

R. S. ELLIOTT & G. COOK.

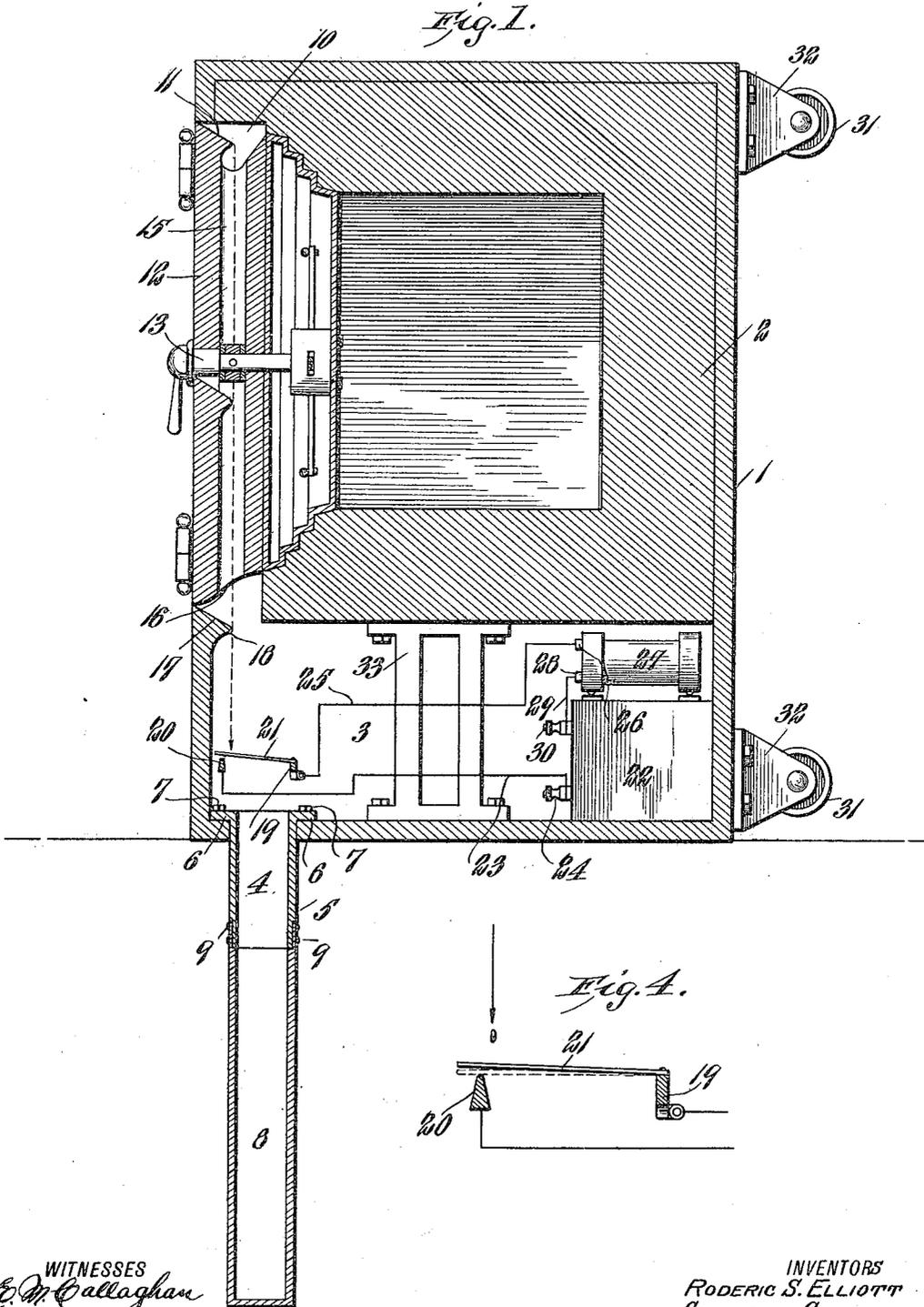
SAFE.

APPLICATION FILED JULY 7, 1909.

960,293.

Patented June 7, 1910.

2 SHEETS—SHEET 1.



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Fig. 2.

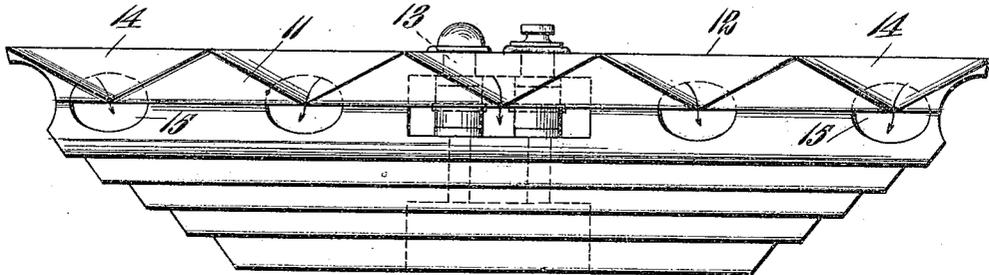
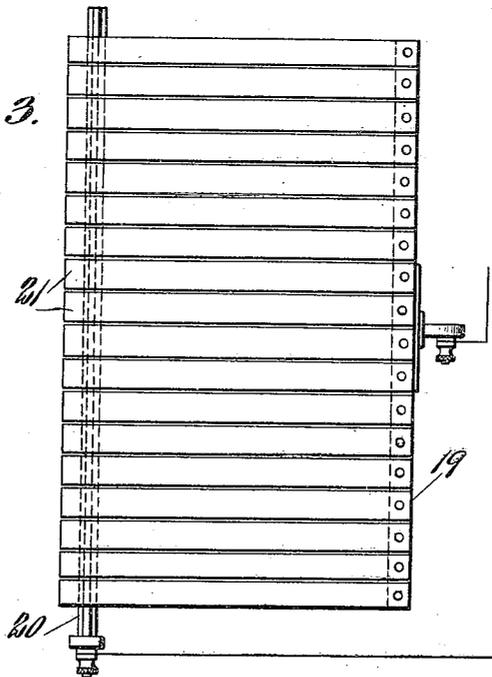


Fig. 3.



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UNITED STATES PATENT OFFICE.

RODERIC S. ELLIOTT, OF LAONA, AND GUSTAVE COOK, OF GILLETT, WISCONSIN.

SAFE.

960,293.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, RODERIC S. ELLIOTT and GUSTAVE COOK, citizens of the United States, residing, respectively, at Laona, in the county of Forest and State of Wisconsin, and Gillett, county of Oconto, and State of Wisconsin, have made certain new and useful Improvements in Safes, of which the following is a specification.

Our invention is an improvement in safes, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

The object of the invention is to provide a safe, especially adapted to resist the insertion of explosives there-into, and to prevent the insertion of a sufficient amount to cause any damage, by exploding the said explosive in detail and in small amounts.

Referring to the drawings forming a part hereof—Figure 1 is a vertical section of the safe, Fig. 2 is a top plan view of the door, Fig. 3 is a plan view of the contact plates, and Fig. 4 is an end view of the same.

The embodiment of the invention shown in the drawings, comprises an outer casing 1 of suitable material, provided in its front with a door opening, and an inner casing 2, also of any suitable material, which is of lesser length than the outer casing, and is spaced apart from the lower end thereof to form a chamber 3, which will be hereafter designated as the explosion chamber. The outer casing is also provided in its bottom with an opening 4 in which is arranged an outlet chute or pipe 5, the inner end of the said chute being flanged as shown at 6, and bolted to the edge of the opening by bolts or screws 7. As shown at 8, the lower end of the chute is closed and the pipe consists of two sections, which are riveted together at 9.

The door opening as shown is not beveled as is usual in safe construction, but is squarely recessed as at 10, while the edges of the door are beveled as at 11 toward the inner face of the door, so that a triangular space is left between the edge of the door and the door casing entirely around the door.

The door is preferably formed with a thick drill proof outer plate 12, but the inner portion may be of any desired construction as may also the lock 13, the said inner portion and lock forming no part of the invention. The upper edge of the door is as

before stated beveled inwardly and downwardly, and is also beveled to form a plurality of recesses 14, sickle shaped as shown, the bases of the recesses being outwardly, and the apexes at approximately the center of the plate 12, the recesses forming guide-ways, conducting to vertical passages 15 in the substance of the plate, and which extend entirely through the door, opening at the lower edge thereof as at 16.

The arrangement of the recesses is such that no level surface whatever is found on the upper edge of the door, and any fluid or finely comminuted powder of sufficient weight will slip down the bottom of the recesses to the apexes, which deliver to the passages 15, and were there no interruption the said fluid would pass through the explosion chamber; and into the chute or pipe 5.

The lower edge of the door casing is beveled downwardly and inwardly as shown at 17 in Fig. 1, for a precisely similar purpose, the inner edge 18 of the casing being however in front of the apexes of the recesses, so that any material dropping from the recesses, will not strike the edge 18 of the casing.

A pair of bars 19 and 20 of conducting material, are arranged transversely of the safe in the explosive chamber, and in spaced and parallel relation, and to the bar 19 is secured a plurality of fingers 21 of very thin resilient conducting material, and the free ends of the fingers are spaced slightly above the upper surface of the bar 20 as shown in Figs. 1 and 4.

The bars 19 and 20 are arranged one in front and one behind the series of vertical passages 15, and the fingers extend across the space between the bars, and form a practically continuous sheet beneath the openings 16 of the passages, so that any material dropping through the passages will fall upon the fingers, and depress one or more of them, to cause the free end thereof to contact with the bar 20.

A spark coil 22 is supported within the explosion chamber, and a battery 27 comprising a plurality of preferably dry cells is interposed in the circuit connecting the coil with the contact bars 19 and 20. The said circuit comprises a lead 23, which connects the binding post 24, of the spark coil with the bar 20, and a lead 25, which connects the bar 19 with one of the poles 26

of the battery 27, the other pole 28 being connected by a lead 29, with the other terminal 30 of the coil.

In the operation of the device, should there be an attempt made to introduce an explosive, such as nitro-glycerin into the safe, it will enter the recesses 14, and be conducted through the vertical passages to the explosion chamber and will fall upon the contact fingers 21, moving one or more of them into contact with the bar 20. It will be evident from the description, that the fingers 21 and the bar 20, are the terminals of an open circuit containing the spark coil, and that the circuit will be closed by the falling of the explosive on the fingers. The detonation will set off the explosive in the safe, which will be of such small amount that no great damage will be done to the safe, but the detonation of the explosive in the same will set off the explosive outside of the safe, and even should the latter event not take place, the continued detonations in the safe would deter anyone from continuing the operation of introducing explosives. Should the explosive be introduced between the lower edge of the door and the casing, the result will be the same, since the explosive must strike the fingers in its passage to the bottom of the explosion chamber.

To prevent breakage of the pipe 5, the wheels 31 are journaled in brackets 32 which are secured to the back of the safe instead of to the bottom, thus making it more difficult to move the same. When it is desired to move the safe, it is turned on to its back, thus bringing the wheels into operation.

It will be evident from the description that the exploding mechanism may be dispensed with, and that the explosive may be conducted out of the safe by means of the chute or pipe 5, and this is one of the objects contemplated, the construction being in all respects the same, except for the omission of the electrical apparatus.

Should any great amount of explosive be introduced into the safe before it is exploded, the resulting damage to the same, will not be adjacent to the door, but remote therefrom, and in that part of the safe most capable of resisting it.

The invention comprises in its broadest aspect, a safe provided with means for receiving and conducting an explosion away from the vital parts of the safe, the exploding of the explosive being a subsidiary feature.

Were the exploding mechanism dispensed with, the explosive would be exploded by the concussion produced by its contact with the bottom of the explosion chamber or chute 5, so that the same effect would follow in the majority of cases were the said mechanism dispensed with.

We claim:

1. A safe comprising an outer casing and an inner casing spaced above the bottom of the outer casing, said casings being provided with a door opening, a door fitting within the opening and having its edges beveled inwardly to form an annular space between said edges and the edges of the door opening, said door having a series of vertical passages therethrough, and a plurality of recesses on its upper edge, said recesses having inclined bottoms leading to the passages, the lower edge of the door opening being beveled inwardly and downwardly, a pair of contact bars arranged in front and behind the series of vertical openings, a plurality of resilient fingers secured to one bar and extending across the space between the bars, the free ends of the fingers being spaced above the other bar, said fingers being directly below the vertical passages, and the inner edge of the beveled edge of the door opening, a spark coil, a battery, and a circuit including the spark coil and the battery, and whose terminals are the bars.

2. A safe comprising inner and outer casings, spaced apart at their bottoms for forming a chamber therebetween, said casings having a door opening, and a door fitting within the opening, and having its edges beveled inwardly, the upper edge being provided with a plurality of recesses having inclined bottoms, said door having a plurality of vertical passages therethrough into which the recesses deliver, a spark coil and a battery in the chamber, a plurality of contact fingers arranged below the vertical passages and in position for engagement by material passing through the passages, a normally open circuit including the spark coil and battery and adapted to be closed by the movement of the fingers.

3. A safe comprising inner and outer casings spaced apart at their bottoms to form a chamber therebetween, and provided with a door opening, a door having a plurality of vertical passages therethrough and whose edges are beveled toward the recesses, the lower edge of the door opening being beveled inwardly and downwardly, a spark coil and a battery in the chamber, and a plurality of contact fingers below the passages for engagement by material falling therethrough, and a normally open circuit adapted to be closed by the fingers and including the coil and the battery.

4. A safe provided with an upper and a lower chamber, and with a door opening whose lower edge is beveled inwardly and downwardly, a door fitting within the opening and provided with vertical passages therethrough opening onto the lower chamber, and with recesses on its upper edge having inclined bottoms and delivering to the passages, a sparking device in the lower chamber, and contact fingers arranged be-

low the passages and the inner edge of the door opening for operating the sparking device.

5 5. A safe provided with an upper and a lower chamber and with a door opening, a door fitting within the opening and provided with vertical passages therethrough into the lower chamber, and with recesses on its upper edge having inclined bottoms and delivering to the passages, a sparking device in the lower chamber, and contact fingers arranged below the passages and the inner edge of the door opening for operating the sparking device.

15 6. A safe provided with an upper and a lower chamber, and with a door opening, a door fitting into the opening and provided with means for conducting an explosive from the upper edge thereof into the lower chamber, a sparking device within the lower chamber, and means operated by the explosive for operating the sparking device.

20 7. A safe comprising upper and lower chambers, and provided with a door opening, a door, said door and door opening having means in connection therewith for re-

ceiving and conducting an explosive into the lower chamber, means in said chamber for setting off the explosive, and means operated by the explosive for actuating said 30 means.

8. A safe comprising upper and lower chambers, and provided with a door opening, a door, said door and door opening having means in connection therewith for receiving and conducting an explosive into the lower chamber, and means in said chamber for setting off the explosive. 35

9. A safe comprising upper and lower chambers, and provided with a door opening, a door in the opening, means in connection with the door and the door opening for receiving and conducting an explosive from between said door and opening into the lower chamber, said lower chamber having 45 an outlet chute or pipe for the purpose set forth.

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