

J. J. SCOTT.

SAFE.

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Fig. 1.

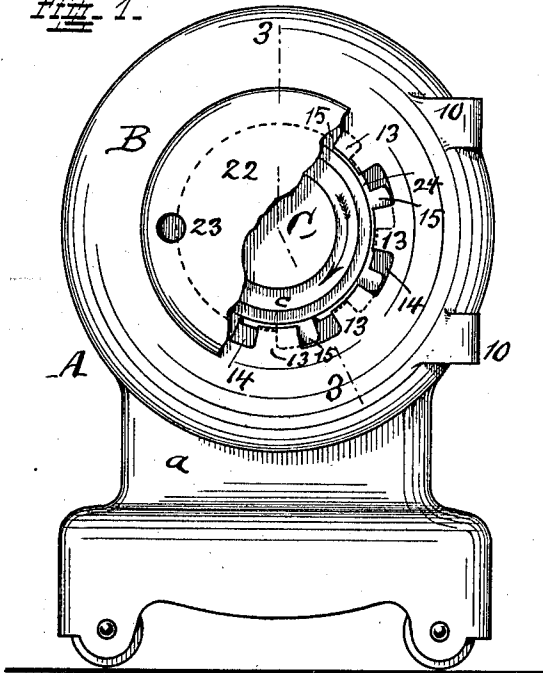


Fig. 2.

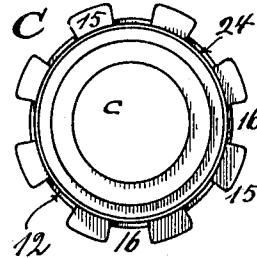


Fig. 3.

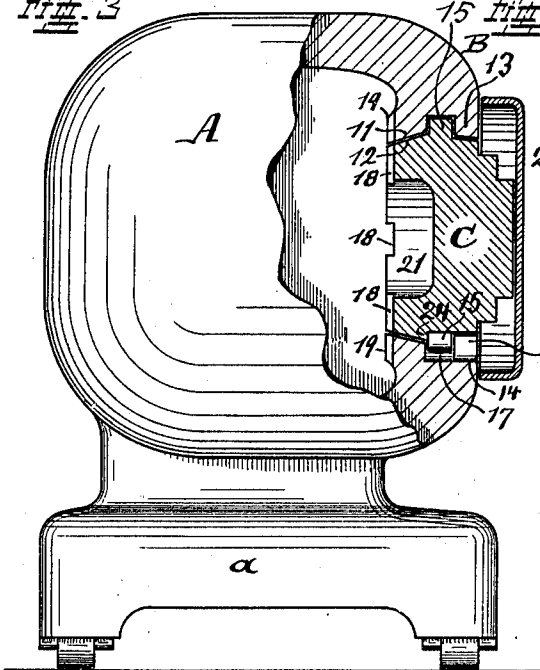


Fig. 4.

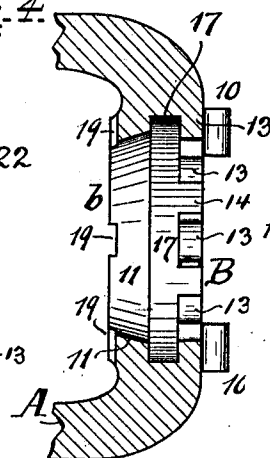
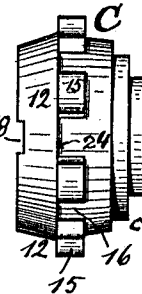


Fig. 5.



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UNITED STATES PATENT OFFICE.

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SAFE.

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To all whom it may concern:

Be it known that I, JOHN J. SCOTT, a citizen of the United States, and a resident of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Safes; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the accompanying drawing, with the reference characters marked thereon, which forms also a part of this specification.

This invention relates to improvements in the construction of safes having circular door-openings to which is fitted a correspondingly shaped door.

The object of the invention is to produce a construction which prevents the unseating of the door as for instance by the use of explosives, to render difficult the application of such explosives if in liquid form and to minimize the effects of an eventual explosion in case such has been attempted.

In the following specification and particularly pointed out in the claims at the end thereof, will be found a full description of my invention, together with its parts and their construction, which latter is also illustrated in the accompanying drawing, in which:—

Figure 1, is a front-view of a safe embodying the features of my invention and with its door seated in position, portions of a shell provided on the outer side of the door being broken away. Fig. 2, shows an outside view of the door detached. Fig. 3, is a side-view of the safe with parts broken away, the front-wall being shown in a section which passes substantially through the center of the door-opening and through the door seated therein, the plane of the section being indicated by line 3—3 in Fig. 1. Fig. 4, shows a section of the front-wall of the safe-body through the center of the door-opening. Fig. 5, is a side-view of the removed door.

In the drawing, A is the safe-body and *a* indicates a supporting base for it. B is the front-wall of this body and *b* is a circular opening in this wall permitting access to the interior of the safe-body. C is a door fitted to this opening and complementary means are provided within this opening and

on the door which, when in engagement with each other, hold the door within this opening so as to close the same. The engagement of these means is effected by a limited, axial rotation of the door within the door-opening and the door is supported accordingly and in a manner analogous to safes of this or of the screw-door type. Customary hinge-frames (none being shown) are used for supporting such doors, which latter are provided with a boss *c* to permit their mounting in said frames accordingly and in a manner to permit rotation of the door on its frame. Such a hinge-frame is supported to swing on hinge-lugs 10 on the safe-body and by means of it the door is carried into opening *b* to close it, or away from it to permit access to the safe.

When the door is closed, it seats against a tapering surface 11 of the jamb, it being correspondingly tapered as shown at 12. It is held to its seat in the door-opening by complementary, spaced lugs provided around the periphery of the door and around the jamb-surface of the door-opening and outside of the said tapering surface in each case. Accordingly lugs 13 are provided in the jamb and separated by spaces 14; and lugs 15 are provided around the door and separated by spaces 16. The width of spaces 14 is such as to permit lugs 15 of the door to pass through them and the complementary tapering surfaces 11 and 12 are so fitted that when they are in contact, lugs 15 on the door have passed beyond lugs 13 on the jamb and occupy now an annular recess 17 provided beyond these lugs and between them and the tapering surface 11, and in which recess lugs 15 of the door may move circumferentially, provided said door is turned. To hold the seated door now against being moved outwardly, it is only necessary to turn it sufficiently to cause lugs 15 on it, to pass behind lugs 13 in the door-opening in a manner indicated in Fig. 1, which shows such a rotation for holding the door partly completed. In Fig. 3 this manner of engagement between two complementary lugs, one in the jamb and the other on the door is shown on the upper side of the door. Customary mechanism, usually a train of gear-wheels (not shown) to rotate

the door is provided on it and on the frame whereby it is supported, convenient manipulating means, generally a crank-handle, being provided for this actuation.

5 The holding engagement between the complementary lugs is complete when the lugs on the door have fully passed behind the lugs in the jamb so as to be covered by them. Any suitable means in form of a stop (not
10 shown) may be provided in connection with the door-rotating mechanism whereby further manipulation of the same is prevented when the lugs on the door have arrived in the proper position indicated. The door is
15 positively locked by preventing its rotation in reverse direction and to a position which would permit lugs 15 on it to clear and pass out between lugs 13 in the jamb. This locking is done by bolts (not shown) which occupy and move in bolt-ways 18 in the door
20 and at the time of locking are projected so as to extend also into bolt-ways 19 provided for them in the inner side of the front-wall and around the door-opening. The movement of these bolts is controlled by a suitable locking mechanism, usually a time-lock (not shown) and for which a recess 21 is
25 provided on the inside of the door.

22 is a shell which merely covers the recesses in the front of the safe and is not designed to afford any burglary-protection, since its removal is not very difficult. It is provided with an opening 23 which receives the means (handle) before alluded to and
30 whereby the door-rotating mechanism is manipulated.

It will now be observed that when the door is closed and locked, recesses 14 between the lugs in the jamb and recesses 16
40 between the lugs of the door are alined and form together outwardly open pockets all around the door as best seen in Fig. 1, also in Fig. 3 on the lower side of the door. To forcibly unseat such a door would require removal of the entire set of lugs 13 to free
45 lugs 15 of the door which, as far as the use of explosives is concerned, is considered impossible since such explosives, especially if liquid, can not be successfully introduced and held between all the superposed lugs.
50 Furthermore the effect of any explosive, even if introduced and successfully held between any pair of engaged lugs would only be local and limited to these particular lugs. Besides, since the size of overlapping surfaces between the engaged lugs is limited, the quantity of any explosive which could possibly be held is likewise limited so that it is impossible to obtain an explosion of a
60 force sufficient to affect the entire structure. Finally the force of any explosion is immediately killed by the outwardly open pockets between the engaged lugs which prevent con-

finement of gases and by permitting their escape, afford immediate relief. The diameter of the door outside of the tapering part of its side is reduced in diameter so as to produce an off-set, as shown at 24, whereby also the ready introduction of any liquid explosive between the tapering surfaces is rendered difficult.

The use of cast-metal is presumed in the construction of this safe.

Having described my invention, I claim as new:

1. In safe-construction, a safe-body having a circular door-opening in one of its walls, the jamb-surface of which is provided with an annular recess between its front and rear-edges and with spaced recesses between said annular recess and the outside whereby said annular recess is rendered open toward the front of the safe, and a circular, rotatable door fitted to the door-opening and provided with spaced lugs adapted to pass through the spaced recesses in the door-jamb mentioned and into the annular recess back of them, in which recess said lugs may move peripherally so as to pass behind the metal between the spaced recesses, thereby holding the door in its opening.

2. In safe-construction, a safe-body having a circular door-opening in one of its walls, the jamb-surface of which is provided with an annular recess between its front and rear-edges and with spaced recesses between said annular recess and the outside whereby said annular recess is rendered open toward the front of the safe, the jamb-surface between said annular recess and its rear edge being inwardly tapered, and a door having a tapering periphery fitted to seat against this tapering part of the jamb-surface and provided with spaced lugs adapted to pass through the spaced recesses in the door-jamb and into the annular recess back of them, said door being supported for rotation so that, when rotated on its tapering seat, the lugs on it may pass behind the metal between the spaced recesses to hold the door to its seat.

3. In safe-construction, a safe-body having a circular door-opening in one of its walls, the jamb surface of which is provided with an annular recess between its front and rear-edges and with spaced recesses between said annular recess and the outside whereby said annular recess is rendered open toward the front of the safe, the jamb-surface between said annular recess and its rear-edge being inwardly tapered, and a door, part of the periphery of which is tapering inwardly and fitted to seat against the tapering part of the jamb-surface, the door outside of this tapering part

being reduced in diameter to form an off-set
and provided with spaced lugs outside of
this off-set which are adapted to pass
through the spaced recesses in the door-
jamb and into the annular recess back of
5 them, said door being supported for rotation
so that, when rotated on its tapering seat,
the lugs on it may pass behind the metal be-

tween the spaced recesses to hold the door to
its seat.

In testimony whereof, I hereunto affix my
signature in the presence of two witnesses.

JOHN J. SCOTT.

Witnesses:

C. SPENGEL,
T. LE BEAU.