

S. W. FISH.
 COMPOUND SAFE OR VAULT DOOR.
 APPLICATION FILED NOV. 10, 1909.

997,775.

Patented July 11, 1911.

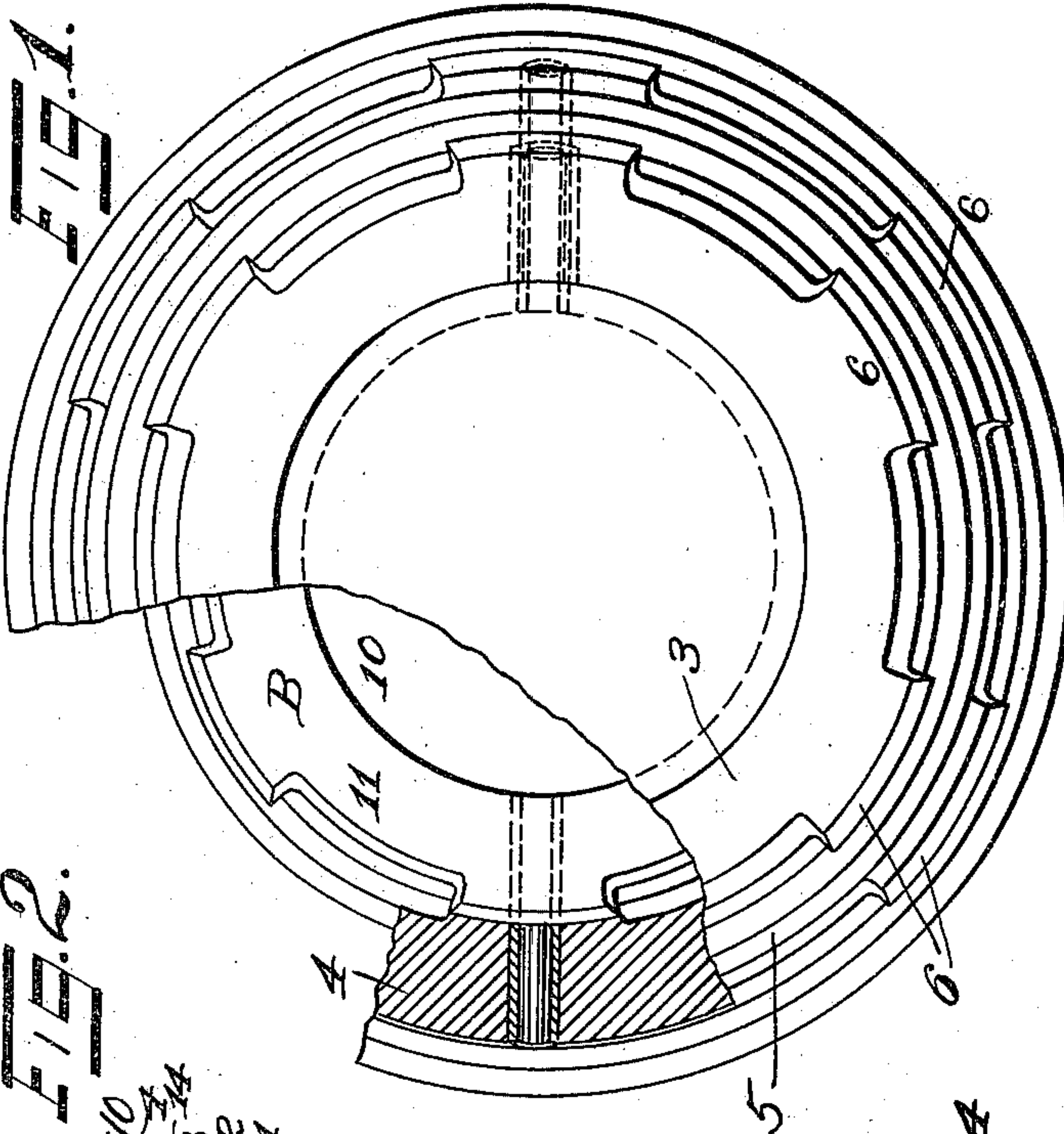


FIG. 3.

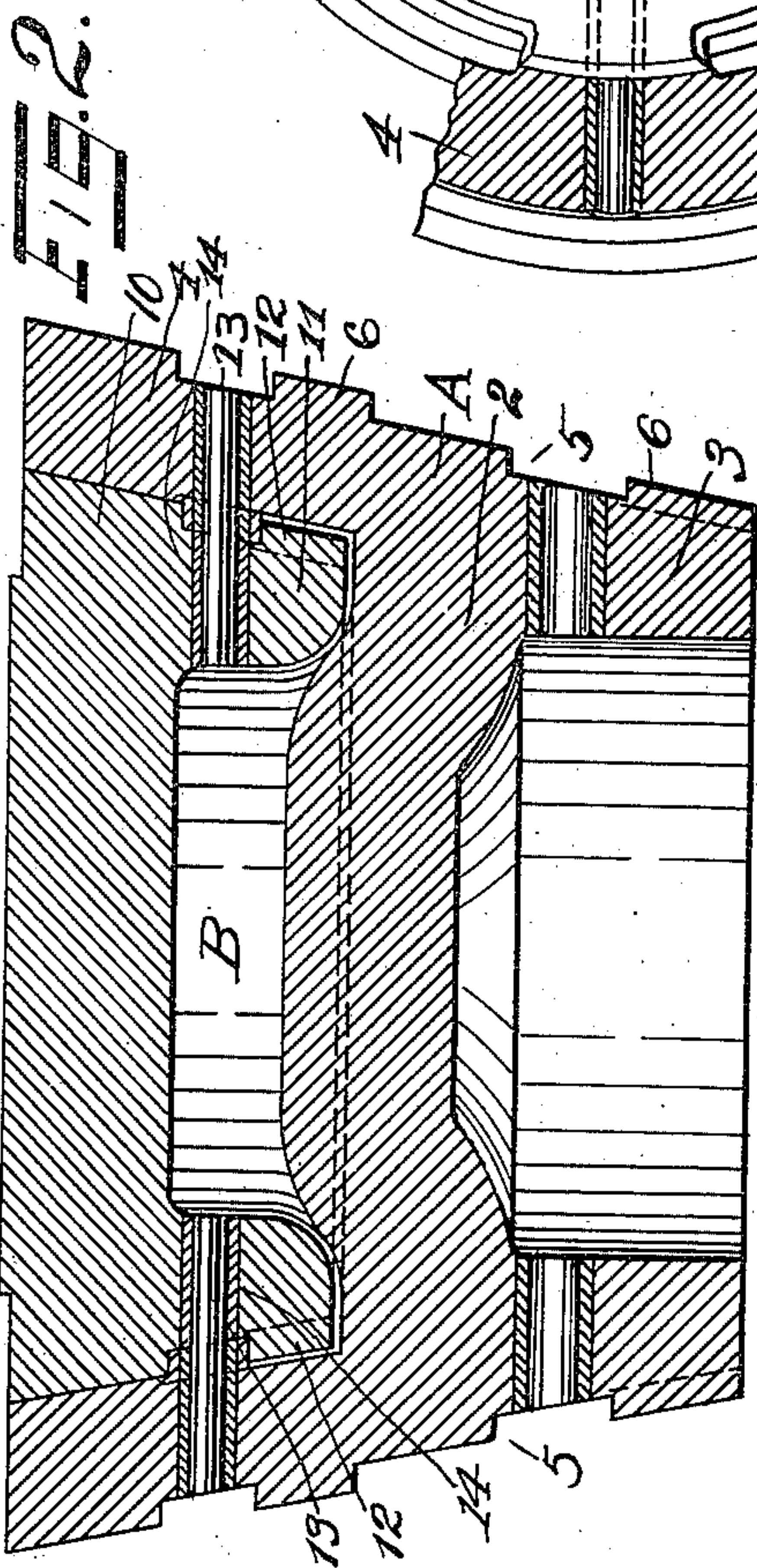
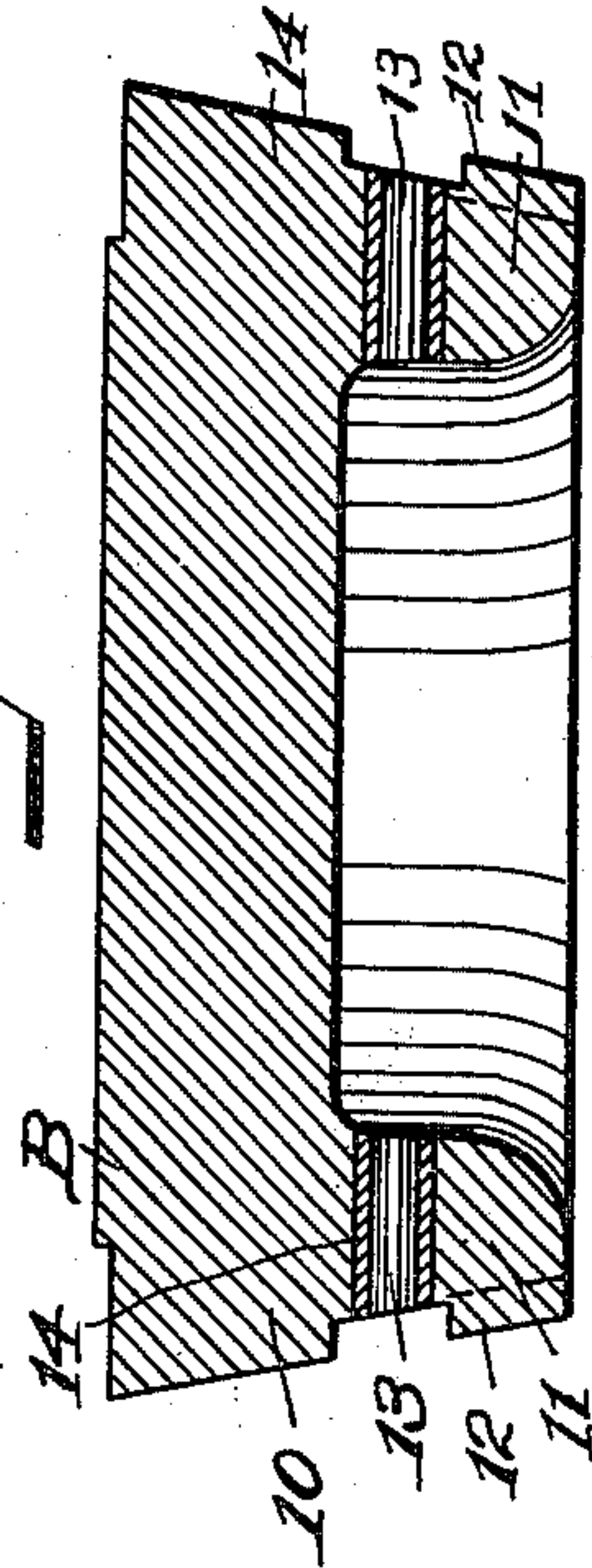
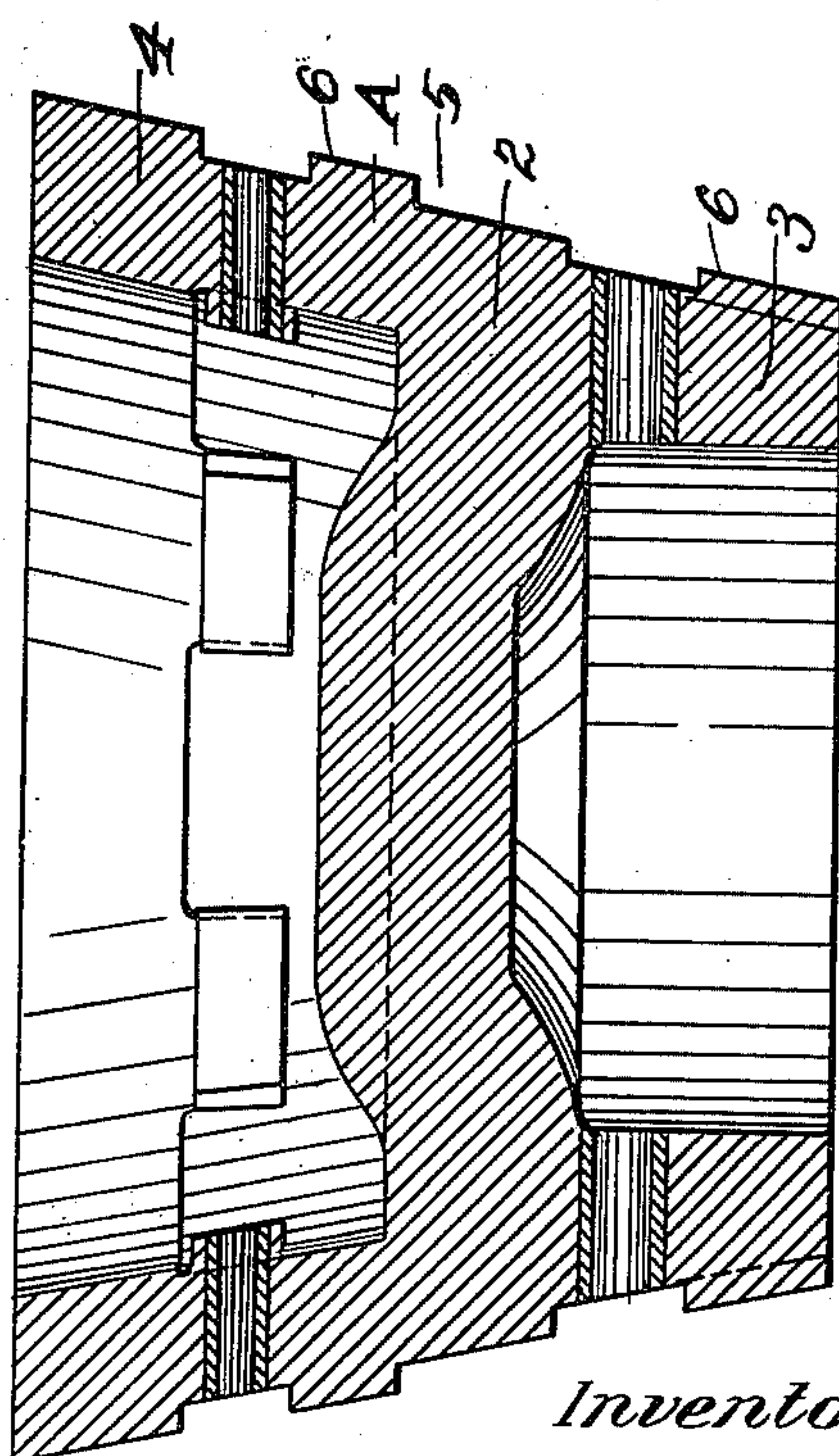


FIG. 4.



Witnesses:
R. M. Pittman
J. E. Boyce

Inventor:
Samuel W. Fish,
 By his Attorney,
C. H. Reed

UNITED STATES PATENT OFFICE.

SAMUEL W. FISH, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO TAYLOR IRON & STEEL COMPANY, OF HIGH BRIDGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

COMPOUND SAFE OR VAULT DOOR.

997,775.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed November 10, 1909. Serial No. 527,126.

To all whom it may concern:

Be it known that I, SAMUEL W. FISH, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Compound Safe or Vault Doors, of which the following is a specification.

This invention relates to compound doors, the object of the invention being to provide a reinforced door for safes or vaults so constructed that it is made up of a pair of doors rigidly connected so that it may be swung or rotated as a single structure.

The present invention is an improvement in part upon that shown and described in my co-pending application, Serial No. 492,869, filed April 29, 1909, and also upon the applications contemporaneously pending herewith, Serial No. 526,486, filed Nov. 6, 1909, and Serial No. 527,125, filed Nov. 10, 1909.

One of the objects of the present improvement is the provision of a compound door made up of a pair of integral doors rigidly secured together in such a manner as to form a chamber or space between the two doors, thereby to permit the use of a straight spindle such as that shown and described in my contemporaneously pending application last referred to.

In the drawings accompanying and forming part of this specification, Figure 1 is a rear view, partly broken away and in section, illustrating this improved compound door; Fig. 2 is a cross-sectional view thereof; Fig. 3 is a cross-sectional view of the outer or front door; and Fig. 4 is a cross-sectional view of the inner or rear door.

Similar characters of reference indicate corresponding parts throughout the figures of the drawings.

In my prior improvements the joint surface of the doors was formed in part by each door, but in the present instance the inner door is so made that the entire joint surface for engagement with the jamb of the safe or vault is carried by said inner door, the outer door being within the inner door.

The inner door, designated in a general way by A, comprises a body 2 of any desired formation having a rearwardly extending flange 3 and a forwardly extending flange 4, the two flanges forming a tapered or cone-shaped joint surface 5 having, when the

door is formed as a rotary door, which is the preferable practice, two sets of integral locking lugs 6 for engagement with the lugs of the jamb. The rearwardly extending flange 3 and forwardly extending flange 4 thus form a chamber at the rear and front of the door respectively, these chambers being separated by the body 2 of the door. The rearwardly extending flange 3 is provided with bolt openings for the reception of bolts which may be used for preventing the rotation of the door after it is locked in its closed position by the locking lugs.

Located within the forwardly extending flange 4, and therefore within the front chamber of the rear door, is the front door, designated in a general way by B, also comprising a body 10 and a rearwardly extending flange 11, likewise forming a chamber at the rear of the front door. This front door is provided with locking lugs 12 adapted to coöperate with similarly formed lugs on the interior of the front flange of the rear door, whereby the front door and rear door are interlocked rigidly by a rotary movement of one relatively to the other, and when so united are rigidly secured together against movement independently one of the other by bolts which project through the front flange of the rear door and the rear flange of the front door, the bolt openings 13 being provided with soft metal inserts 14 to permit the proper machining thereof when the doors are made of unmachineable metal such as manganese steel. In practice the united structure may be supported by some suitable form of hinge on the body, this being usually a crane hinge.

It will be observed that the front and rear door bodies are so spaced apart that a chamber is formed between them, so that if it is desired to use a straight spindle in the manner shown in my contemporaneously pending application hereinbefore referred to this can be placed in position before the front door is united with the rear door, and thus avoid the necessity of using a tapered spindle. It will also be observed that the front door is entirely located within the rear door, so that the door that contacts with the jamb is made up in one casting and there is therefore no danger of one door getting out of alinement or adjustment one relatively to the other, as where it forms a part of the joint contact surface. Of

course, it will be obvious that the organization shown could be reversed if desired and the front door be so formed as to receive within its flange the rear door. It will also be observed that the inner surface of the forwardly extending flange is tapered inwardly toward the body of the door, and that the contacting joint surface of the front door has a similar formation, whereby the doors will have a tight joint surface between them so that the front door may be ground to its seat in the usual manner of forming a metal to metal tight fit.

In practice the bolts which secure the two doors against rotation may also be utilized to project into the jamb to lock the door in the jamb against rotation, and for this purpose they would, of course, be connected with a suitable automatic or bolt operating means such as usually provided for that purpose and which would be located within the chamber formed between the two doors, these bolts in their normal unlocking position projecting through the openings provided in the forwardly extending flange of the rear door and the rearwardly extending flange of the front door.

I claim as my invention:

1. A compound door, comprising a rear door and a front door, said rear door having a forwardly extending flange adapted to receive interiorly thereof the front door therein, and means for securely uniting the two doors together.

2. A compound door, comprising a rear door and a front door, said rear door having a forwardly extending flange adapted to receive substantially the entire front door therein, and means for securely uniting the two doors together, said doors having a chamber therebetween.

3. A compound door, comprising a rear door and a front door, said rear door having a forwardly extending flange adapted to receive the front door therein, and means for securely uniting the two doors together, said means comprising cooperating locking lugs carried by the doors.

4. A compound door, comprising a rear door and a front door, said rear door having a forwardly extending flange adapted to receive the front door therein, and means for securely uniting the two doors together, said means comprising cooperating locking lugs carried by the doors and said doors having registering bolt openings for the reception of bolts.

5. A compound door, comprising a rear door and a front door, said rear door having a forwardly extending flange adapted to receive interiorly thereof the front door therein, means for securely uniting the two doors together, and means carried by the rear door for securing it within the jamb of the safe.

6. A compound door comprising a rear door and a front door, said rear door having a forwardly extending flange adapted to receive the front door therein, means for securely uniting the two doors together, and integral means carried by the rear door for securing it within the jamb of the safe.

7. A compound safe or vault door comprising a rear door made up of a body having a forwardly extending flange forming a chamber, a front door having a rearwardly extending flange fitting within the chamber of the rear door, and means for securing said doors together for movement as a single structure.

8. A compound safe or vault door comprising a rear door made up of a body having a forwardly extending flange forming a chamber, a front door having a rearwardly extending flange fitting within the chamber of the rear door, and means for securing said doors together for movement as a single structure, said rear door also having a rearwardly extending flange.

9. A compound safe or vault door comprising a rear door made up of a body having a forwardly extending flange forming a chamber, a front door having a rearwardly extending flange fitting within the chamber of the rear door, means for securing said doors together for movement as a single structure, said rear door also having a rearwardly extending flange, and means carried by one or both of said flanges of the rear door for holding the door within the jamb.

10. A compound door for safes or vaults, comprising a pair of integral doors one made up of a body and a flange adapted to fit the jamb of the safe body and the other fitting interiorly of and secured within said flange and means for securing the doors together.

11. A compound door for safes or vaults, comprising a pair of integral doors one made up of a body and a flange adapted to fit the jamb of the safe body and the other fitting and secured within said flange, said doors having a chamber therebetween.

12. A compound safe or vault door, comprising a pair of integral doors, one made up of a body and a flange and the other comprising a body and a flange fitting substantially entirely within the flange of the first door, locking lugs for securing the doors together, said doors having bolt openings for the reception of bolts for preventing the rotation of one door relatively to the other.

13. A compound safe or vault door comprising a pair of integral doors, one made up of a body and a flange and the other comprising a body and a flange fitting within the flange of the first door, locking lugs carried by engaging portions of the doors for securing the doors together, bolts for

preventing the rotation of one door relatively to the other, and locking lugs carried by the flange within which one door is located for securing the door within the jamb of the safe body.

14. A compound safe or vault door comprising a pair of doors, each of said doors comprising a body and a flange and one fitting interiorly within the flange of the other, and means for securing said doors together against independent movement and for movement as a single structure.

15. A compound safe or vault door comprising a pair of doors, each of said doors comprising a body and a flange and one fitting substantially entirely within the flange of the other, means for securing said doors together against independent movement and for movement as a single structure, and means carried by one of said doors for locking it within the jamb of the safe body.

16. A compound safe or vault door comprising a pair of doors each comprising a body and a rearwardly extending flange and one of said doors having a forwardly extending flange for the reception therein of substantially the whole of the other door, and means for securing said doors together against movement independently of each other.

17. A compound safe or vault door comprising a pair of doors each comprising a body and a rearwardly extending flange and one of said doors having a forwardly extending flange for the reception therein of substantially the whole of the other door,

and means for securing said doors together against movement independently of each other, said means being effective on the rotation of one door relatively to the other.

18. A compound safe or vault door comprising a pair of doors each comprising a body and a rearwardly extending flange and one of said doors having a forwardly extending flange for the reception therein of substantially the whole of the other door, means for securing said doors together against movement independently of each other, said means being effective on the rotation of one door relatively to the other, and means for preventing the rotation of one door relatively to the other after they are secured together.

19. A compound safe or vault door comprising a pair of doors each comprising a body and a rearwardly extending flange and one of said doors having a forwardly extending flange for the reception therein of the other door, means for securing said doors together against movement independently of each other, said means being effective on the rotation of one door relatively to the other, means for preventing the rotation of one door relatively to the other after they have been secured together, and one or more sets of locking lugs carried by one of said doors for locking it within the jamb of the body.

SAMUEL W. FISH.

Witnesses:

H. L. STAPLES,

H. W. WYCKOFF.