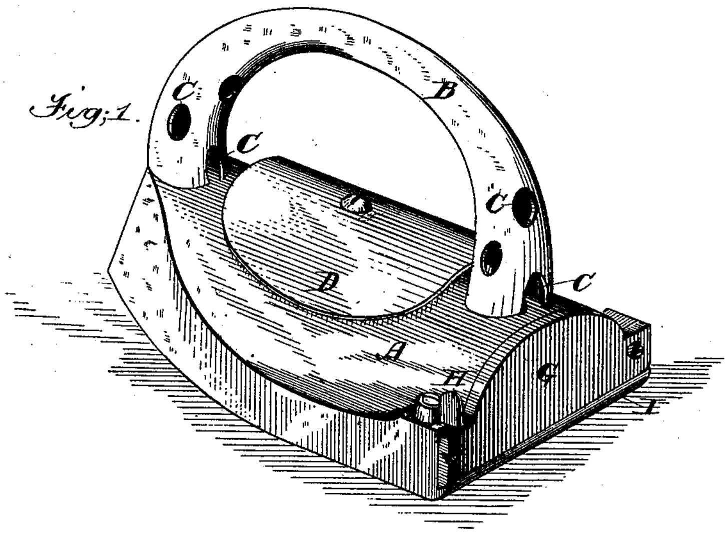
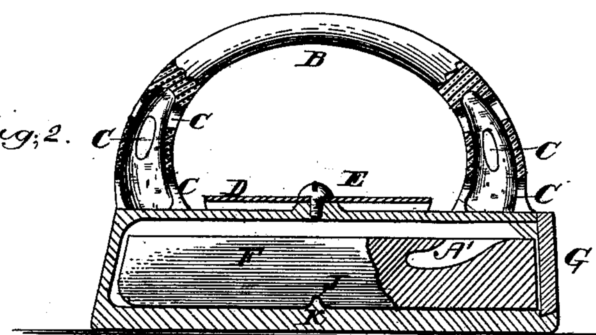
J. E. DONOVAN.
Sad-Iron.

No. 219,925. Patented Sept. 23, 1879.

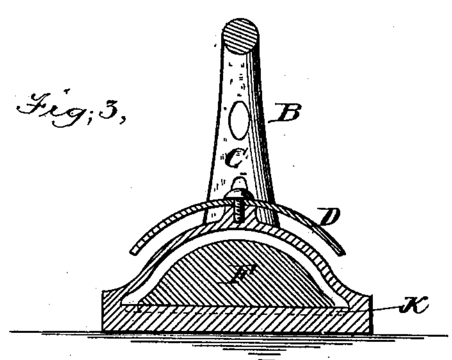
Fig; 1.



Fig; 2.



Fig; 3,



Attest;
T. Walter Fowler,
M. Church

Inventor;
John E. Donovan.
By Ellsworth & Millward
His Attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN E. DONOVAN, OF CINCINNATI, OHIO.

IMPROVEMENT IN SAD-IRONS.

Specification forming part of Letters Patent No. **219,925**, dated September 23, 1879; application filed August 5, 1878.

To all whom it may concern:

Be it known that I, JOHN E. DONOVAN, of Cincinnati, Hamilton county, and State of Ohio, have invented certain new and useful Improvements in Sad-Irons; and I do hereby declare the following to be a full, clear, and exact description of the same, which will enable others skilled in the art to which my invention relates to make and use it, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a sad-iron constructed in accordance with my invention. Fig. 2 is a longitudinal section of the same, and Fig. 3 is a transverse section.

Similar letters of reference refer to similar parts.

My invention has for its object to improve the construction and operation of sad-irons. In the manufacture of these irons it has heretofore been customary either to cast them with solid handles in one piece, or else to cast the iron and a hollow handle separate from each other, and afterward attach them together by some kind of fastening. Both of these modes involved serious disadvantages, which it is the purpose of this invention to obviate. For where the irons and a solid handle were combined the heat was afterward so readily transmitted from the iron to the handle and through the latter to the hand of the operator as to prove a great inconvenience in the practical use of the implement; and where the handle was cast separate and hollow its ends, if hollow, could not be easily secured to the iron, and hence were necessarily cast solid, and the solid part extended up some distance above the back of the iron and transmitted the heat as readily through such distance as if the whole handle were solid, while the hollow perforated part of the handle was confined to the upper portions, where the hand of the operator grasps it and covers a part or all of the perforations, thereby interfering with, and practically preventing, the circulation of air in and through said perforations and handle.

To remedy these inconveniences my invention consists in casting the iron with a hollow handle formed in one piece with it, whereby no solid end is required for fastening the handle to the iron, but the hollow part of the handle is enabled to extend down to the back of the iron.

The advantages of this construction are as follows: The conduction of heat from the iron into the ends of the handle is diverted from the central parts of such ends and is forced to or near the surface, where the heat is more quickly and completely radiated away before arriving at the part grasped by the operator; the perforations are enabled to be located close to the back of the iron, so as not to be covered by the hand of the operator, and so that the cool air can be admitted close to the heated iron and counteract the transmission of heat at the very beginning of its upward movement into the handle; the handle is enabled to be enlarged at its ends, to admit of larger perforations, better air-spaces, and a freer circulation of air therein; the lower holes are enabled to be made larger than the upper ones, to promote the free access of air near the iron and its free circulation through the ends of the handle; and the loss of strength caused by the perforations is enabled to be compensated by the additional metal provided in and near the ends of the handle, where greater strength is required than at other parts.

In the accompanying drawings, A represents the hollow sad-iron, and B its hollow handle, both cast together in one piece, for the purpose of greater strength and to lessen the cost of manufacture. The handle is further cast with a series of openings, C C, in its upright portions, for the escape of heated air and to permit the circulation of cold air through it to keep it cool. When the iron is moved back and forth in the process of ironing, the air readily draws through the handle, and therefore prevents it from becoming unduly heated.

The top of the iron may be provided with a circular shield, D, of sheet metal, screwed to a boss, E, so as to leave a space between the shield and the iron for the circulation of air. The shield is bent down slightly at the sides, and is employed to prevent the radiated heat from the iron from burning the operator's hand. The circulation of air beneath the shield assists greatly in protecting it from excessive heat.

F is the cast-iron block, of the requisite size and shape to enter the iron, and G is the door

for closing the back end of the iron after the block is inserted.

The door is pivoted at one end to the side of the iron, so as to open and close readily by being swung up and down, and it is fastened in a closed position by turning a button, H, on the iron over its opposite end, as shown in Fig. 1.

The lower edge of the door rests upon a projecting ledge, I, at the rear of the iron, and is thereby prevented from dropping down out of place when closed. The ledge is grooved to receive the edge of the door, the groove also serving to prevent any dirt in the iron from dropping upon the article being ironed when the block is removed.

The block F is formed with a transverse groove, J, in its under side, which fits over a corresponding rib, K, within the iron, for the purpose of preventing the block from sliding back and forth when the iron is in use, and therefore avoiding the disagreeable rattling and the secondary movements of the block which would otherwise occur.

If desired, the groove may be made in the iron and the rib on the block; but this is merely a matter of preference, as they may be arranged in either way with equal facility.

The block is further cast with a top recess, A′, to receive a lifter, by which it may be applied to and removed from the iron.

The rear lower edge of the iron or its projecting ledge I is rounded off, as shown in Figs. 1 and 3, so as to form a smooth polishing-iron when the sad-iron is tipped up sufficiently to admit of its being moved back and forth upon such rounded surface.

It is not intended that the iron shall be heated by contact with the fire or stove; but when it is to be used the block is placed within the fire until it is heated to the requisite degree, when it is removed and inserted in the iron. But two blocks are necessary for keeping one iron constantly hot, one block being heated in the fire while the other is imparting its heat to the iron. Thus a very material saving of time is effected, because if but one block only were used the iron must remain idle while the block is being reheated.

The use of two blocks enables the operator to do as much work with one iron as he could do with two irons, which have to be alternately heated, and the cost of one iron is therefore saved.

Having thus described my invention, what I claim is—

1. A hollow sad-iron cast in one piece with a handle, the ends of which are hollow down to the back of the iron, substantially as described.

2. A hollow sad-iron cast in one piece with a handle, the ends of which are hollow down to the back of the iron, and are provided with air-holes at or near said back, substantially as described.

3. A hollow sad-iron cast in one piece with a handle, the ends of which are hollow and enlarged at and near the back of the iron, and are provided with air-holes in the enlarged hollow part, substantially as described.

In testimony of which invention I hereunto set my hand.

JOHN E. DONOVAN.

Witnesses:

JOHN E. JONES,

EDGAR J. GROSS.