(No Model.)

F. M. WILLIAMS.

ARMOR FOR SAFES.

No. 446,941. Patented Feb. 24, 1891.

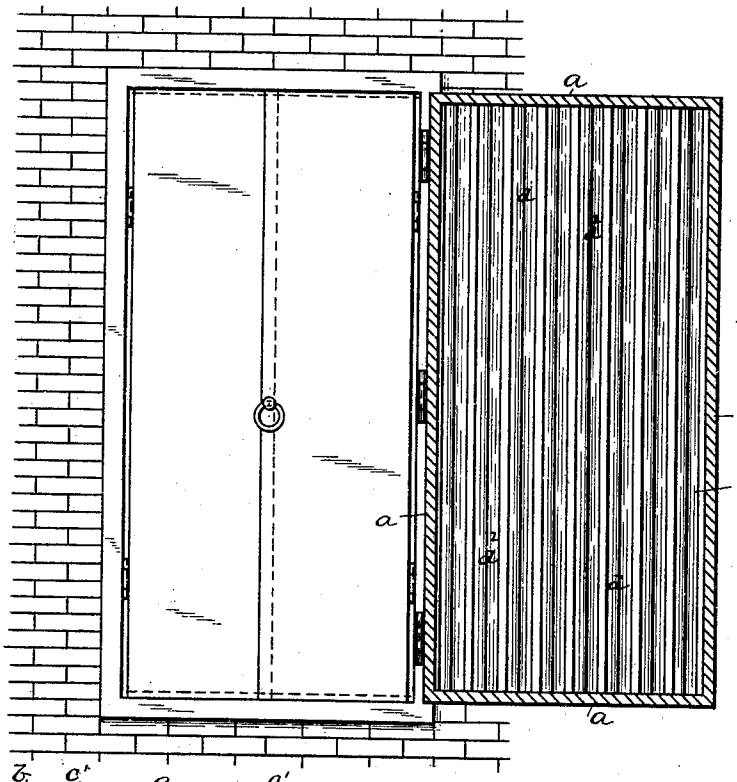


Fig. 1.

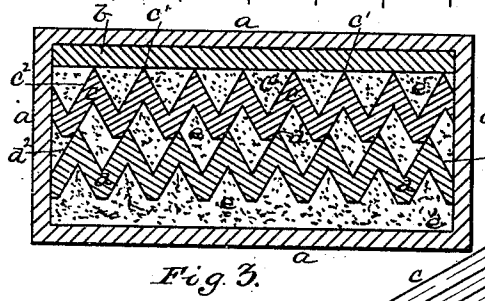


Fig. 3.

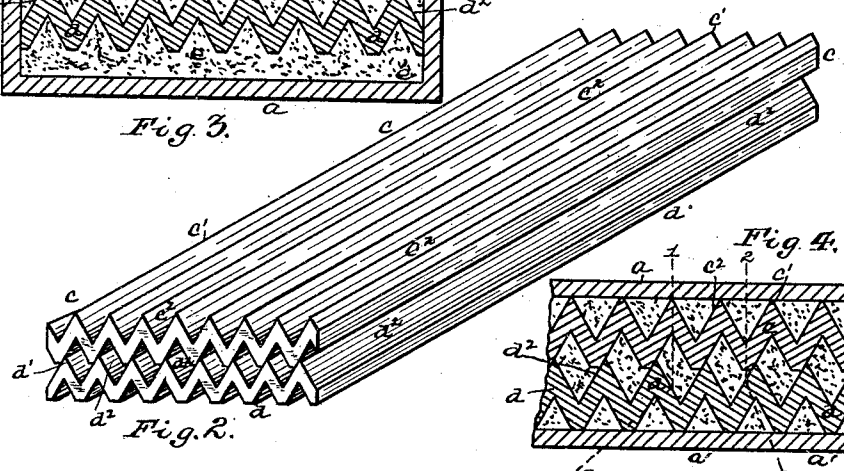


Fig. 2.

Fig. 4.

Witnesses:
J. N. Cooke.
Chas. E. Lemon

Inventor:
Francis M. Williams
by Geo. M. Ackler, his Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANCIS M. WILLIAMS, OF BROWNSVILLE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO R. R. BULGER AND W. H. BULGER, BOTH OF SAME PLACE.

ARMOR FOR SAFES.

SPECIFICATION forming part of Letters Patent No. 446,941, dated February 24, 1891.

Application filed May 15, 1890. Serial No. 351,877. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS M. WILLIAMS, a citizen of the United States, residing at Brownsville, Fayette county, Pennsylvania, have invented a new and useful Improvement in an Armor for Safes and Vaults and other Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this description, in which—

Figure 1 is a rear elevation of safe-door. Fig. 2 is a perspective of elevated plates forming intermediate walls of same. Fig. 3 is a transverse horizontal section of safe-door. Fig. 4 is a sectional end view of outer, inner, and intermediate walls of safe-door, sides broken away.

My invention relates to armor especially adapted to use in construction of doors and sides of safes and vaults, its object being to provide safes and vaults with an interior shield or armor-plate combination, which will effectually protect the locks or fastenings from drilling or punching and blasting.

My invention consists of a combination of the outer and inner walls of safe-casing and the intermediate walls formed of plates having serrated surfaces, and arranged one behind the other in such manner that the serrations of one plate are staggered with reference to those of the other, as shown by accompanying drawings.

I construct my apparatus of iron or other suitable material.

The particular improvements embodied in my invention will be hereinafter described and claimed.

In the apparatus embodying my invention I place within the inclosing shell of door or side of safe or vault *a* two or more highly-tempered metal plates *c* and *d*, having serrated surfaces and angular projections c' d', the projections c' d' having regularly-slanting sides or faces c^2 and d^2, and so fitted and adjusted to each other that the projections c' d' of the respective plates *c* and *d* will face the outer shell or surface of safe or vault *a* on different lines 1 2 3 on Fig. 4. These lines 1 2 3 on Fig. 4 show that a drill or punch entering the outer shell of safe or vault *a* and directed toward the inner shell a' on Fig. 4, from any point on the outside *a*, will come in contact with slanting surface c^2 of projection c' and be turned aside or broken by reason of contact with slanting surface c^2 at an acute angle; or if a drill or punch should be made to penetrate armor-plate *c* by securing hold at point of projection 1 in plate *c* on Fig. 4, or by coming in contact with plate *c* at point indicated by 2 on Fig. 4, on reaching plate *d* it will be broken or turned aside by contact with slanting face d^2 of projection d' on plate *d* at *g*.

In the drawings, *e* represents space between plates and between plates and shell of door or side of safe or vault to be filled with fireproof composition, as desired.

In Fig. 3, *b* is inner or double plate of outer part of shell of safe or vault.

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

In armor for safes, the combination of the outer and inner walls of safe-casing and the intermediate walls formed of plates having serrated surfaces, and arranged one behind the other in such manner that the serrations of one are staggered with reference to those of the other, substantially as and for the purposes herein set forth.

FRANCIS M. WILLIAMS.

Witnesses:
E. F. PORTER,
W. B. CHALFANT.