J. E. SCHONACKER.

FIRE-PROOF SAFES.

No. 194,470. Patented Aug. 21, 1877.

Fig. 1.

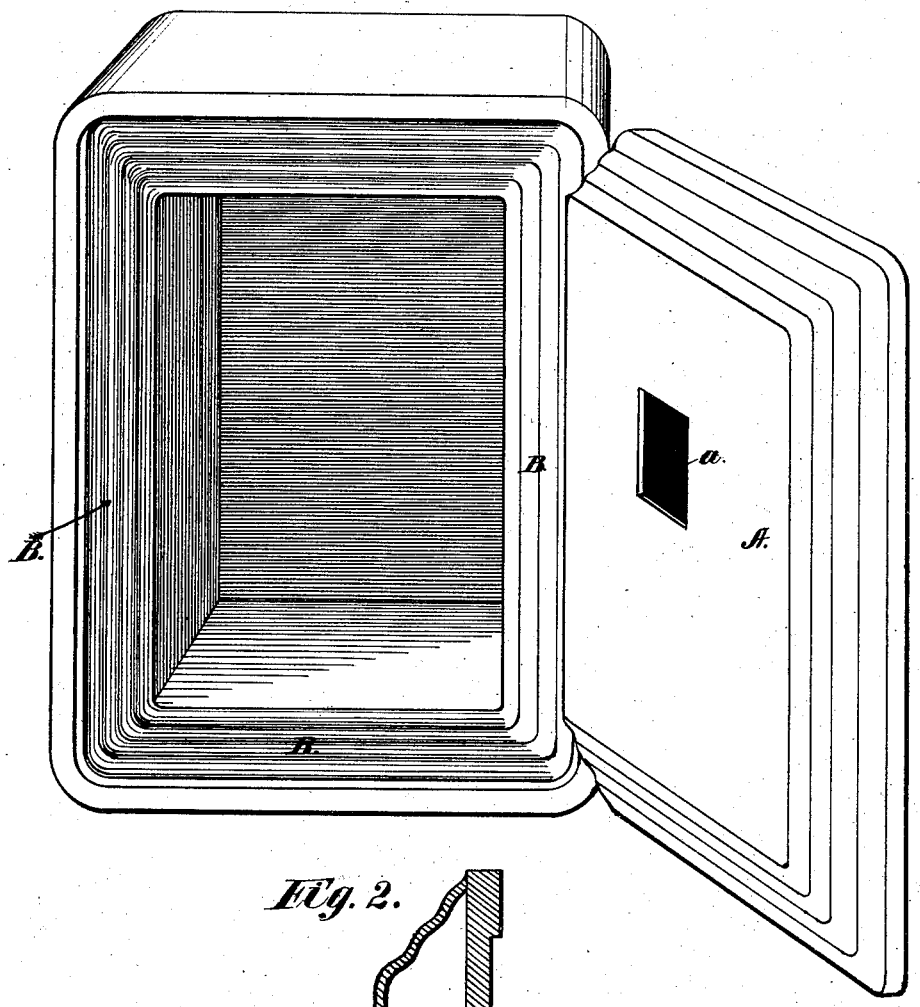
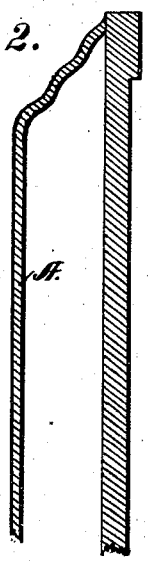


Fig. 2.



Witnesses;
Chas. M. Reed
Lee Greulich

Inventor;
John E. Schonacker
by his Attys
Peck & Co.

UNITED STATES PATENT OFFICE.

JOHN E. SCHONACKER, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO EDWIN W. NEFF, OF DETROIT, MICHIGAN.

IMPROVEMENT IN FIRE-PROOF SAFES.

Specification forming part of Letters Patent No. **194,470**, dated August 21, 1877; application filed June 5, 1877.

To all whom it may concern:

Be it known that I, JOHN E. SCHONACKER, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Fire-Proof Safes; and do hereby declare the following to be a full, clear, and exact description of the same.

By practical experiment and observation it is well established that the most vulnerable part of a fire-proof safe is the joint between the door and its frame. It is through this joint that heat first enters to destroy the contents.

This invention has for its object the construction of the door-frame and door of a fire-proof safe, which shall combine lightness with strength and closeness of fit, thereby fulfilling the three most desirable requisites in safes of this description.

My improvement consists in striking or pressing the door-frame with a die from a single piece of malleable metal, preferably wrought-iron, and in forming in the same manner the inner side and flanged edges of the door of a single piece, whereby I am enabled to use lighter metal, and am assured of a close-fitting joint between the door and its frame.

In the accompanying drawing, Figure 1 represents a perspective view of my improved safe-door and its frame. Fig. 2 is a sectional view, in side elevation, of the door.

By means of a die of proper shape and size I stamp from a rectangular piece of wrought-iron or other malleable metal the inner side and flanged edges of a door, A. This can be done with ease and accuracy, and without crimping the metal.

The flanged edges I prefer to have corrugated, as in Fig. 2, though they may have the usual rabbeted, or any other convenient shape, without affecting the nature of my invention. This inner side and flanged edges I attach to the front plate or side of the door by bolts, or with rivets, or any suitable means consistent with strength.

In order to fill the door-casing thus formed, I make an aperture in the inner side of any suitable shape, as at *a*, and of convenient size, which, when the filling is introduced, can be covered by a plate or screw-cap, or other equivalent device. This opening does not interfere with the rigidity of the side and edges, but is simply for convenience in filling the casing with some non-conducting material.

The frame B, in which the door snugly fits, I form from a single piece of metal by stamping or pressing, as in the case of the door; and, indeed, this can be done by the same die, to insure a close-fitting joint.

I preferably make the corners of the door and frame rounded, as shown, both for convenience in manufacture and in order to have the contour of the door correspond to that of the safe, thus making the filling at the corners—the vulnerable points—as thick as at the sides. The degree of roundness at the corners is immaterial, and does not affect the character of the invention.

The special advantages of this construction may be thus briefly summed up: By making the inner side and flanged edges in one piece I obtain great rigidity with very light metal, which in fire-proof safes is a great consideration, for the heavier the metal is the more heat does it conduct to the inner side of the safe. Furthermore, I have no joints at the corners to be braced by angle-irons, (which add to the conducting marial,) and to allow the escape both of the filling and of steam. The construction of the inner side and flanged edges of the door of one piece possesses the same advantages, and, when made as I have described, insures a close-fitting joint, which will prevent for a long time any ingress of heat, and which combines strength with lightness and ease of construction.

What I claim is—

1. The inner side and flanged edges of a fire-proof-safe door, when made in and from a single piece of malleable metal, formed into the desired shape by swaging, as set forth.

2. The door-frame of a fire-proof safe, when made in and from a single piece of malleable

metal, formed into the desired shape by swaging, as set forth.

3. The flanged edges of the door and the door-frame of a fire-proof safe, when each is made in and from a single piece of malleable metal, and with rounded corners by swaging, substantially as and for the purpose described.

Witness my hand this 21st day of May, A. D. 1877.

JOHN E. SCHONACKER.

Witnesses:
CHAS. M PECK,
PATRICK H. GUNCKEL.