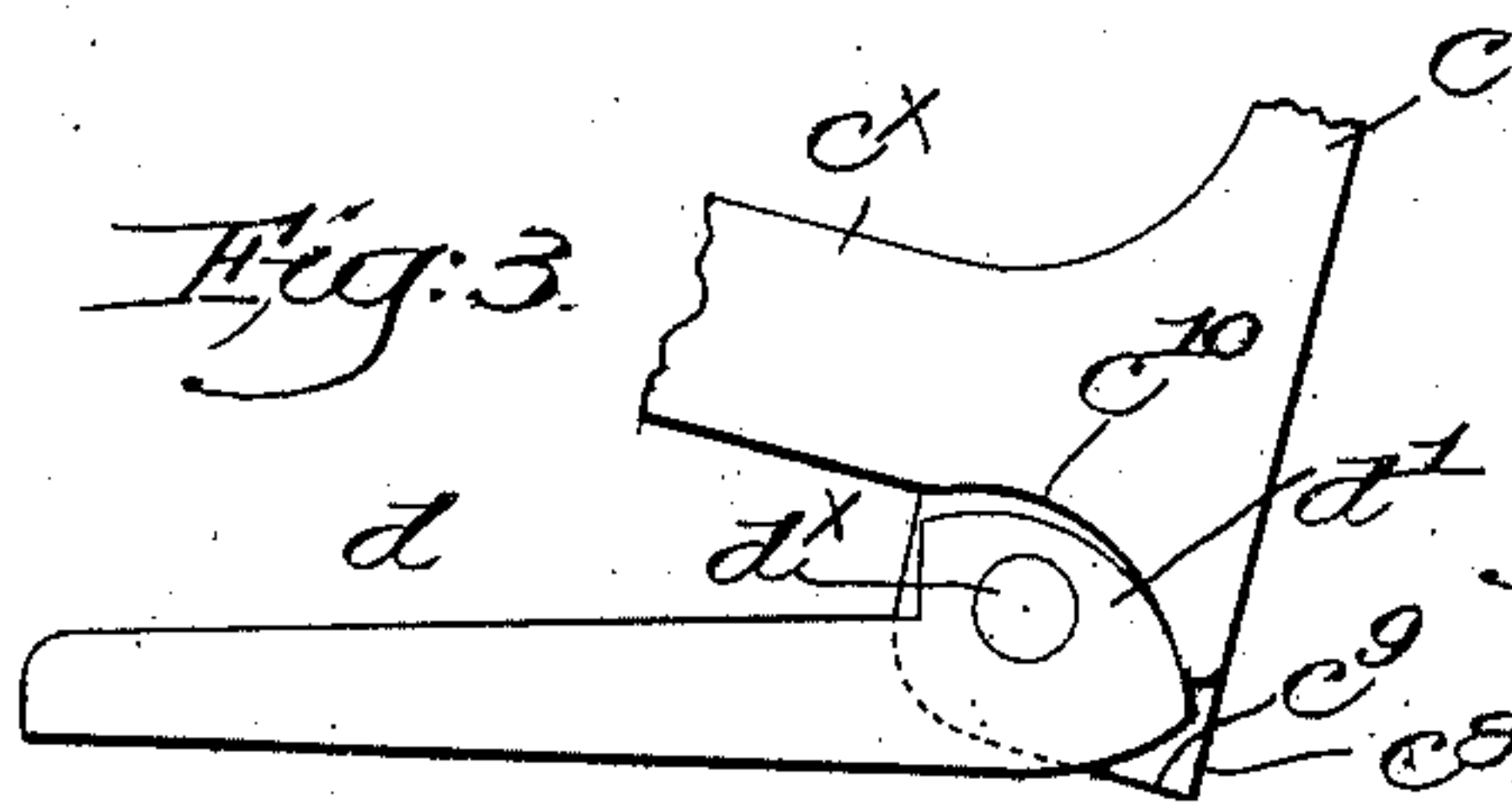


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DETACHABLE HANDLE FOR SAD-IRONS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER P. PINEL, a citizen of the United States, and resident of Quincy, county of Norfolk, State of Massachusetts, have invented an Improvement in Detachable Handles for Sad-Irons, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to that class of sad-irons which are provided with detachable handles, whereby when the body portion of one iron is being heated another hot iron can be used. Smoothing-irons of this type are so well known as to need no further description, my present invention relating more especially to the construction of the detachable handle. Such handles usually include some kind of a manually operated latch for effecting the complete connection of the handle and the sad-iron, and it often happens that the latch or equivalent device becomes released accidentally, so that when lifted by the handle the iron will slip away from the handle and fall upon the work or upon the foot of the user. Such accidents are very annoying and at times dangerous, and may result in serious burns to the user or to the work.

In my present invention I have provided novel, simple and efficient means whereby a lifting movement of the handle, if the latter is not properly connected with the sad-iron, causes said parts to be locked together automatically. The heavier the sad-iron the more securely will the handle be locked thereto, and thereby I obviate the accidents hereinbefore referred to.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a longitudinal section and part elevation of a sad-iron and a detachable handle embodying one form of my present invention, the handle being shown in full lines as attached to the sad-iron; Fig. 2 is a sectional view taken on the irregular line 2—2, Fig. 1, looking down; Fig. 3 is a detail inside elevation of the tongue and the adjacent portion of the handle on which it is pivotally mounted.

The body A of the smoothing or sad-iron may be of usual shape and structure, and in practice said iron may have a socketed por-

tion integral therewith for coöperation with the handle, as is sometimes the case, or it may have a top-plate secured thereto, as is more generally the construction. Herein I have illustrated my invention in connection with an iron of the latter type, the top-plate B being secured to the body A of the iron by suitable screws *b*, *b*, and having an elongated central built-up portion B' having a longitudinal tongue-receiving socket *b'* therein at one end. At its opposite end a smaller socket *b*² is provided, the overhanging top *b*³ forming a latch-keeper, and the part B' is beveled at *b*⁴ above such keeper, for a purpose to be described.

The handle designated as a whole at C, Fig. 1, and the greater portion made as a casting comprises the upturned ends *c*, *c'* connected by a bottom bar *c*^x, and a wooden or other non-metallic hand-piece *c*², the end *c'* having pivotally mounted thereon at *c*³ a latch *c*⁴ controlled normally by a spring *c*⁵ the rearwardly turned toe *c*⁶ of the latch extending under and beyond the depending portion *c*⁷ of the end *c'*. The end *c* is continued downward to form a depending locking lug *c*⁸, having its lower end presenting a cam-face *c*⁹, Fig. 1.

An elongated tongue *d* shaped to fit easily into the socket *b'* is provided with laterally separated ears *d'* to receive between them the lug *c*⁸, to which the ears are pivotally connected by a transverse pin *d*^x located above the cam-face *c*⁹ and nearer the inner face of the lug.

As shown in Fig. 1 the top-plate B is provided with a shallow recess *b*^x adjacent the open outer end of the socket *b'*, the bottom of the recess being preferably given a slight downward inclination outward from the socket.

Referring to Fig. 3 the sides of the handle end *c* at opposite sides of the locking lug *c*⁸ overhang the ears *d'* at *c*¹⁰ so that relative swinging movement of the tongue and handle is limited to substantially the extent shown in Fig. 3 when the handle is wholly disconnected from the sad-iron.

To release the handle from the iron, the latter is placed on the stove, iron-rest or other suitable support, and the upper end of latch *c*⁴ is pressed against spring *c*⁵, Fig. 1, to retract the toe *c*⁶ from coöperation with the keeper *b*³, and thereupon the handle as a whole is swung upward and backward on the pivot *d*^x far enough for

the latch toe to clear the adjacent end of the part B' of the top-plate. Now by a backward pull on the handle the tongue *d* is withdrawn from the socket *b'*, thereby completing the detachment of the handle from the iron.

When the handle is to be applied the tongue *d* is first inserted in the socket *b'* and then the handle is swung forward and downward about pivot *d**, and the latch-toe *c⁶* is pushed outward as it slides over the beveled part *b⁴* and then snaps into place in the socket *b²* when it clears the keeper *b³*.

The opposed faces of the depending parts *c⁷* and *c⁸* of the handle ends are spaced apart just far enough to snugly embrace the opposite ends of the socketed portion B' of the top-plate B when the handle is in attached position, as shown in Fig. 1.

From the foregoing it will be understood that the handle is connected at its opposite ends with the sad-iron by separate devices, to wit, the latch at one end and the tongue at the other end.

If for any reason the latch should fail to catch or should become released accidentally an attempt to lift the iron by the handle would result in the iron slipping off the handle and falling were not some means provided to prevent it. Herein the locking lug *c⁸* is at such time brought into action automatically to lock the handle and the sad-iron together if the handle is lifted when the latch is inoperative.

Referring to Fig. 1, let it be supposed that the latch is disengaged from its keeper, and so offers no resistance to an upward and rearward swing of the handle when grasped to lift the iron. The weight of the latter at such time serves to hold the tongue *d* stationary as the handle is swung upward on the pivot *d** into abnormal position, indicated by dotted lines, Fig. 1, and the face *c⁹* of the lug *c⁸* is thereby brought into locking engagement with the bottom of the recess *b^x*. The heavier the iron the greater will be the pressure between the said engaged parts and the more securely will the handle and the sad-iron be locked together, so that the tongue cannot be withdrawn from its socket until the pressure is relieved and the parts are thereby unlocked.

I prefer to have the locking lug enter a recess, as *b^x*, for thereby additional security is secured against separation of the handle and the body of the iron, for the transverse outer end of the recess and the outer face of the locking lug also cooperate to lock the parts together.

As the cam-face *c⁹* is very close to the pivot *d**, compared with the latch-toe *c⁶* and the depending part *c⁷* of the handle, the movement of the latter parts necessary to disconnect them from the top of the sad-iron is accompanied by a very slight move-

ment of the cam-face, so that the latter will not engage the adjacent part of the top-plate when the handle is rocked normally to effect removal of the tongue from its socket. Thus the automatic locking action will only be effected at the proper time, by an abnormal swing of the handle, and hence will not interfere with the ordinary manipulation of the handle.

I can use my invention with sad-irons having other detachable handles and top-plates by simply removing the old top-plate and substituting therefor the top-plate and handle embodying my invention.

Various changes or modifications in details of construction may be made by those skilled in the art without departing from the spirit and scope of my invention as set forth in the annexed claims.

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

1. The combination with a sad-iron provided with a longitudinal tongue-receiving socket, of a handle having a pivotally connected tongue and a latch, to detachably connect the handle and sad-iron, and means to automatically lock together the handle and sad-iron and prevent accidental disengagement thereof if the iron is lifted when the latch is released.

2. The combination with a sad-iron provided with a longitudinal tongue-receiving socket, of a handle having a latch at one end and a pivotally connected tongue at its other end, to detachably connect the handle and sad-iron, and a locking lug depending from the handle adjacent the tongue, to engage automatically the sad-iron if lifted when the latch is released and thereby prevent accidental removal of the tongue from the socket.

3. The combination with a sad-iron provided with oppositely extended, longitudinal sockets, of a handle having at one end a latch to cooperate with one of said sockets, a tongue pivotally connected with the opposite end of the handle to enter the other socket, to detachably connect the handle and sad-iron, and means operated by an abnormal relative swinging movement of the handle and tongue when the latch is released to lock together the handle and sad-iron and prevent accidental removal of the tongue from its socket.

4. The combination with a sad-iron provided with a longitudinal tongue-receiving socket and a recess adjacent the outer end of the socket, of a handle having a latch at one end, a depending locking lug at its other end, and a tongue pivotally mounted on said lug, said latch and tongue normally serving to detachably connect the handle and sad-iron, abnormal swinging movement of the handle relatively to the tongue when the

latch is disengaged moving the locking lug into the recess and preventing accidental removal of the tongue from its socket.

5 5. The combination with a sad-iron top-plate provided with a tongue-receiving socket and a latch-keeper, of a handle having a spring-latch at one end and a depending lug at its other end provided with a cam-face, and a tongue pivotally mounted on said lug 10 above its cam-face and adapted to enter the socket, to connect the handle and top-plate when said latch and keeper are engaged, abnormal swinging movement of the handle about the tongue when the latch and keeper 15 are disengaged causing the cam-face of the lug to engage the top-plate and lock it to the handle to prevent accidental removal of the tongue from its socket.

20 6. The combination with the top-plate of a sad-iron provided with a tongue-receiving socket, of a handle having attaching means, including a pivotally connected tongue to

enter the socket and means operated by abnormal swinging movement of the handle relatively to the tongue to lock together the 25 handle and top-plate and prevent accidental removal of the tongue from its socket.

7. The combination with a sad-iron, of a handle, separate devices to connect detach- 30 ably the opposite ends thereof with the sad-iron, and means to lock together automatically the handle of the sad-iron when the handle is lifted and one of said devices is inoperative accidentally, whereby premature detachment of the handle and sad-iron is 35 prevented.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER P. PINEL.

Witnesses:

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