S. SMITH.

Modes of Attaching Stove-Doors to their Frames.

No. 139,740. Patented June 10, 1873.

Fig. 1.

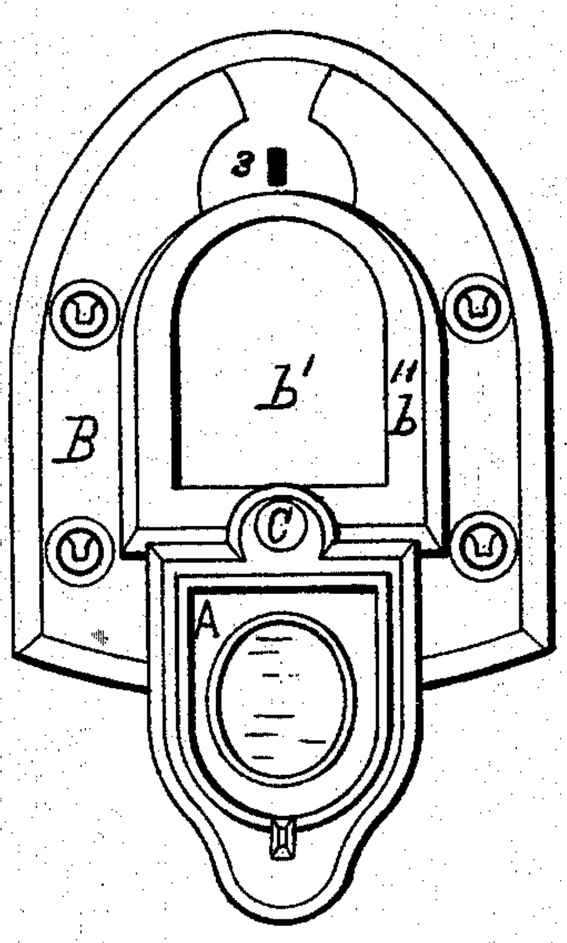


Fig. 2.

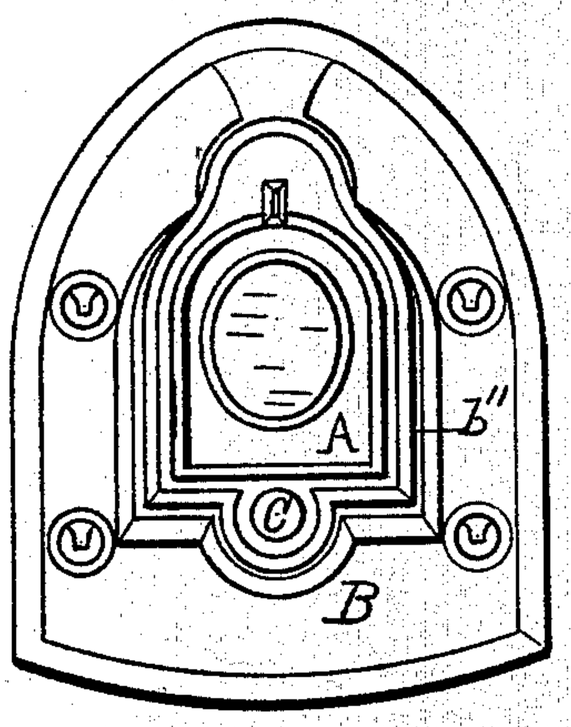
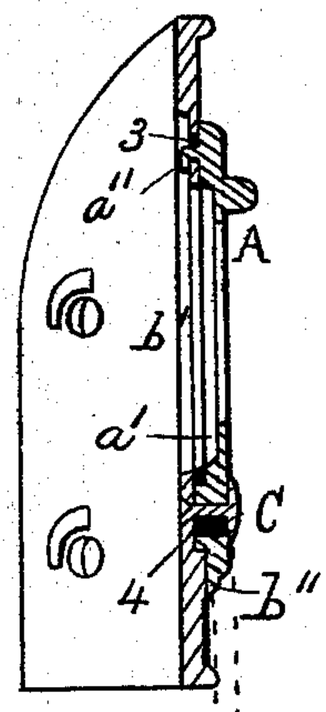


Fig. 3.



Witnesses:

Benj Morison.

Wm H. Morison.

Inventor:

Samuel Smith

UNITED STATES PATENT OFFICE.

SAMUEL SMITH, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN MODES OF ATTACHING STOVE-DOORS TO THEIR FRAMES.

Specification forming part of Letters Patent No. **139,740**, dated June 10, 1873; application filed April 14, 1873.

To all whom it may concern:

Be it known that I, SAMUEL SMITH, of the city of Philadelphia, in the State of Pennsylvania, have invented certain Improvements in the Mode of Attaching Stove-Doors to their Frames, of which the following is a specification:

The object of my invention is to lessen the cost by facilitating the operation of molding, reducing the quantity of iron heretofore required to produce the bosses for the hinges and catches, and avoiding the drilling consequent in attaching the doors to the frames. This I accomplish by dispensing with the bosses on the frame and door heretofore required to form the hinges, and suspending the door from a pivot secured transversely through the lower end of the door and frame, so that the former will swing downward when the upper end of the door is detached from a catch-opening in the upper part of the frame, the openings for the said pivot and catch being cast in the same.

Figure 1 is a front view of a cast-metal door and frame embodying my invention, the door being open. Fig. 2 is a like view, showing the door as closed. Fig. 3 is a vertical transverse section on the dotted line *v w* of Fig. 2.

Referring to the drawings, A is the swinging door; B the frame to which the said door is attached. The door is secured to the frame by means of a headed screw-bolt, C, or a rivet, and swings on a short circular boss, 4, on the inner face of the lower part of said door, the said boss turning in a cavity in the corresponding lower part of the face *b''* of the inner edge of the frame B. This cavity is made oval, with its longer diameter vertical, so that the door A will be permitted to rise sufficiently to allow a hooked stud, *a''*, which projects on the inner face of the upper part of the door, to catch over the lower edge of a small hole, 3, in the frame B, when the said door is being closed over the opening *b'* in the said frame. The screw-bolt C passes through a corresponding hole in the lower part of the door, and through the center of the boss 4, and the center of the receiving-cavity for the said boss, thus keeping the door and frame close together, while the former is supported loosely so as to turn or swing freely on the boss 4. The face of the boundary edge of the opening *b'* is flat and even, or without the usual projections or bosses heretofore required for hinges and catch, and the inner face of the outer boundary of the door A is also flat and even, or without any projection except the short boss 4 and the hooked stud *a''*; and consequently, in closing and opening the door A its inner face edge will slide smoothly and closely over or in rubbing contact with the even face *b''* of the frame. The hole for the hooked stud *a''* and the hole for the bolt or rivet C, as also the oval cavity for the circular boss 4, are left or formed in casting the frame B; and the stud *a''*, boss 4, and the central hole in the latter are left or formed in casting the door A; and consequently all drilling is obviated, and nothing more will be required to hang the door to the frame than to insert the bolt C or its equivalent rivet to keep the said door and frame together so that the former will swing freely on the latter, and to file a small notch in the under side of the stud *a''*, so as to allow the said stud to catch over the edge of the hole 3 in the frame and thus provide for the required attachment and detachment of the upper end of the door in relation to the frame B.

It will be readily understood without further description that in opening the door all that will be required will be to lift the catch-hook *a''* out of the hole 3 by lifting the door slightly and then letting the latter swing open by gravitation into the position shown in Fig 1, and by a contrary proceeding to close it, as shown in Figs. 2 and 3.

It will be also seen that the old hinge-bosses are dispensed with and all drilling avoided, thus lessening the cost and facilitating the operation of attaching the door to the frame.

I claim as my invention—

The swinging door A and frame B, when the same are constructed and secured together substantially in the manner and for the purpose hereinbefore described and set forth.

SAMUEL SMITH.

Witnesses:

BENJ. MORISON,

WM. H. MORISON.