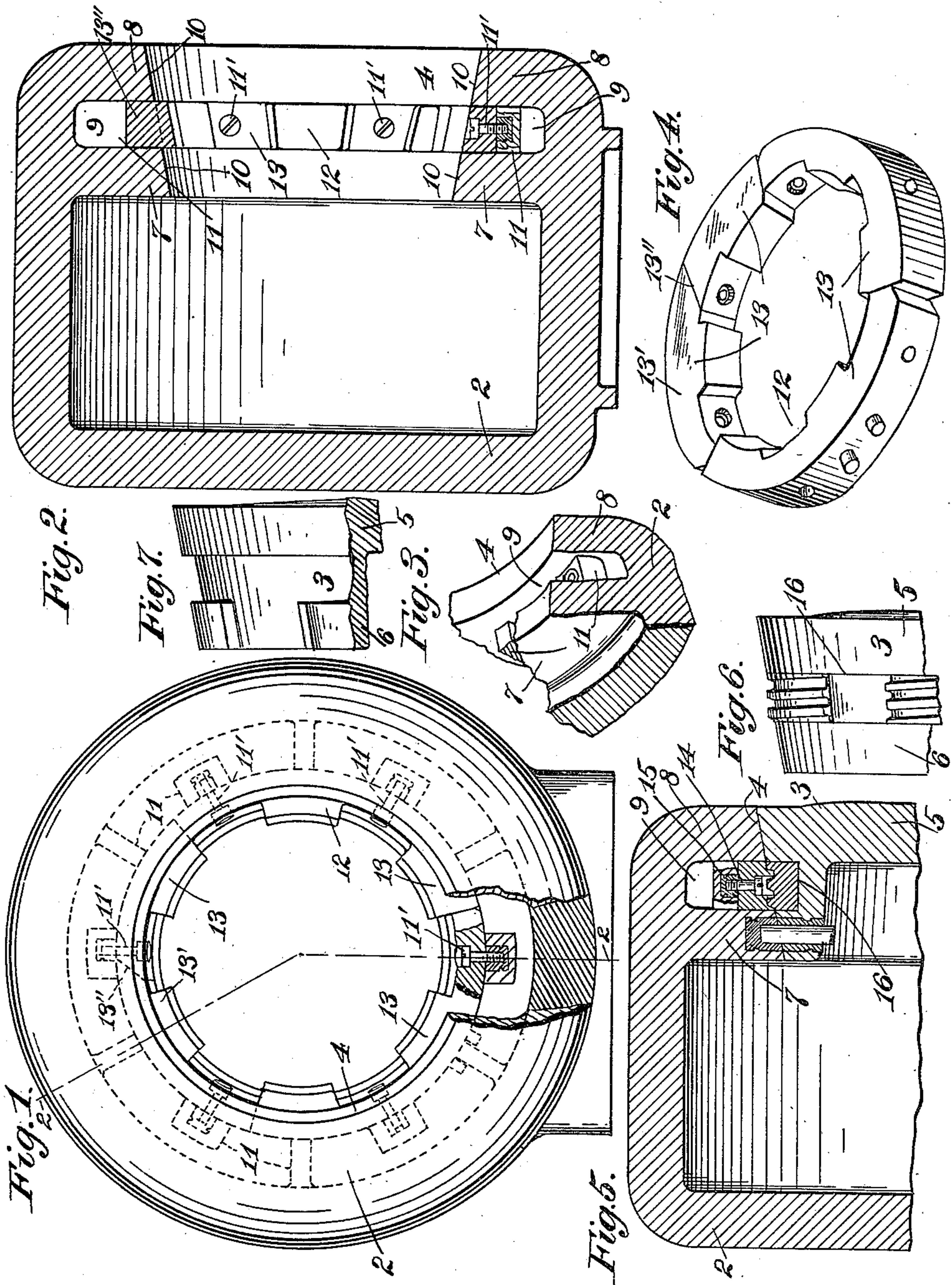


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SAFE OR VAULT DOOR HOLDING MEANS.  
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# UNITED STATES PATENT OFFICE.

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## SAFE OR VAULT DOOR HOLDING MEANS.

997,786.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed April 30, 1910. Serial No. 558,612.

*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 Door Holding Means, of which the following is a specification.

This invention relates to safe or vault door holding means, and is an improvement in part upon that shown and described in my contemporaneously pending application, Serial No. 548,488, filed March 10, 1910, the object of the improvement being to provide improved holding means for a rotary door, and which holding means may be formed separate from the door and body, thereby to enable the door to be readily ground to its seat, but which holding means will be as effective and strong as though it were an integral part of the door and body.

One of the objects of the invention is the provision of an improved safe or vault body in which the jamb may be provided with door holding means either in the form of threads or lugs, without the necessity of providing a rearwardly extending flange to form the jamb, but which body will, however, have a relatively long jamb in which the metal forming the same will be maintained of substantially uniform thickness throughout, thus to facilitate the heat treatment of the body casting when the same is made of unmachineable metal, such for instance as manganese steel.

A further object of the invention is the provision of an improved safe or vault body in which the door-way is provided with what may be considered a pair of jambs spaced apart, whereby a long jamb may be obtained while maintaining a small amount of metal in each particular part or member forming the jamb, and at the same time enabling one member of the door holding means to be located between the jambs.

In the drawings accompanying and forming part of this specification, Figure 1 is a front view of this improved safe or vault body, with a portion thereof broken away to more clearly illustrate the construction; Fig. 2 is a cross-sectional view taken in line 2—2, Fig. 1; Fig. 3 is a detail perspective view of a portion of the body jamb; Fig. 4 is a perspective view of the door holding

means adapted to be secured to the body; Fig. 5 is a cross-sectional view of a portion of the door and body, illustrating threaded means for holding the door in the jamb; Fig. 6 is an edge view of a portion of the door; and Fig. 7 is a view of a portion of the door having lugs complementary to the body lugs for holding the door in position.

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

This improved safe or vault comprises a body 2 and a door 3, the former of which may be made of any suitable shape. The front of the body is provided with a circular door-way 4 of tapered form for the reception of the rotary door 3, which latter is shown comprising a body 5 having a rearwardly extending flange 6. The body and door are each respectively made as an integral structure, in the preferred form thereof.

The body front, in which the door-way is located, is provided with a pair of inwardly extending members 7, 8, spaced apart and having a chamber 9 therebetween and terminating in annular jamb forming surfaces 10. These members may be in the form of annular flanges projecting inwardly from the side walls of the body and forming the annular jamb surfaces 10. By forming the front of the structure in this manner it will be observed that each of the members terminating in a jamb surface may be of substantially the same thickness and may also be of substantially the same thickness as the other walls of the body, and therefore all may be of substantially uniform thickness, thus enabling the structure to be thoroughly heat treated when made of manganese steel without forming the structure with a mass of metal around the jamb, which could not be effectively heat treated. The chamber 9 between the two jamb members permits the effective heat treatment and quenching of the casting when the same is made of metal which it is necessary to heat treat. The two jamb forming members are rigidly connected by integral ribs 11 located at intervals around the same, and some of these ribs are so formed that they will be of sufficient area to receive suitable fastening devices or bolts 11' for securing a suitable door holding ring 12 in position. The ribs



to which the ring is bolted are integrally connected with the jambs, and certain of them are also integrally connected with the side walls of the body, so that an opening  
 5 is left between some of the ribs and the side walls of the body, and this also facilitates the heat treatment of the casting when made of manganese steel. It will also be understood that the making of the casting will be  
 10 very materially helped by the formation in the manner described, even though the casting may not be made of that form of metal necessitating heat treatment.

The door holding ring 12 is made up of  
 15 a series of sections 13, whereby it may be readily inserted in position within the annular chamber between the members forming the jamb so as to contact with the outer face of the rear jamb forming member and  
 20 the inner face of the front jamb forming member so that it will be effectively held in position and be as strong as though it were integral with the body. In the present form the ring is shown made up of 4  
 25 sections, one of which, as 13', forms a key section whereby it locks all the rest of the sections in position, and for this purpose this key section is provided with an inclined surface 13'' adapted to engage a similarly  
 30 formed surface of its adjacent section. In the form shown in Fig. 4 this ring is provided with door holding lugs which project into the door-way, while in the form shown in Fig. 5 it is shown provided with  
 35 threads, which may be continuous or mutilated as preferred. The ring is secured in position by bolts 14 projecting into soft metal inserts 15 when the body is made of unmachineable metal, which inserts are lo-  
 40 cated in certain of the ribs hereinbefore referred to. In order to prevent the rotary movement of the door holding ring should the bolts be broken, the ring is provided on its outer edge with one or more sets of  
 45 projecting pins, see Fig. 4, adapted to engage one or more of the ribs, and thus afford an additional means for preventing rotation of the ring.

The door is provided with complementary  
 50 holding means in the form of lugs or threads formed thereon or secured thereto in some suitable manner. When the body is provided with lugs as shown in Figs. 1 and 2 the door flange will be provided with lugs  
 55 adapted to coöperate with the lugs of the body, and these lugs will be located preferably at the inner end of the flange. In the form shown in Figs. 5 and 6, however, the door is provided with an annular recess 16  
 60 in which may be fitted a sectional ring or a series of members carrying threads.

In practice the door will be provided with suitable holding bolts for preventing rota-  
 65 tion of the door, and these bolts may project into suitable openings formed in one of

the jamb members, or the sectional ring between the jamb for which purpose the jamb member may be provided with metal inserts.

In practice the door will be supported by some suitable form of hinge, such as a crane  
 70 hinge, to permit the same to be rotated in the usual manner, this, however, being a well known construction, it is not deemed necessary to illustrate or describe the same  
 75 further.

It will of course be understood that the safe may have any suitable exterior shape, and that if square for instance, the inwardly exterior jamb forming flanges will be of  
 80 this shape also, but have annular jamb forming surfaces.

I claim as my invention:

1. A safe or vault body having an integral front having a door-way formed by a pair of inwardly extending spaced apart  
 85 jamb forming flanges, the inner flange projecting from the side wall of the body and in rear of the outer flange forming the front wall of such body.

2. A safe or vault body having a door-  
 90 way formed by a pair of inwardly extending integrally connected flanges spaced apart and terminating in tapered annular jamb surfaces for the door, the inner flange  
 95 projecting from the side wall of the body and in rear of the outer flange forming the front wall of such body.

3. A safe or vault body having a door-  
 100 way formed by a pair of inwardly extending flanges spaced apart and terminating in tapered annular jamb surfaces for the door, and one or more ribs integrally connecting said flanges.

4. A safe or vault body having a door-  
 105 way formed by a pair of inwardly extending flanges spaced apart and terminating in tapered annular jamb surfaces for the door, and a plurality of ribs integrally connecting the flanges with each other and with  
 110 the side walls of the body.

5. A safe or vault body having a door-  
 115 way formed by a pair of inwardly extending flanges spaced apart and terminating in tapered annular jamb surfaces for the door, and a plurality of ribs integrally connecting the flanges together and spaced apart from the side walls of the body.

6. A safe or vault body having a door-  
 120 way formed by a pair of inwardly extending flanges spaced apart and terminating in tapered annular jamb surfaces for the door, and a plurality of ribs integrally connecting the flanges with each other and one or more connected with the side walls of the body and one or more spaced apart from  
 125 the side walls of the body.

7. A safe or vault body having a door-  
 130 way formed by a pair of inwardly extending flanges spaced apart and terminating in tapered annular jamb surfaces, the inner



flange projecting from the side wall of the body and in rear of the outer flange forming the front wall of such body, and door holding means carried between said flanges.

5 8. A safe or vault body having a door-way formed by a pair of inwardly extending flanges spaced apart and terminating in tapered annular jamb surfaces, door holding means carried between said flanges, and  
10 ribs connecting said flanges.

9. A safe or vault body having a door-way formed by a pair of inwardly extending flanges each of substantially the same cross-sectional area and spaced apart and  
15 terminating in annular jamb surfaces, and door holding means located in the space between the flanges.

10. A safe or vault body having a door-way formed by a pair of inwardly extending flanges spaced apart and terminating in  
20 annular jamb surfaces, door holding means located in the space between the jambs, and ribs integrally connecting said flanges.

11. A safe or vault body having a door-way formed by a pair of inwardly extending flanges spaced apart and terminating in  
25 annular jamb surfaces, ribs connecting said flanges, and door holding means located in the space between the flanges and comprising a sectional ring having a projection engaging one of said ribs.  
30

12. A safe or vault body having a door-way formed by a pair of inwardly extending flanges spaced apart and terminating in  
35 annular jamb surfaces, ribs connecting said flanges, and door holding means located in the space between the flanges and comprising a sectional ring and bolts for securing it to the ribs, said ring also having projections overlapping one of said ribs.  
40

13. A safe or vault body having a door-way formed by a pair of inwardly extending flanges spaced apart and terminating

in jamb surfaces, one or more ribs integrally connecting said flanges and spaced apart at 45 the rear from the wall of the safe body, and door holding means carried between said flanges.

14. In a safe or vault, the combination of a body having a door-way formed by a 50 pair of inwardly extending spaced apart flanges terminating in tapered annular jamb surfaces, and a rotary door fitting said door-way and having means for preventing the rotation of the door and comprising 55 bolts located to project into the inner jamb forming flange.

15. In a safe or vault, the combination of a body having a door-way formed by a pair of inwardly extending spaced apart 60 flanges terminating in tapered annular jamb surfaces, and a rotary door fitting said door-way and having means for preventing the rotation of the door and comprising bolts adapted to project into the inner jamb 65 forming flange, and means for holding the door against withdrawal and including means located between the flanges.

16. A safe or vault comprising a body having a door-way formed by a pair of inwardly 70 extending spaced apart flanges having tapered annular jamb surfaces, and a rotary door having a tapered joint surface adapted to fit said door-way and comprising a body and an inwardly extending flange, said door 75 having door holding means and said body having complementary door holding means located within the space between the annular flanges, and integral ribs connecting the jamb forming flanges and to which the door 80 holding means located within the space between the jamb forming flanges is secured.

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