J. Farrel.

Safes.

No. 92178. Patented Jul. 6. 1869

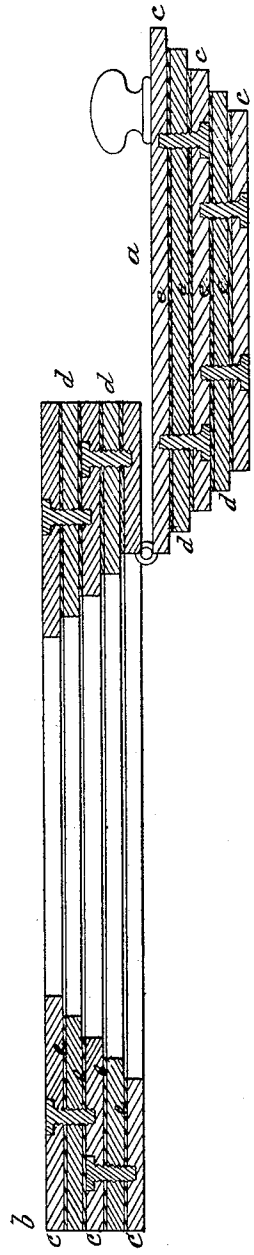


Fig. 2.

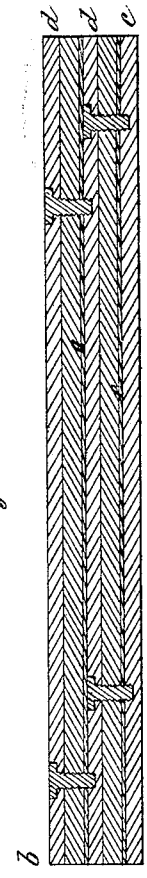
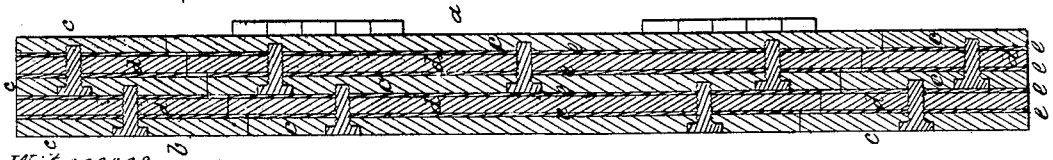


Fig. 3.

Fig. 1.



Witnesses.
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JOHN FARREL, OF NEW YORK, N. Y.

Letters Patent No. 92,178, *dated July* 6, 1869.

IMPROVEMENT IN THE CONSTRUCTION OF SAFES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN FARREL, of the city, county, and State of New York, have invented a new and useful Improvement in the Construction of Burglar-Proof Safes, Bank-Vaults, and other like structures; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a vertical section, representing my improvement as applied to a safe-door frame and door, with the door shut; and

Figure 2, a horizontal section, showing the door open.

The same letters of reference indicate similar parts in both figures.

Burglar-proof safes, and such like structures, are usually constructed of alternate layers of steel, and wrought-iron plates, of proper thickness, or of steel and wrought-iron plates previously welded together, in manner well known in the arts, to prevent drilling to the inside.

I have ascertained that by drilling one or more holes through the outer plate of the safe, or other structure, and then applying a blow-pipe to the second plate, which is made of steel, and drill-proof, the temper of all the steel plates in the thickness of that side of the safe, at the point operated upon, can be entirely or very nearly drawn, so that the entire thickness can be readily drilled through.

This result can be effected without drilling the outer wrought-iron plate, by applying the blow-pipe directly to its outer surface, but much more time is occupied in the operation.

The object of my invention is to prevent or retard the drawing of the temper from the hardened plates composing the shell and door of safes, bank-vaults, and such like structures; and

My invention consists in interposing, between the successive layers of wrought-iron and steel plates, a sheet of any non-conducting material, or a layer of any evaporating substance, that will prevent or in a very great degree retard the drawing of the temper from the steel plates, by the application of a blow-pipe, or other means.

The annexed figures represent the plates forming the door-frame and door of a safe, simply as an illustration of the mode of applying my invention.

In the figures—

a represents the door, and *b*, the door-frame of a safe, or other like structure; and these are represented in the said figs. 1 and 2, as composed of single layers of wrought-iron and steel plates, *c* and *d*.

Between each of these plates, I interpose a sheet of mica, felt, wood, or any other equivalent non-conducting material, or a layer of plaster of Paris, alum, Epsom salts, or any other equivalent evaporating substance, marked *e* in the drawings.

The several plates, forming the thickness of the case of the safe and door, are secured together in the usual manner, as shown in the drawings.

It will be found that the interposed non-conducting or evaporating material, between the several plates, will, in a very great degree, retard, if it does not entirely prevent the drawing of the temper from the steel plates by means of the blow-pipe, applied either to the surface of the outer wrought-iron plate, or through a hole or holes previously drilled through it.

When welded wrought-iron and steel plates are used in the construction of the safe, a sheet of the non-conducting or evaporating substance is interposed between the inner surface of the outer wrought-iron plate *c* and the outer surface of the welded steel and iron plate *d*, (see fig. 3,) and then these plates are secured together in the usual manner, as represented.

I then interpose another sheet of the non-conducting or evaporating substance between the inner surface of this welded plate and the outer surface of the next welded steel and iron plate, and so on, for any thickness of case required.

It will be evident that sheets formed of any non-conducting material can be interposed between the several layers of wrought-iron and hardened-steel plates, and also, that any evaporating substance may be substituted as interposed layers between the several plates; and, therefore, I do not wish to limit my invention to the use of any particular non-conducting or evaporating substance.

The important advantage of this improvement consists in greatly delaying the operations of the burglar; because, with this interposed non-conducting or evaporating substance between the wrought-iron and steel plates, it will require a very long while for him to draw the temper from them; and this delay is lengthened by every successive layer of non conducting or evaporating substance interposed in the thickness of the case, and, therefore, his chances of access to the interior of the safe will be very remote before discovery.

What I claim as new, and desire to secure by Letters Patent, is—

Interposing between the several layers of steel and wrought-iron plates, composing the shell of burglar-proof safes, and other like structures, any non-conducting material or evaporating substance, as and for the purpose described.

JOHN FARREL.

Witnesses:

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