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R. O. CARTER.
SAFE.
APPLICATION FILED JULY 20, 1908.

Patented Dec. 5, 1911.

3 SHEETS—SHEET 1.

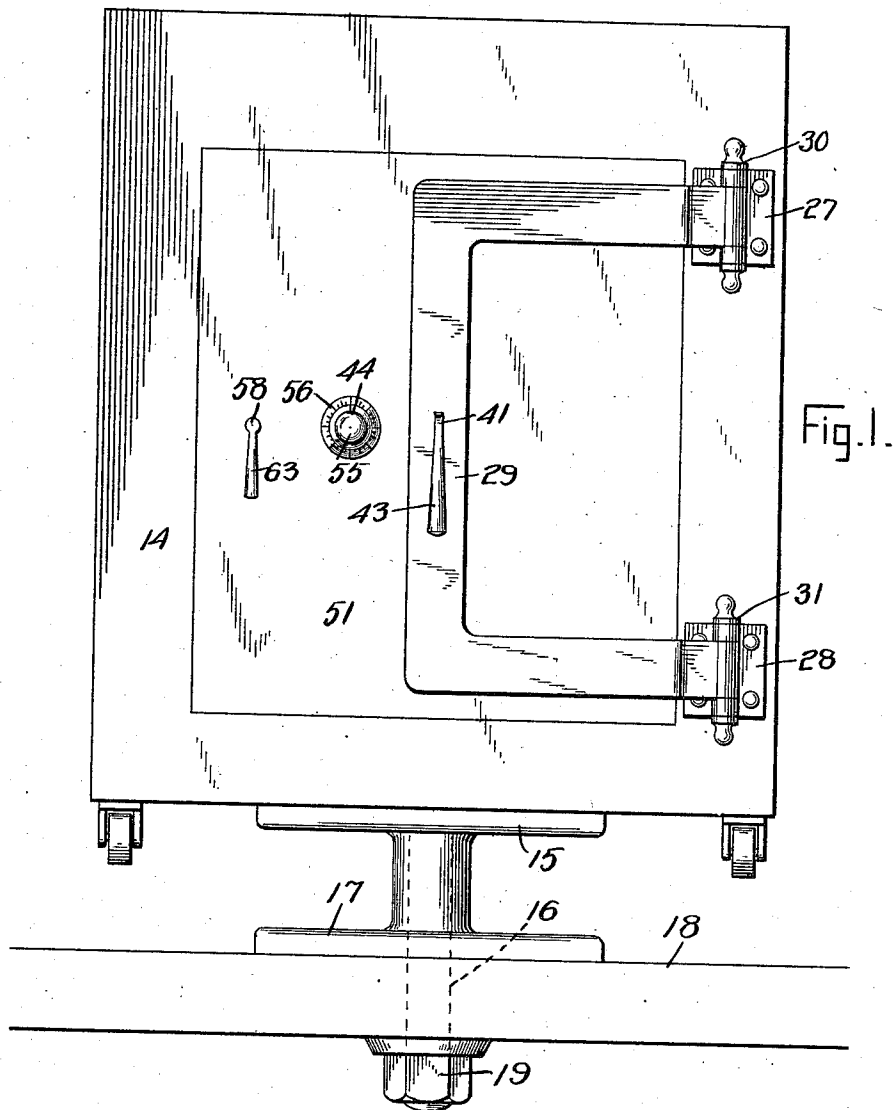


Fig. 1.

Witnesses

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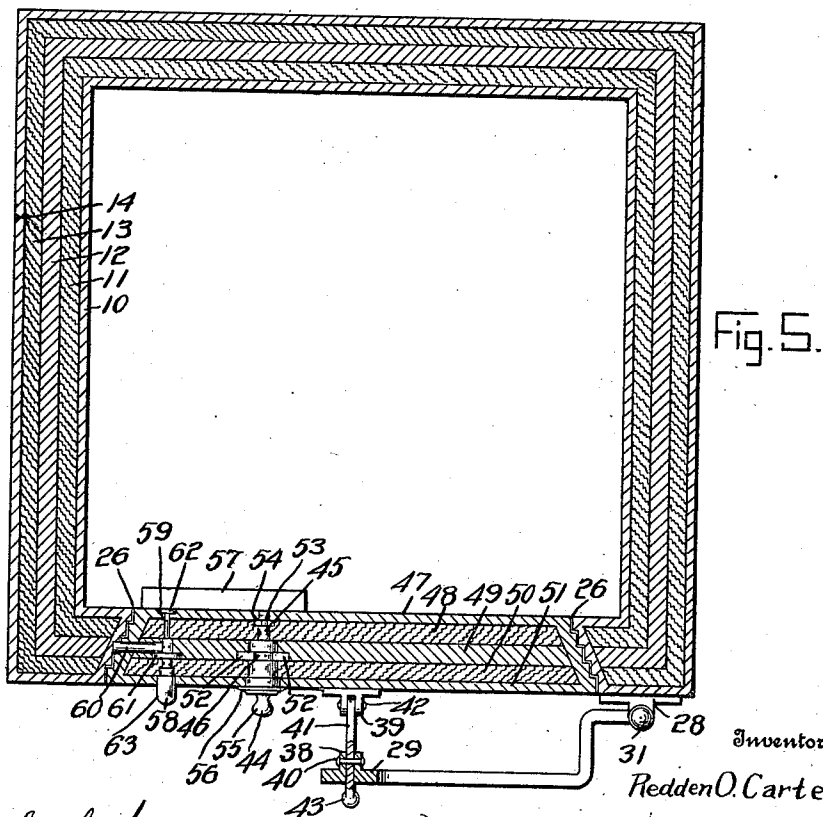
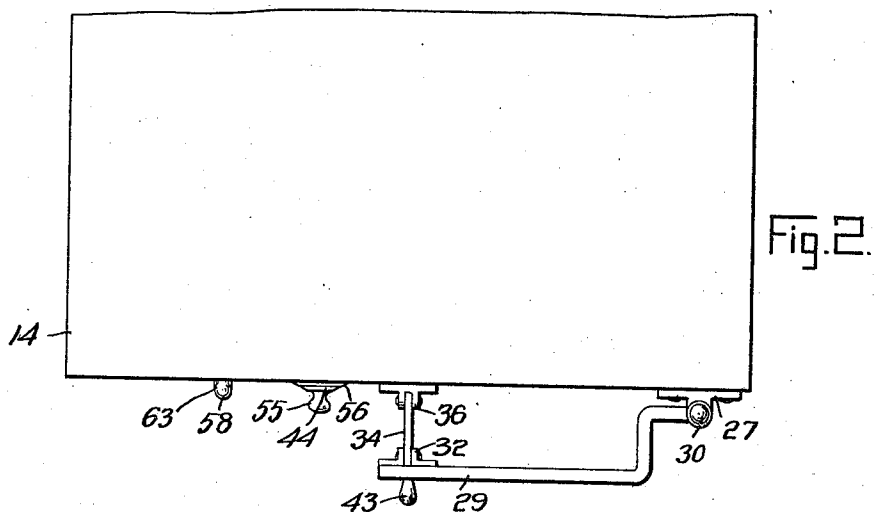
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3 SHEETS-SHEET 2.



Witnesses

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3 SHEETS-SHEET 3.

Fig. 4.

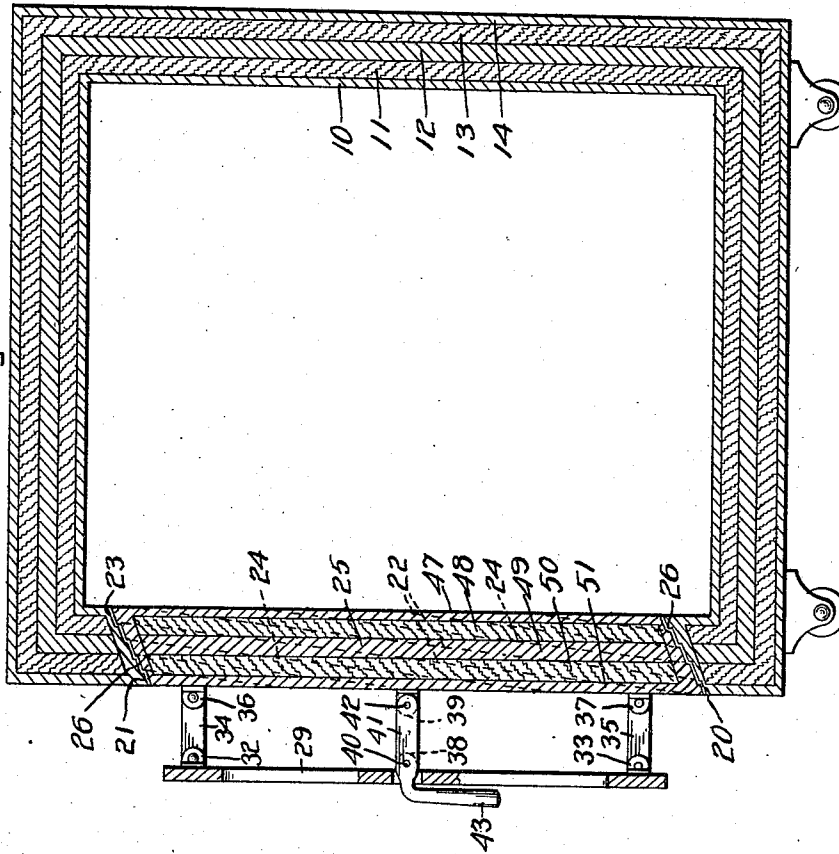
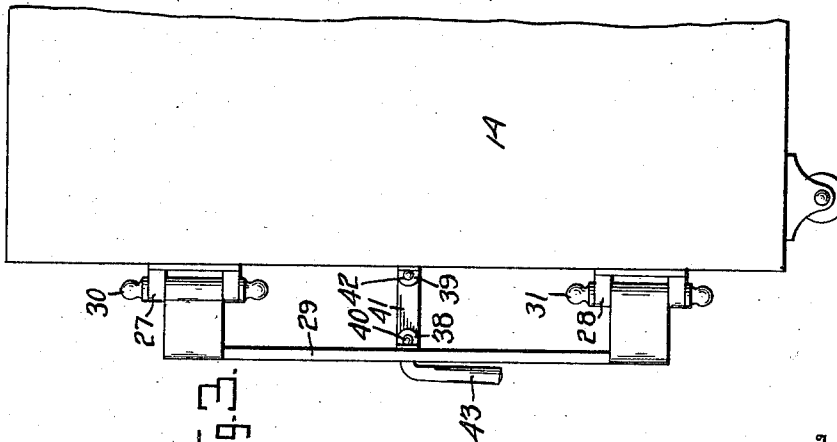


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

Patented Dec. 5, 1911.

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To all whom it may concern:

Be it known that I, REDDEN OSCAR CARTER, a citizen of the United States, residing at Glory, in the county of Berrien, State of Georgia, have invented certain new and useful Improvements in Safes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fire and burglar proof safes, and has for one of its objects to simplify and improve the construction of devices of this character, and increase their efficiency and utility and fire and burglar proof qualities without material increase in expense of construction or the weight of the device.

With these and other objects in view the invention consists in a safe having its walls composed of layers of fire proof material with a layer of tempered steel between the layers of fire proof material, the steel layer being impervious to drills or other implements employed for perforating it.

The invention further consists in forming the doorway opening with the lower side arranged in a plurality of steps with the lower step at the outside, and the upper side arranged in corresponding steps with the lower step also at the outside and with the sides of the doorway opening arranged in steps extending obliquely to the vertical plane of the safe, so that one of the steps in each side of the doorway opening extends from the outer step of the lower end of the doorway opening to the inner step of the upper end of the doorway opening and with the remaining steps extending in parallel relations to the side steps referred to, and with the door formed with its edges corresponding to the inner face of the doorway opening, and with packings of asbestos or like material disposed upon the various steps to effectually exclude liquid explosives, and thus prevent the door from being blown by burglars from its position in the doorway opening.

The invention further consists in a safe having a doorway opening and door constructed as above described and with a novel arrangement of hinges and connecting links whereby the door may be handled in opening and closing it.

The invention further consists in a device

whereby the safe is mounted for rotation bodily and anchored to a floor or wall.

The invention further consists in certain novel features of construction as hereafter shown and described, and then specifically pointed out in the claims, and in the drawings illustrating the preferred embodiment of the invention, Figure 1 is a front elevation of a safe constructed in accordance with the invention. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is a section on the line 5—5 of Fig. 1.

The improved device comprises a safe of any required size or capacity and formed with its side walls constructed with an inner shell 10, preferably of sheet metal of requisite thickness, a layer 11 of fire proof material, of some of the approved asbestos compounds, a sheathing 12 of relatively heavy tempered steel, another layer 13 of the fire approved compound, and an outer shell or sheathing 14 of relatively heavy sheet metal, preferably steel. A safe wall thus constructed possesses the requisite fire proof properties, while at the same time possessing the requisite burglar proof properties, as the tempered steel effectually resists the action of drills and like implements which may be employed for surreptitiously penetrating it.

Connected to one of the walls of the safe, as for instance the bottom wall, is a socket member 15 having a relatively heavy bolt or stud 16 extending therefrom and fitting through a standard 17 attached to a floor if the safe is to be mounted upon the floor or against a wall if the safe is to be suspended from a wall; but as the constructions of the supporting devices are precisely alike whether placed upon a wall or a floor it is not deemed necessary to illustrate both arrangements of the parts, but for the purpose of illustration the standard 17 is shown disposed upon a floor 18. The stud 16 extends through the floor 18 and is provided with a heavy binding nut 19 engaging the rod and thus firmly anchoring the safe to the floor, so that the safe remains immovable but materially increases the security of the contents.

The doorway opening of the safe is arranged through the front side wall and is formed with its upper and lower jambs in a plurality of steps, the lowest step in the bottom of the doorway opening being at the

outside, while the lowest step 21 at the top of the doorway opening is likewise at the outer side. The sides of the doorway opening are likewise formed with steps, the central step 22 extending obliquely from the outer or lowest step 20 of the bottom of the doorway opening to the inner or highest step 23 of the top of the doorway opening and with the remaining steps 24 of the sides of the doorway opening likewise extending obliquely to the longitudinal plane of the front wall of the safe and in parallel relations to the central step 22.

The door indicated as a whole at 25 is formed in the same manner as the walls of the safe, namely with an inner skin or shell 47, a layer 48 of fire proof material, a layer 49 of tempered steel, another layer 50 of fire proof material, and an outer shell of sheathing 51 of relatively heavy sheet steel. The door 25 is formed with its upper and lower edges arranged in steps corresponding to the steps formed in the top and bottom members of the door jamb, while its side edges are arranged in steps extending obliquely to the longitudinal plane of the door and corresponding to the steps in the doorway opening.

Attached to the steps of the doorway opening are packing strips 26 of a suitable asbestos compound, or a compound formed of combined asbestos and metal which has the power of resisting heat, while at the same time being sufficiently flexible to yield to pressure when the door is inserted and thus form a tight packing between the door and the doorway opening to effectually prevent the insertion of explosive material either in liquid or powder form, and thus render the safe impervious to the efforts of burglars to blow the door from its jambs.

The door 25 is mounted upon hinges of peculiar and novel construction, consisting of hinge members 27—28 connected to the outer face of the safe alongside the doorway opening and with a U shaped frame 29 swinging at its ends from the hinge members upon suitable pintles 30—31, the U shaped member having spaced ears 32—33 between which links 34—35 are pivoted at one end, and pivoted at their other ends between spaced ears 36—37 upon the door 25. Extending inwardly from the central portion of the frame 29 are spaced ears 38 and extending outwardly from the door 25 are spaced ears 39, and pivoted at 40 between the ears 38 is a lever 41, the inner end of the lever pivoted at 42 between the ears 39 and the outer end of the lever turned downwardly at 43 to form a handle.

By the arrangement shown of the door 25 with the peculiar form of the steps the peculiar arrangement and form of the flexible door mounting devices, the door may be readily moved into its seat when the safe is

to be closed, and removed from its seat and swung outwardly when the safe is to be opened. The frame 29 being mounted to swing upon the body of the safe and the door 51 being coupled to the frame by the link members 34—35 and the combined link and lever 41—43, the movement of the door is readily accomplished as it is simultaneously moved outwardly and downwardly and readily follows the contour of the "stepped seat." The oblique arrangement of the steps at the sides enables the door to be readily actuated in this manner and likewise enables the handle 43 to produce a strong leverage action against the door to force it into its seat. By this arrangement also it will be noted that the door when open is swung entirely clear of the doorway opening and does not obstruct in any manner the free access to the interior of the safe.

The knob signal is represented as a whole at 44 and extends through the various members constituting the door and is formed with its inner portion reduced at 45 for fitting through the inner fire proof layer 48 and likewise through the inner skin or shell 47 and connected to operate the usual combination lock members arranged in a casing 57. The larger outer portion of the knob spindle is formed with an annular channel 46 in which annular members 52 engage, the members 52 fitting in corresponding seats in the steel member 49, by which means the spindle is firmly locked in the door material and prevented from being driven inwardly by pressure or blows applied to the outer end. The reduced portion 45 of the spindle is likewise provided with an annular channel 53 in which annular members 54 engage, as shown, to further increase the resisting power of the spindles. The spindle 44 is provided with a turning knob 55 operating over a graduated escutcheon 56 of the usual form.

Extending through the door at a point preferably in horizontal alinement with the knob spindle 55 is another spindle represented as a whole at 58 and with a reduced inner end 59 extending through the various inner members of the door and connected to the usual system of locking bolts 60 employed in devices of this character. The bolt 58 is provided with lateral spaced collars 61—62 engaging in cavities respectively in the steel member 49 and in the inner shell 47, and thus effectually prevent the displacement of the spindle by pressure applied either inwardly or outwardly. Attached to the outer end of the spindle 58 is a lever 63 by which the spindle may be rotated when released by the lock, in the ordinary manner.

By this arrangement it will be obvious that a very strong and durable safe is produced which is rendered burglar and fire

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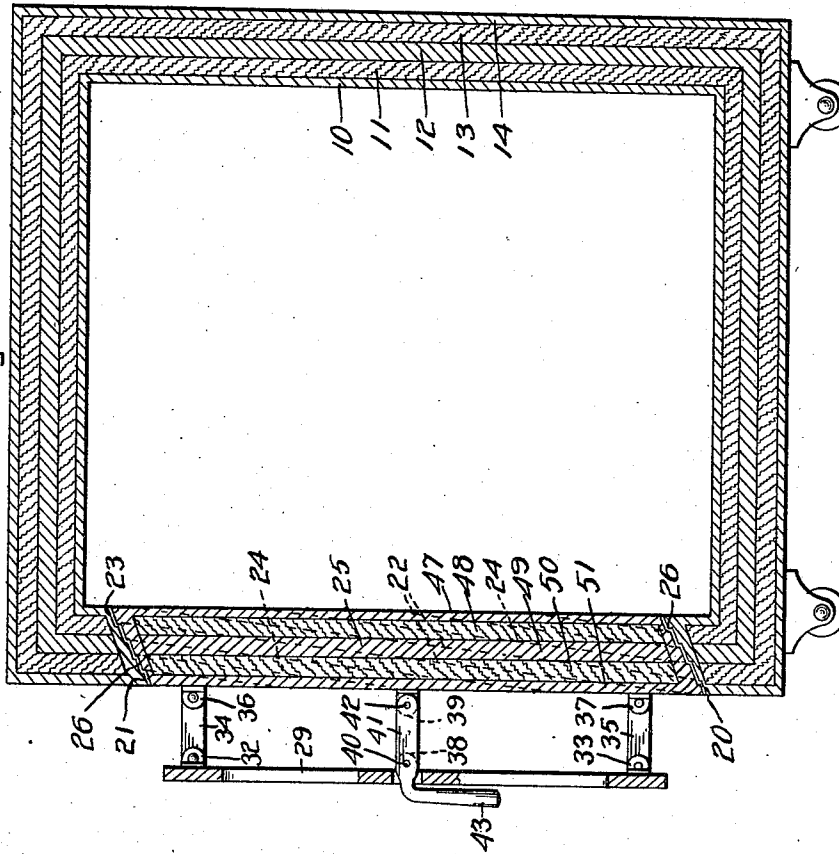
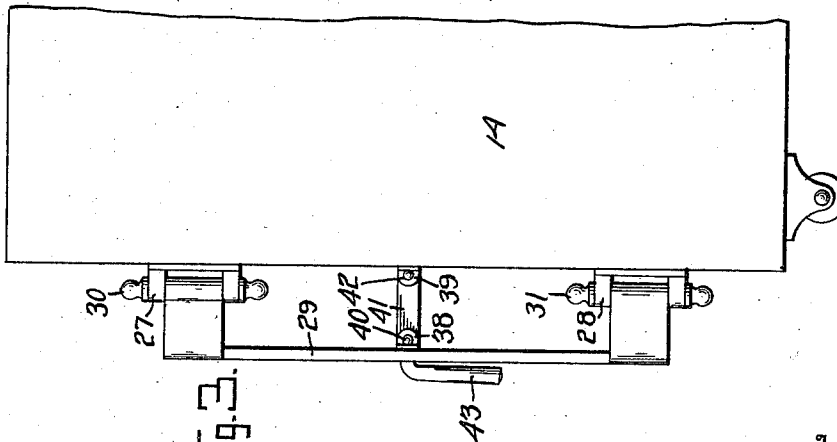


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