G. COOK.

SAFE DOOR.

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1,032,992. **Patented July 16, 1912.**

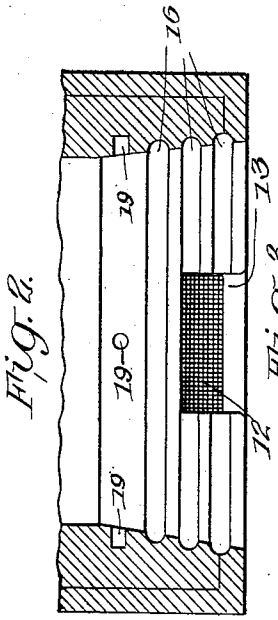

Fig. 2.

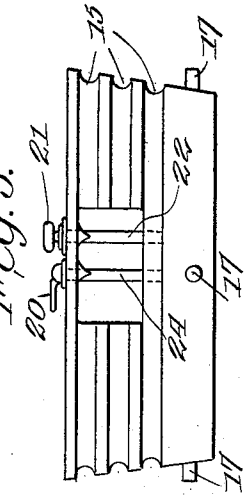

Fig. 3.

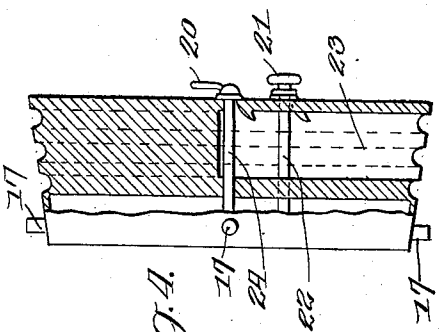

Fig. 4.

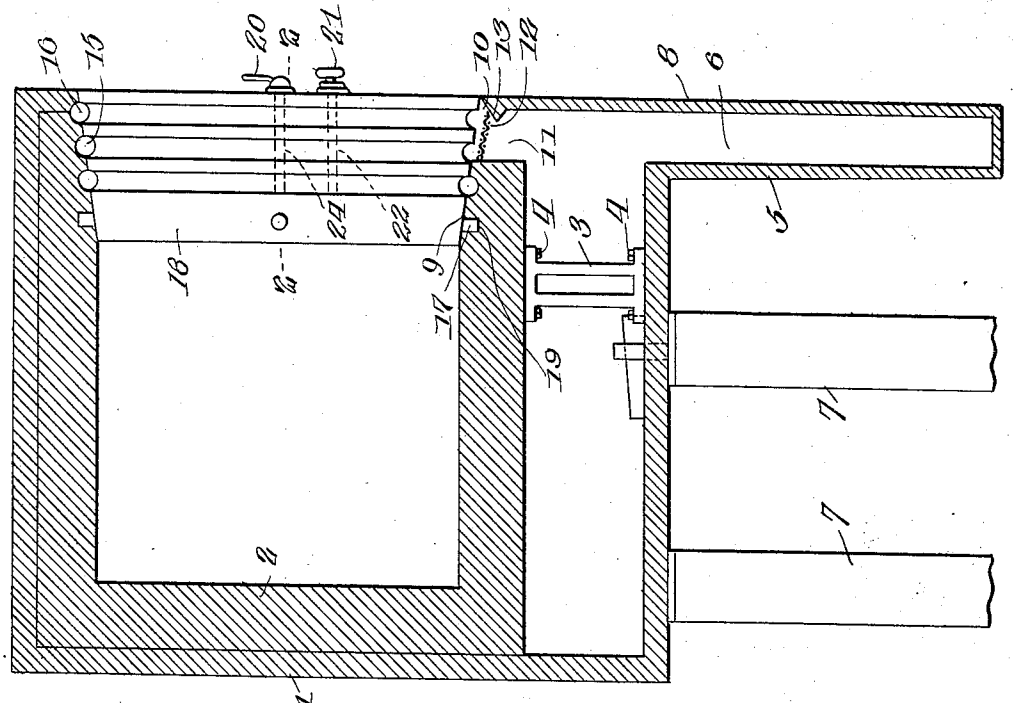

Fig. 1.

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SAFE-DOOR.

1,032,992. Specification of Letters Patent. Patented July 16, 1912.

Application filed January 11, 1911, Serial No. 601,984. Renewed December 15, 1911. Serial No. 666,035.

To all whom it may concern:

Be it known that I, GUSTAVE COOK, a citizen of the United States, residing at Gillett, in the county of Oconto and State of Wisconsin, have invented a new and useful Improvement in Safe-Doors, of which the following is a specification.

My invention is an improvement in safe doors, and consists in certain novel constructions, and combinations of parts, hereinafter described and claimed.

The object of the invention is to provide a means especially adapted for safes having circular doors, for receiving explosives introduced between the door and the safe, and through the openings for the lock and bolt operating means, and conducting the said explosives away from the door, there to be exploded in small quantities, or otherwise disposed of.

Referring to the drawings forming a part hereof, Figure 1 is a transverse vertical section of a safe provided with the improvement. Fig. 2 is a partial transverse section of the safe with the door removed, taken on the line 2—2 of Fig. 1. Fig. 3 is a bottom plan view of the door, and Fig. 4 is a transverse side view of the door, partly in section.

As is known, so called burglar proof safes are liable to attack and destruction at two vital points, first the space between the door and the door opening and second the openings through which the lock and bolt operating means extends. The present embodiment of the invention is designed to cure this defect and is shown applied to a safe comprising an outer casing 1, and an inner casing 2, supported within the outer casing, at the top thereof. The inner casing is of lesser length than the outer casing, and is supported with its top contacting with the inner face of the top of the outer casing. The external horizontal cross section of the inner casing is substantially the same as the internal cross section of the outer casing, so that the outer faces of the top and sides contact with the inner faces of the top and sides of the outer casing. The inner casing is supported above the floor of the outer casing in any suitable manner, as for instance by a double I beam 3, which is secured to the bottom of the casings by cap screws 4. The outer casing is provided with a depending extension 5 at the front of its bottom, forming a chamber 6, and the chamber is directly below the door to be described. The outer casing is supported on standards 7 arranged in rear of the extension, and the standards are of sufficient height to take the weight of the safe off the extension. In small safes, the safe may rest on the floor of the building with the extension depending in a recess in the floor. Both of the casings are constructed of any suitable size or material, and of any suitable or desired construction, that will be burglar or drill proof.

It will be noticed that the door opening 9 of the inner casing registers with the door opening 10 of the outer casing, and there is formed a transverse slot or opening 11 between the front walls of the casings at the door openings. This slot or opening 11 is directly above the chamber 6 and directly below the door openings, so that anything falling between the casings at the door openings, will drop into the chamber. A screen 12 of perforated material, as for instance gauze, is arranged transversely of the recess, and the upper edge of the wall 8 is beveled inwardly as shown at 13, to deflect substances onto the screen.

The door 14 is frusto-conical in form, and the peripheral surface is provided with a plurality of annular grooves 15, spaced apart from each other. The door openings 9 and 10 are shaped to fit the door closely, and the faces of the openings are provided with annular grooves 16, registering with the grooves 15, when the door is closed.

The door openings 9 and 10 are continuous, and practically one opening, and the slot or recess 11 is at the lowest portion of the said openings, so that any substance entering the grooves or recesses formed by the grooves, will pass down the said recesses onto the screen.

The bolts 17 of the door are near the inner face 18 thereof, and engage recesses 19 in the face of the door opening 9. The bolts are operated by a handle 20 in the usual manner, and a permutation lock 21 is provided for locking the safe door. The handle 20 and the rod 22 of the permutation lock, necessarily extend through the door since the lock is on the inner face, and the bolts must be near the face of the door. This is the weak point of so called burglar proof safes, since a liquid or granulated explosive, as for instance nitroglycerin or a fine grain powder, may be introduced into

the safe by removing the rod 22 of the lock, or the handle 20 of the bolts. The improved door is provided with an opening 23 extending from the rod 24 of the handle, to the bottom of the door, and registering with the chamber 6 when the door is closed. Both the rods 22 and 24 pass through the opening 23, and it will be evident that any explosive or other foreign body introduced through the openings of the rods, will drop through the opening 23, into the chamber. Should the explosive be introduced into the space between the door and the door opening, it will run down the grooves 15 and 16, and drop into the chamber 6.

The chamber 6 may be equipped with means for setting off the explosive in small quantities as it is introduced, or the chamber may be provided with means for conducting the explosive away from the safe and building. Both of the said means are shown in Patent No. 960,293, dated June 7, 1910.

The gist of the invention is the provision of the openings 11, 15, 16 and 23 for conducting the explosive away from the vital points of the safe.

It will be evident that many changes might be made in the construction shown and described, without departing from the scope of the appended claims.

I claim—

1. A safe comprising an outer casing having a depending extension at the front thereof, and an inner casing of lesser height than the outer casing supported in the outer casing and spaced above the floor of the said outer casing, said casings having registering circular door openings, and having a vertical passage between the openings at the lower portion of the said openings and opening into the space between the casings directly above the extension, said casings having grooves extending from one side of the passage to the other, and opening into the said passage, a screen arranged transversely of the passage, and a door fitting within the door openings, and having grooves registering with the grooves of the openings and having a vertical passage registering with the passage of the door openings and extending above the lock and the bolt operating means of the door.

2. A safe comprising an outer casing and an inner casing of lesser height than the outer casing supported in the outer casing and spaced above the floor of the said outer casing, said casings having registering circular door openings, and having a vertical passage between the openings at the lower portion of the said openings and opening into the space between the casings, said casings having grooves extending from one side of the passage to the other and opening into the said passage, and a door fitting within the door openings, and having grooves registering with the grooves of the openings and having a vertical passage registering with the passage of the door openings and extending above the lock and the bolt operating means of the door.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."