S. W. FISH.

SAFE OR VAULT DOOR.

APPLICATION FILED MAY 13, 1910.

997,781. Patented July 11, 1911.

Fig. 2.

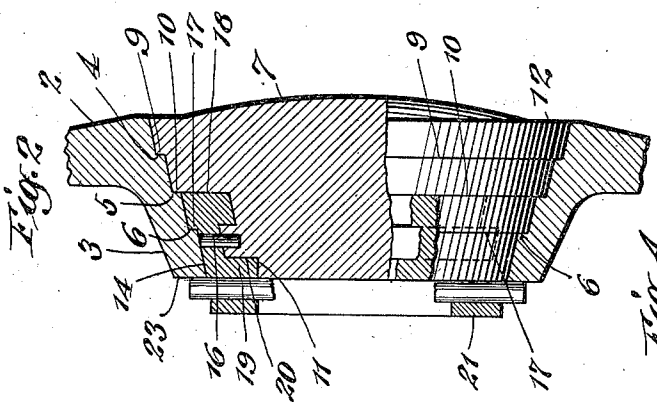


Fig. 4.

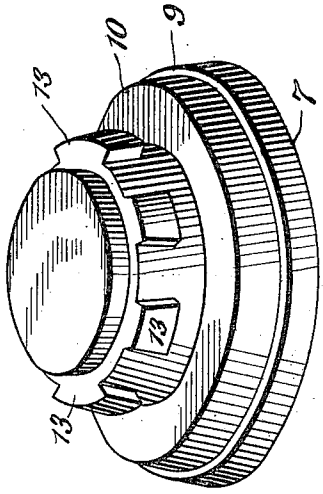


Fig. 1.

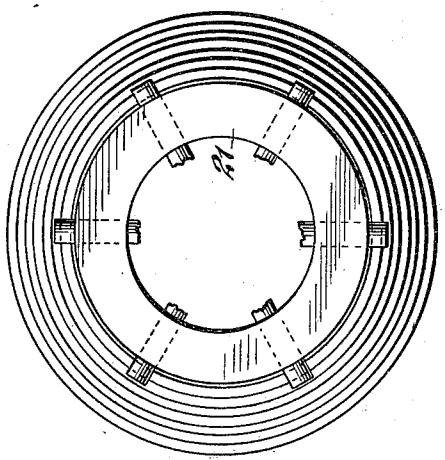
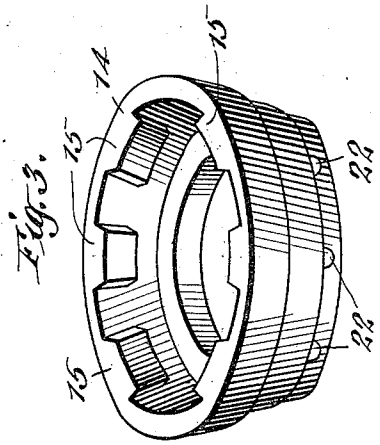


Fig. 3.



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SAFE OR VAULT DOOR.

997,781. Specification of Letters Patent. Patented July 11, 1911.

Application filed May 13, 1910. Serial No. 561,183.

To all whom it may concern:

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

The present improvement relates to safe or vault doors, the object thereof being to provide an improved door made up of a pair of members so united that each may engage the jamb surface, with the inner member constituting a means for supporting locking or holding bolts, the members being united by interlocking lugs. In the present improvement the door is shown as a solid door comprising a main door portion and a bolt supporting or holding portion, these two portions being united by rotating one relatively to the other and secured against separation by interlocking lugs, my contemporaneously pending application Serial No. 578,993, filed August 26, 1910 showing another form of the present improvement. Reference is also made to my contemporaneously pending application Serial No. 530,943, filed December 2, 1909.

Heretofore it has usually been the practice in those forms of safe and vault doors made up of unmachineable metal and having bolting mechanism for holding the door in the jamb of the body, to support the bolts by a flange integral with the door. This necessitated either the grinding of the unmachineable metal to properly position and locate the bolts, or else the insertion of soft metal inserts into the bolt openings and the subsequent machining of the bolt apertures. In order to do away with this mode of procedure and enable the bolts to be carried by a solid door without the necessity of forming the bolt openings in the unmachineable metal of that door, and at the same time enable the bolts to be so located that they will effectively hold the door in position without the necessity of forming bolt apertures in the jamb proper, is an object of the present improvement.

In the drawings accompanying and forming part of this specification, Figure 1 is a rear view of this improved safe or vault door; Fig. 2 is a cross-sectional view of the door and a portion of a safe body, illustrating a sectional view of the jamb; Fig. 3 is a perspective view of the bolt holding or supporting member; and Fig. 4 is a rear perspective view of the main portion of the door.

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

The safe or vault body 2 may be of any suitable form or construction, it having a tapered jamb 3, and is shown provided in the present instance with a plurality of annular shoulders or steps 4, 5 and 6. The door 7 comprises a main portion of solid formation and of circular tapered form, having shoulders 9 and 10 for engaging the shoulders 4 and 5 of the body jamb. The rear portion or half of the door, 11, is of somewhat less diameter than the outer part 12 thereof and is provided with a series of locking or holding lugs 13.

The bolt holding or supporting means comprises an annular or ring-shaped member 14 interiorly corresponding to the form of the portion 11 of the door, while exteriorly it corresponds to and fits the inner portion of the jamb. This member 14 is provided interiorly thereof with a series of lugs 15 corresponding in number with the number of lugs of the door, whereby, on the rotation of this ring-shaped member or of the door, the two parts may be interlocked rigidly together, being held in such position by a key or pin 16, which may be inserted through the ring-shaped member and into an opening cast or formed in the metal of the door. This member 14 is provided exteriorly with an annular shoulder or step 17 adapted to engage the shoulder or step 6 of the jamb, so that when the door is inserted a part of this member 14 is clamped between the shoulder 6 of the jamb and the portion 18 of the door, while the lugs of the member 14 effectively prevent the separation of the door from the bolt holding ring. The bolt holding ring is also provided with an inwardly extending flange 19 fitting an annular recess 20 of the door, so that the parts making up the door are very effectively and rigidly secured together against separation by explosive charges or otherwise.

Carried by the ring 14, on the innermost face thereof, is a bolt holding flange 21 having bolt openings 22 for the reception of suitable bolts, which bolts may be pro-

vided with the usual or suitable operating means, which it is not deemed necessary to show herein. By this means of securing the bolts to the door I am enabled to use a different metal from that of which the major portion of the door is made up, to support the bolts, and thus enable the use of a suitable steel which can be readily and quickly machined as compared with that of which the door itself may be formed, while at the same time the bolts are as effectively and rigidly secured in position as though they were supported by the door proper.

In the present instance the bolts are shown projecting beyond the inner end of the inwardly extending flange 23 constituting the jamb, thus obviating the necessity of forming openings in the jamb for the reception of the ends of the bolts.

In the present improvement it will be observed that the bolt carrying member is of annular or ring-shaped form and overlaps a portion of the periphery of the main body portion or member of the door, and so forms with another portion of the periphery of such door the jamb engaging portion of the door.

In practice, the inwardly extending flange which fits the recess of the door may be of sufficient area to carry more than one projection or flange, if desired, for receiving the bolts, but in the present instance the projection or bolt carrying flange is shown of sufficient width to properly guide the bolts.

I claim as my invention:

1. A safe or vault door comprising a main body member and a ring-shaped bolt carrying member, said members having interlocking means for securing them together, and said bolt carrying member having an inwardly extending flange and the main body member having a recess for the reception of said flange.

2. A safe or vault door comprising a main body member and a ring-shaped bolt carrying member, said members having interlocking means for securing them together on the rotation of one of said members, and said bolt carrying member having a shoulder for engagement with a shoulder formed on the jamb of the body.

3. A safe or vault door comprising a main body member and a ring-shaped bolt carrying member, said members having interlocking lugs for securing them together on the rotation of one of said members, both of said members having shoulders for engagement with shoulders formed on the jamb of the body.

4. A safe or vault door comprising a main body member and a ring-shaped bolt carrying member, said members having interlocking lugs for securing them together, both of said members having shoulders for engagement with shoulders formed on the jamb of the body, and said bolt carrying member having an inwardly extending flange and a rearwardly extending bolt supporting projection and said main body member having a recess for the reception of said inwardly extending flange.

5. A safe or vault door comprising a main body member, a bolt carrying member overlapping a portion of the periphery of the main body member and forming with the remainder of the periphery of said main body member a jamb engaging surface and means for permanently securing the said parts together.

6. A safe or vault door comprising a main body member, and a bolt carrying member overlapping a portion of the periphery of the main body member and forming with the remainder of the periphery of said main body member a jamb engaging surface, said members having lugs carried by engaging portions thereof interlocking them together on the rotary movement of one relatively to the other.

7. A safe or vault door comprising a main body member, a bolt carrying member overlapping a portion of the periphery of the main body member and forming with the remainder of the periphery of said main body member a jamb engaging surface, and means for permanently interlocking the members together.

8. A safe or vault door comprising a main body member, and a bolt carrying member overlapping a portion of the periphery of the main body member and forming with the remainder of the periphery of said main body member a jamb engaging surface, said members having interlocking means and interlocked together by a rotary movement of one member relatively to the other.

9. A safe or vault door comprising a main body member, a bolt carrying member overlapping a portion of the periphery of the main body member and forming with the remainder of the periphery of said main body member a jamb engaging surface, said members being interlocked together, and means for securing them against separation after the interlocking thereof.

10. A safe or vault door comprising a main body member, and a bolt carrying member overlapping a portion of the periphery of the main body member and forming with the remainder of the periphery of said main body member a jamb engaging surface, said members being permanently interlocked together at their overlapping portions by lugs and said bolt carrying member comprising a ring.

11. A safe or vault door comprising a main body member, and a bolt carrying member overlapping a portion of the periphery of the main body member and

forming with the remainder of the periphery of said main body member a jamb engaging surface, said members being interlocked together by lugs carried by engaging portions thereof and said bolt carrying member comprising a ring having an interiorly extending flange fitting a recess carried by the main body member and a rearwardly extending projection for the reception of bolts.

12. A safe or vault body having a tapered jamb provided with a plurality of annular shoulders, a solid circular tapered door fitting said jamb and comprising a pair of members, one a main body member having a shoulder adapted to engage one of the shoulders of the jamb and the other a ring-shaped member overlapping a portion of the periphery of the door and having a shoulder adapted to engage another of the shoulders of the jamb, said members being interlocked together by lugs carried by engaging portions thereof on the rotary movement of one of said members and said ring-shaped member having a projection for the reception of bolts.

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