S. W. FISH.

SAFE OR VAULT.

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997,787.

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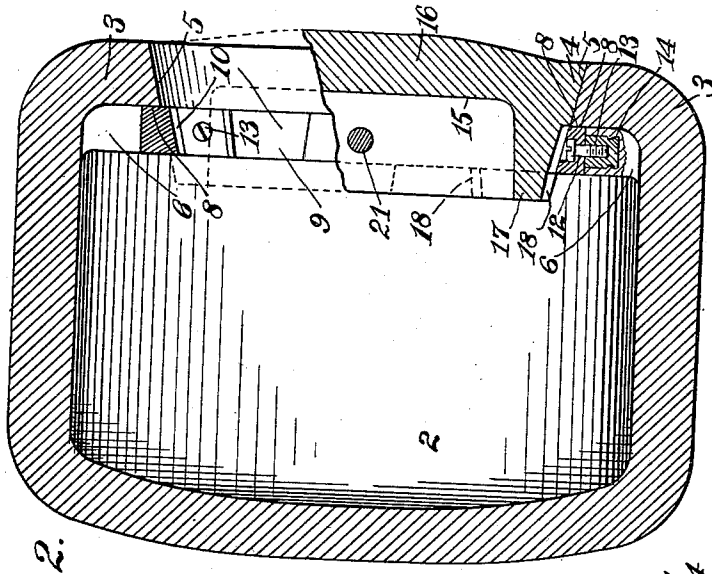

Fig. 2.

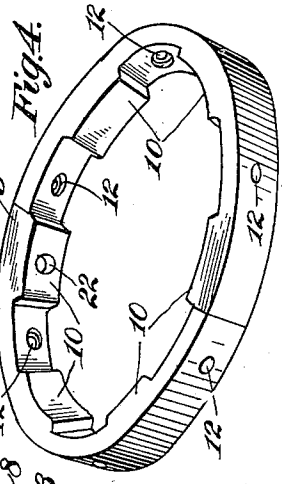

Fig. 4.

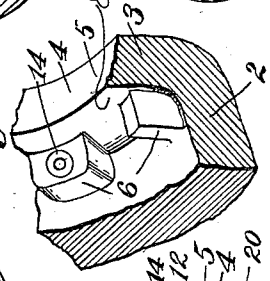

Fig. 3.

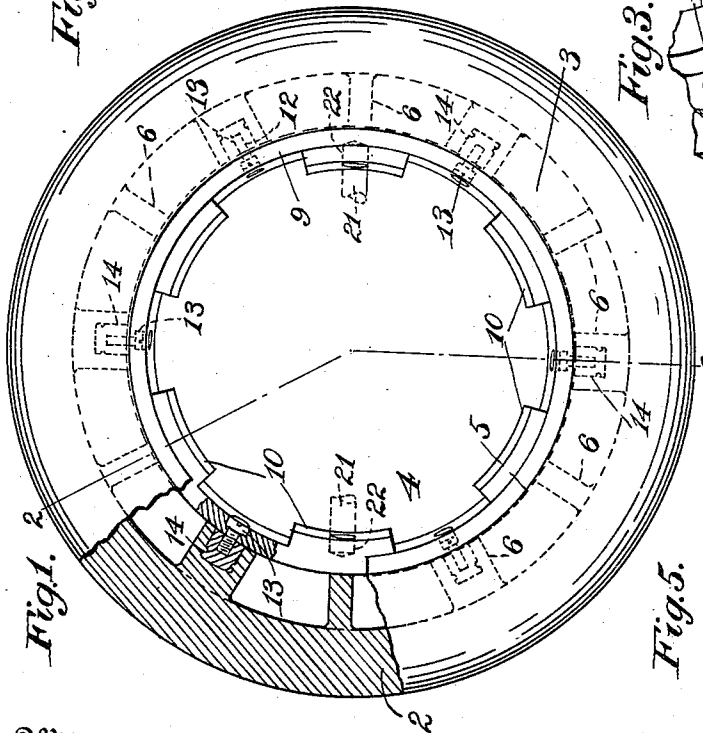

Fig. 1.

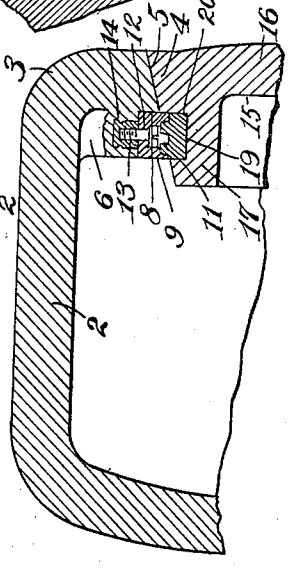

Fig. 5.

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SAFE OR VAULT.

997,787. Specification of Letters Patent. Patented July 11, 1911.

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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 Safes or Vaults, of which the following is a specification.

This invention relates to safes or vaults, and more particularly to improved means for holding a rotary door within the door opening, the object of the invention being to provide improved door holding means extremely simple but effective, and which may be made separate from the body and door, so that the body and door may be made of unmachineable metal while the holding means for the door may be made of machineable metal, if preferred, but which holding means, of whatever metal it may be made, can be readily attached after the door is ground to its seat, so that the necessity of providing a special form of holding means, when formed integral with the body and door respectively, to permit this operation is avoided, while at the same time the holding means is so located that it is not possible to separate the same from the door or the body by the action of explosives.

In the drawings accompanying and forming part of this specification, Figure 1 is a front view of a safe or vault body, partly in section; Fig. 2 is a cross-sectional view taken in line 2—2, Fig. 1, with the door in position and shown partly in section; Fig. 3 is a detail view of a portion of the safe body at the inner side of the jamb; Fig. 4 is a perspective detail view of one form of lug holding ring; and Fig. 5 is a detail sectional view of another form of holding means for the door, with a portion of the door and body shown in juxtaposition.

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

The safe or vault body 2 may be made of any suitable or desired form and construction. In the present instance it is shown as an integral structure provided with an inturned portion 3 forming the body front having a door opening 4, shown as of circular form and provided with a tapered jamb 5. Located within the body, at the inner side of the body front and adjacent to the jamb, is a series of ribs 6 integral with this portion of the safe body, some of which ribs are shown as larger than others. These ribs are spaced apart so as to avoid the formation of a mass of metal at this point, thereby to facilitate the heat treatment when the structure is made of a metal requiring this. These ribs are shown as integral with not only the front of the body, but also with the side walls thereof adjacent to the front, and project toward the door opening, but terminate an appreciable distance back of said opening, whereby that portion of the body forming the jamb will project beyond the ends of the ribs and form an annular shoulder 8. Carried by the ribs is a ring 9, which may be made up of any suitable metal, such for instance as machineable metal. This ring is made up of sections, whereby it may be readily inserted into position. The ring may be formed with door holding lugs 10, as shown in Figs. 1, 2 and 4, or it may be provided with threads 11, as shown in Fig. 5, such for instance as mutilated, or continuous, threads, or any other suitable form of holding means. This ring is provided at intervals with openings 12 for the passage of fastening devices, such as bolts 13, which project into soft metal inserts 14, which in the present instance are shown located in the larger ribs. Thus it will be observed that the holding or locking ring is supported by the ribs located at intervals entirely around but within the door-way, and that the ring is fastened securely to certain of the ribs, thus obviating the necessity of fastening the ring to the body front by bolts passing laterally through the ring, which latter form of fastening means would be an undesirable one. It will also be observed that the ring is supported at its underside by the ribs and at its forward or front side by the inner wall of the body front at the point forming the annular shoulder hereinbefore referred to.

The door 15, which is shown of conical form, comprises a body 16 having an inwardly extending flange 17. When the ring carried by the body ribs is provided with lugs the door will also be provided with complementary lugs 18 adapted to coöperate with the lugs formed on the body ring. When, however, the body ring is provided with threads, then the door flange will be provided with a segmental recess 19 for the reception of a sectional ring 20 likewise car-

rying threads. This sectional ring may be secured in position in any suitable manner.

In the form shown in Figs. 1 to 4, it will be observed that the lugs carried by the door when the door is rotated are brought into engagement with the rear sides of the lugs carried by the ring, so that any outward pressure on the door will cause the lugs of the door to clamp the lugs on the body ring between such lugs and the shoulder hereinbefore referred to formed by the body front.

The door is usually supported by some suitable means, such as a hinge adapted to permit rotary movement of the door, but as this constitutes no part of the present improvement it is not shown. The door is also usually provided with some suitable form of bolt mechanism for holding and locking it against rotary movement, and in the present instance a pair of radially located bolts 21 are shown. These bolts are adapted to enter bolt openings 22 in the lugs of the body ring. By this construction it will be observed that should the bolts which secure the ring to the body ribs be broken the door would still be locked to the ring by means of its bolts so that the door if rotated would also rotate the ring and therefore the door could not be withdrawn.

Any suitable means may be used to protract and retract the bolts.

I claim as my invention:

1. A safe or vault body having a doorway and provided with a series of integral spaced apart ribs located within the body around such door-way, and a ring secured to such ribs after the formation of the body and carrying door holding means.

2. A safe or vault body having a doorway and provided with a series of integral spaced apart ribs located within the body around such door-way and in rear of the jamb, and a detachable ring secured to such ribs and carrying door holding means.

3. A safe or vault body having a doorway and provided with a series of integral spaced apart ribs located within the body around such door-way, and a ring bolted to such ribs and carrying door holding means, said ribs terminating short of the door-way and some of said ribs being larger than others for the reception of the ring securing bolts.

4. A safe or vault body having a door opening provided with a tapered jamb, a series of ribs located at intervals around the door-way within the body and integral with a portion of such body and in rear of such jamb, and a sectional ring secured to said ribs after the casting of such body and having door holding means.

5. A safe or vault body having a door opening provided with a tapered jamb, a series of ribs located at intervals around the door-way within the body and integral with a portion of such body in rear of the jamb, and a sectional ring bolted to said ribs and having door holding means in the form of lugs.

6. A safe or vault body having a door opening provided with a tapered jamb, a series of ribs located at intervals around the door-way within the body and integral with a portion of such body, a sectional ring secured to said ribs and having door holding means in the form of lugs, and a door adapted to fit said door-way and having lugs for clamping the lugs of the body ring between the door lugs and a front wall of the body.

7. In a safe or vault, the combination of a body having a door-way, a series of ribs located within the body and integral with a portion thereof and disposed at intervals around such door-way in the rear of its jamb, a sectional ring rigidly secured to certain of the ribs subsequent to the formation of the body and carrying door locking or holding means, and a door adapted to fit said door-way and carrying door holding means coöperating with the locking or holding means of the body ring.

8. In a safe or vault, the combination of a body having a door-way, a series of ribs located within the body and integral with a portion thereof and disposed at intervals around such door-way in the rear of its jamb, a sectional ring rigidly secured to certain of the ribs and carrying door locking or holding means, a door adapted to fit said door-way and carrying door holding means coöperating with the locking or holding means of the body ring, and bolts carried by the door and adapted to penetrate openings located in the ring.

9. In a safe or vault, the combination of a body having a door-way provided with a tapered jamb, a series of ribs integral with a portion of the body and located at intervals around the door-way within the body and back from the jamb, a sectional ring rigidly bolted to said ribs and carrying door holding means, and a tapered door also carrying complementary means for engaging the door holding means of the ring.

10. In a safe or vault, the combination of a body having a door-way provided with a tapered jamb, a series of ribs integral with a portion of the body and located at intervals around the door-way within the body and back from the jamb, a sectional ring rigidly bolted to said ribs and carrying door holding means, and a tapered door comprising a body and a rearwardly extending integral flange, said flange carrying means adapted to coöperate with the door holding means carried by the ring.

11. In a safe or vault, the combination of a body having a door-way provided with a

tapered jamb, a series of ribs integral with a portion of the body and located at intervals around the door-way within the body and back from the jamb, a sectional ring rigidly bolted to said ribs and carrying door holding means comprising lugs and a tapered door comprising a body and a rearwardly extending integral flange, said flange carrying means adapted to coöperate with the door holding means carried by the ring and comprising lugs.

12. In a safe or vault, the combination of a body having a door-way provided with a tapered jamb, a series of ribs integral with a portion of the body and located at intervals around the door-way within the body and back from the jamb, a sectional ring rigidly bolted to said ribs and carrying door holding means comprising lugs and a tapered door comprising a body and a rearwardly extending integral flange, said flange carrying means adapted to coöperate with the door holding means carried by the ring and comprising lugs in position to clamp the door holding means of the body ring between said door lugs and a front wall of the body.

13. A safe or vault body having a door opening, a series of ribs located at intervals around the door-way within the body and integral with a portion of such body, a ring secured to said ribs and having door holding means in the form of lugs, and a door adapted to fit said door-way and having lugs for clamping the lugs of the body ring between the door lugs and a front wall of the body, and also having bolts adapted to penetrate openings located in the ring.

14. A safe or vault body having a door opening provided with a jamb, door holding means comprising lugs secured to the body in the rear of its jamb, ribs for supporting said door holding means, and a door adapted to fit said door-way and having lugs for clamping the lugs carried by the ribs between the door lugs and the front wall of the body.

15. A safe or vault body having a door opening provided with a jamb, door holding means in the form of fixed, non-movable lugs carried by the body and projecting beyond the jamb and into the door-way, a rotary door adapted to fit said door-way and having integral lugs for clamping the lugs of the body between the door lugs and the front wall of the body, the diameter of the door through its lugs being no greater than the diameter of the jamb at its inner end.

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