

No. 642,702.

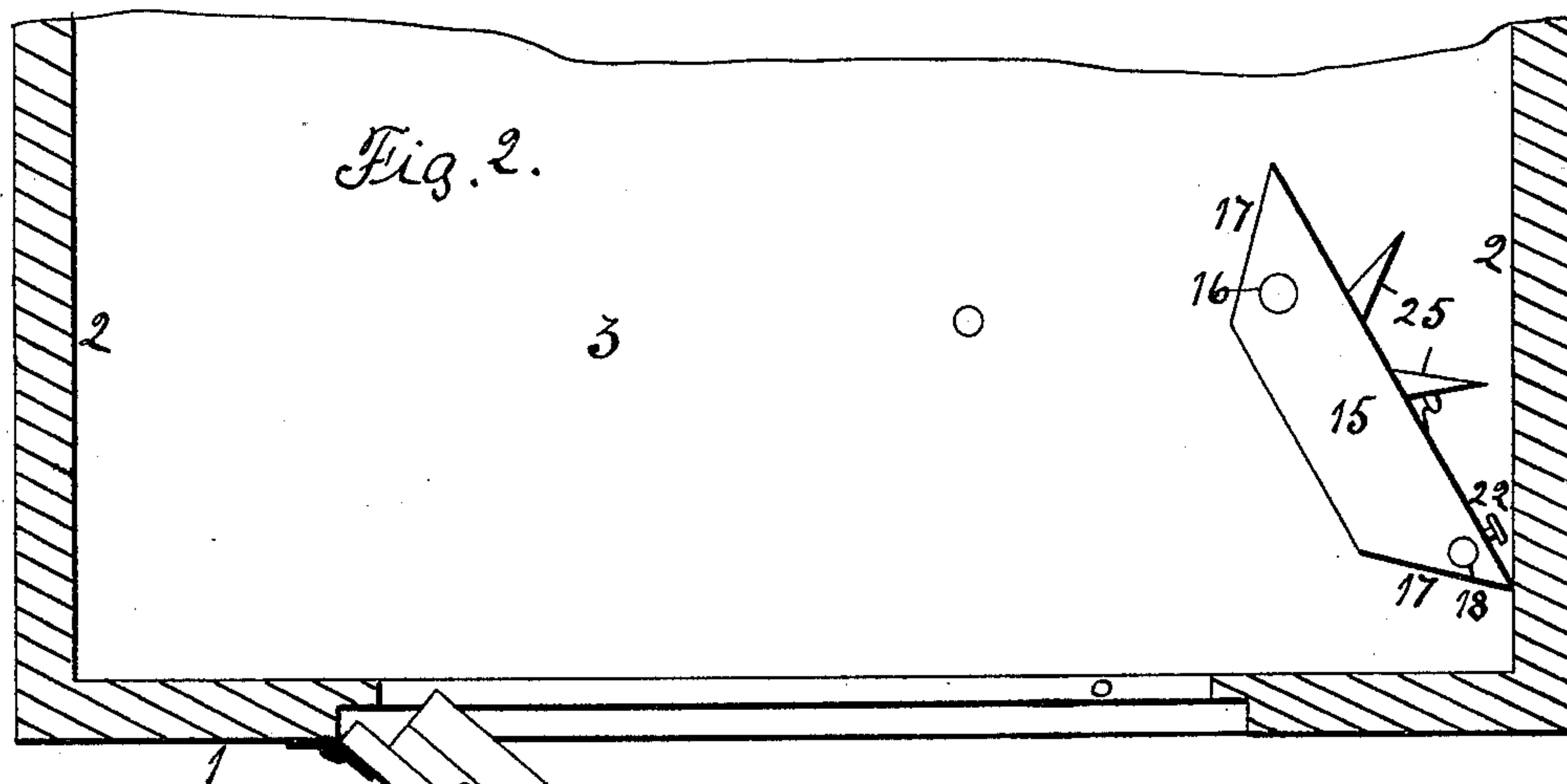
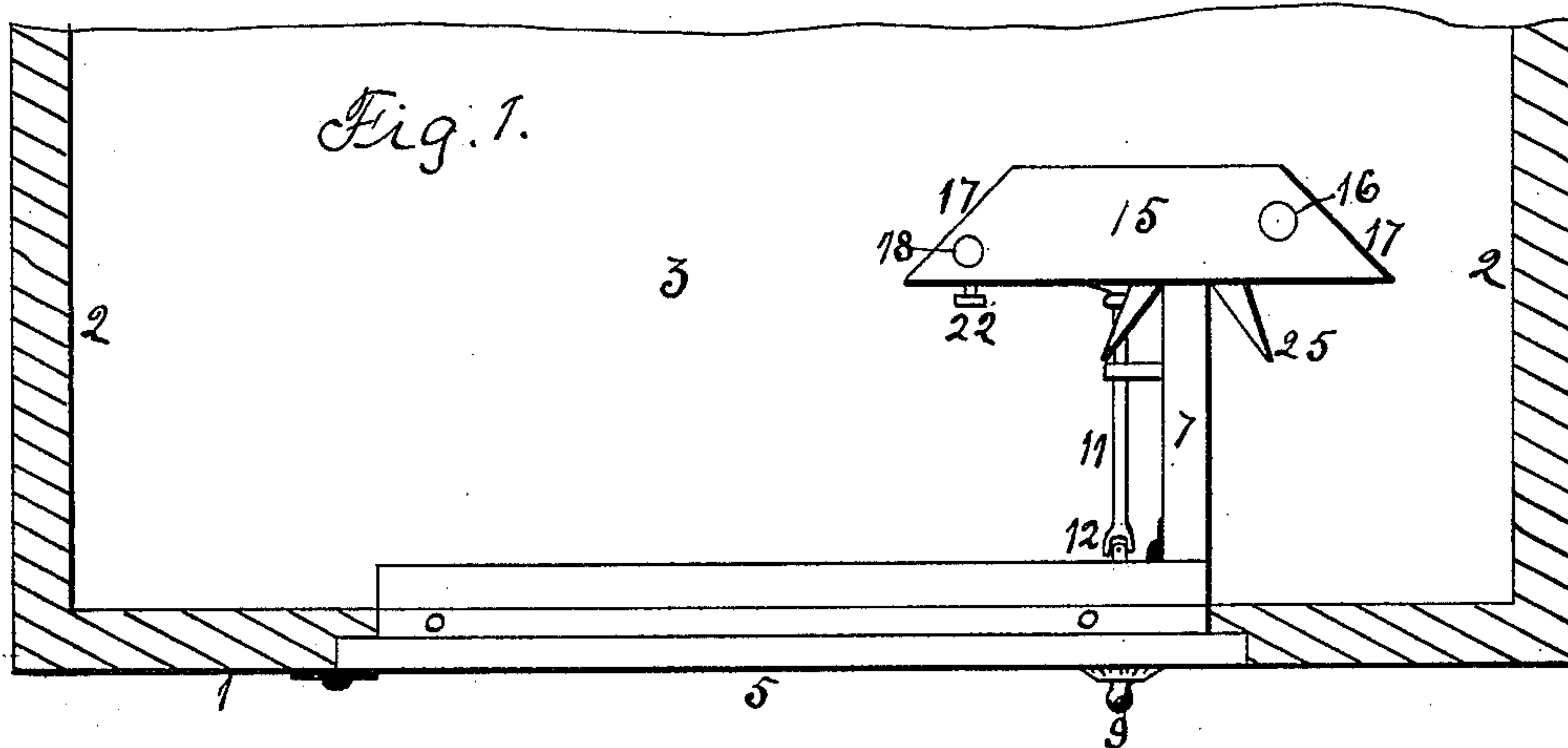
Patented Feb. 6, 1900.

F. I. LONG.  
VAULT.

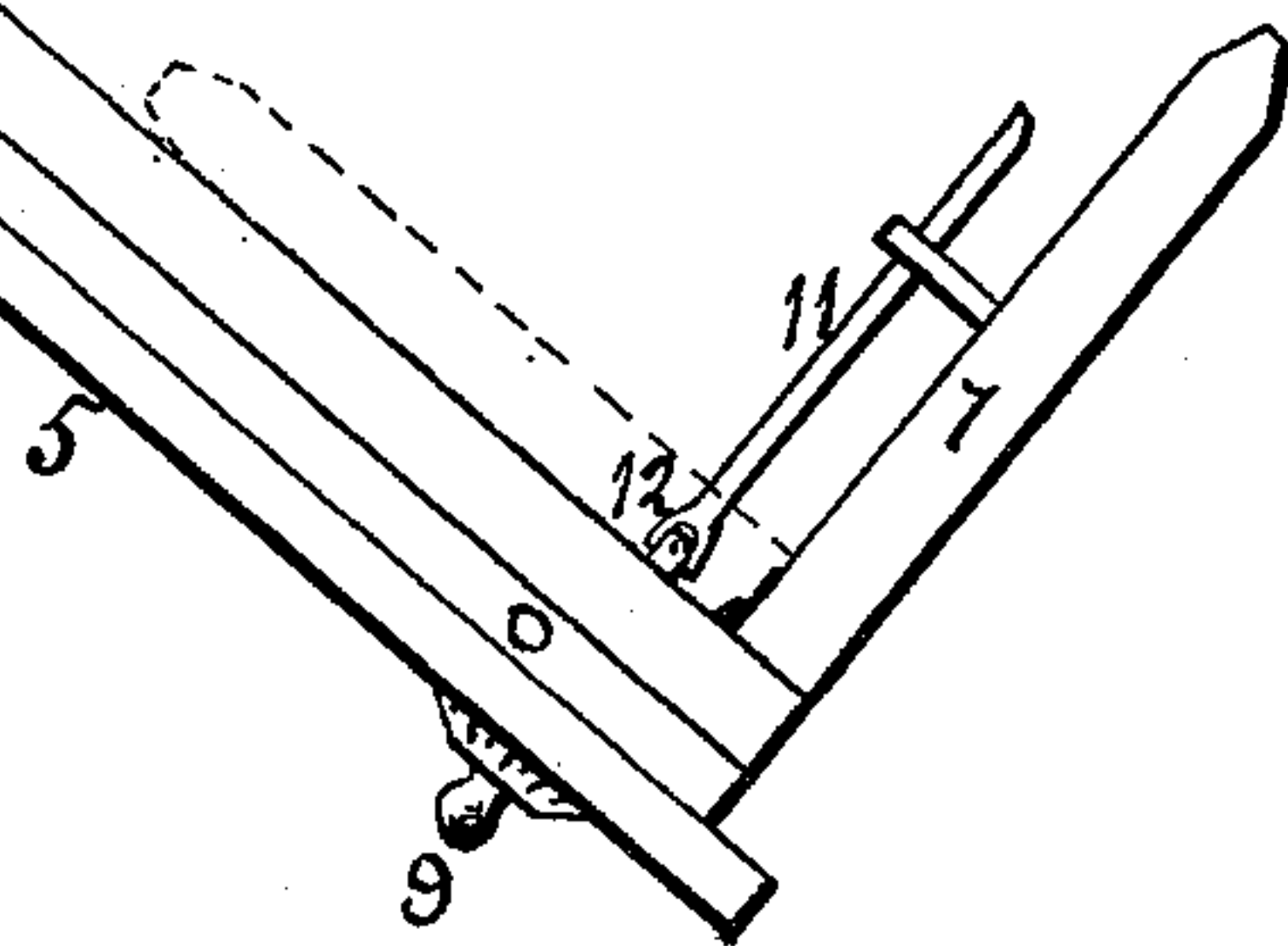
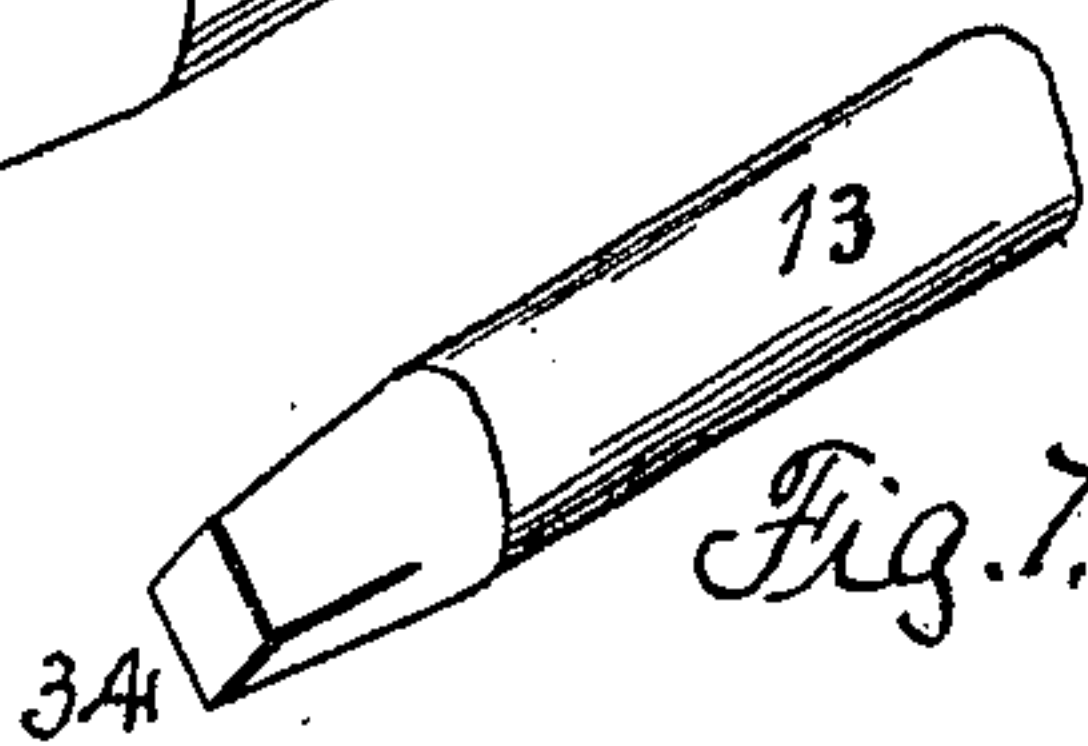
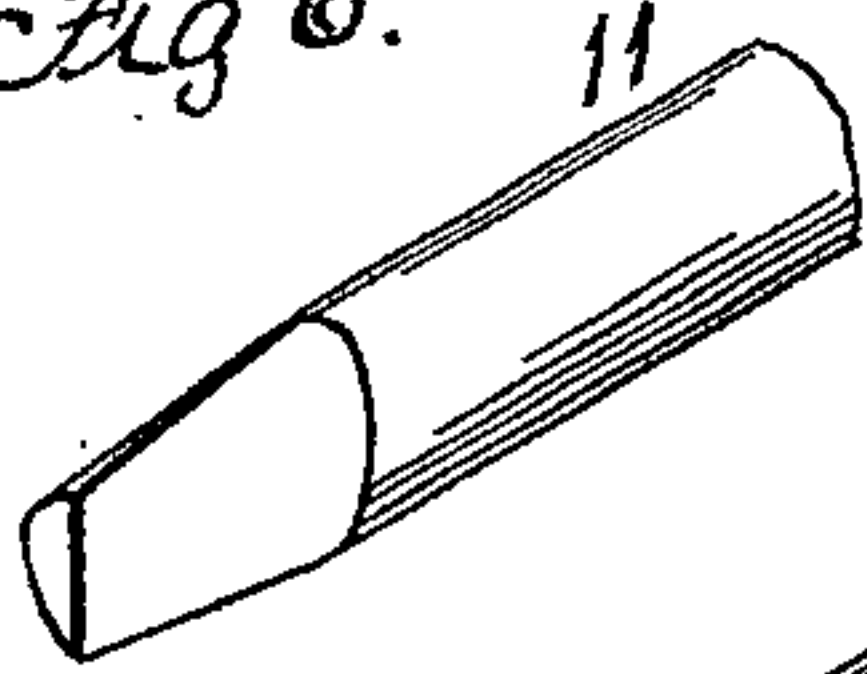
(Application filed Apr. 17, 1899.)

(No Model.)

2 Sheets—Sheet 1.



*Fig. 6.*



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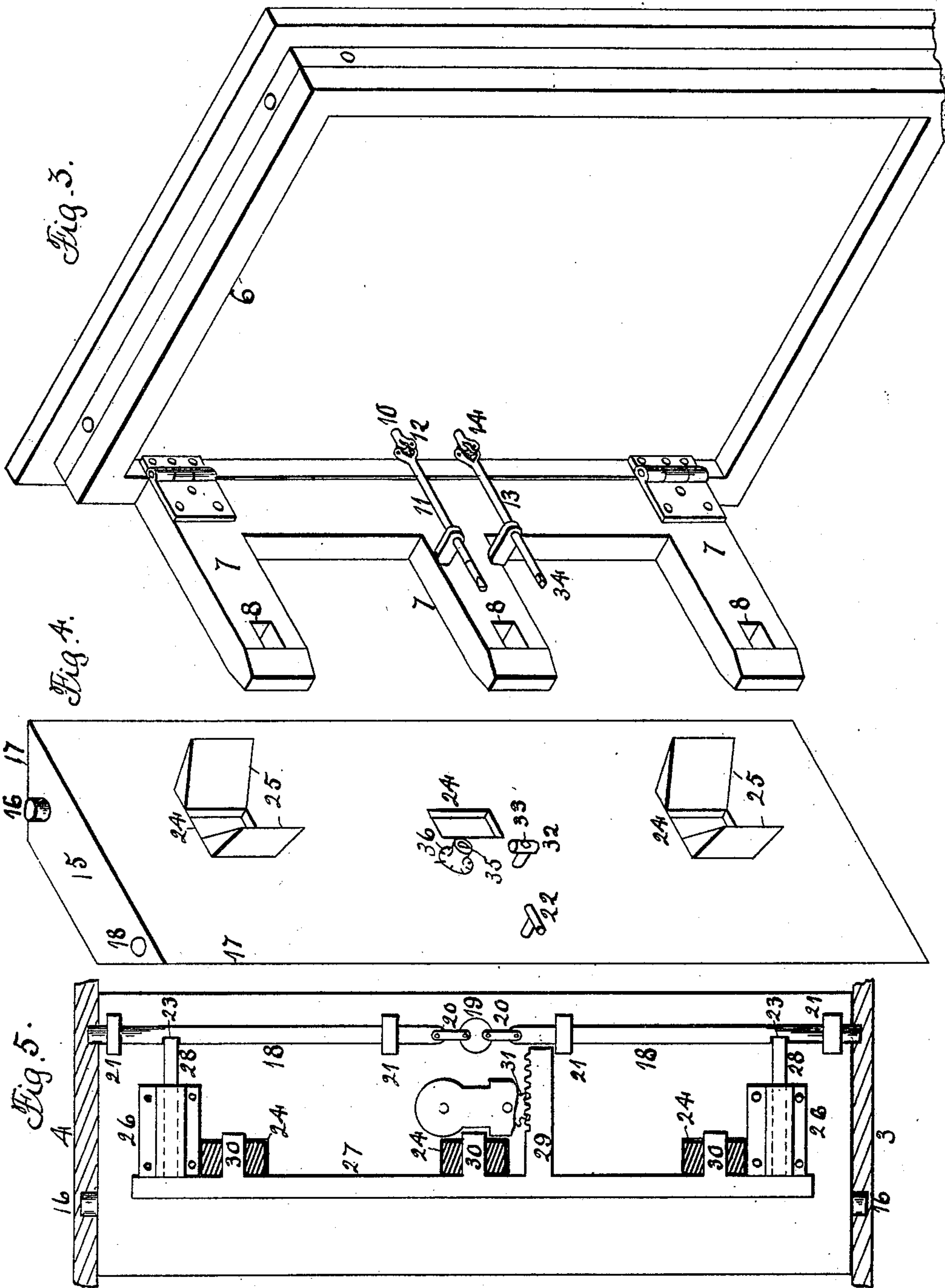
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(Application filed Apr. 17, 1899.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

FRED I. LONG, OF SYCAMORE, ILLINOIS.

## VAULT.

SPECIFICATION forming part of Letters Patent No. 642,702, dated February 6, 1900.

Application filed April 17, 1899. Serial No. 713,341. (No model.)

*To all whom it may concern:*

Be it known that I, FRED I. LONG, a citizen of the United States, residing at Sycamore, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Vaults, of which the following is a specification.

The object of this invention is to secure the outer door of a vault to a support located within the vault.

In the accompanying drawings, Figure 1 is a section of the outer casing of the vault, showing the door closed. Fig. 2 is a similar view, in which the door is open. Fig. 3 is an isometrical representation of the door to the vault and the parts connected therewith. Fig. 4 is an isometrical representation of the front face of the support located within the vault. Fig. 5 is a view of the operative parts of the support. Fig. 6 is an isometrical representation of the extension 11. Fig. 7 is an isometrical representation of the extension 13.

The vault is made up of the front 1, sides 2, bottom 3, and top 4, joined together in any suitable manner. The front has an opening closed by a hinged door 5, which is provided with the usual boltwork. To the inner face of the door is secured a frame 6, and to the frame are hinged the locking-arms 7, having openings 8 in their free ends.

The door to the vault has a combination-knob 9, provided with a stud 10, extending through the door, to which is connected an extension 11 by a toggle-lever arrangement 12. A bolt-throwing lever is supported by the door, to which is pivotally connected an extension 13 by the toggle-lever arrangement 14. The center of the toggle-lever arrangement is the same distance from the face of the door as the hinge connection with the arms, so that the arms and extensions 11 and 13 may fold against the inner face of the door, as shown in dotted lines, Fig. 2.

A support 15 is located within the vault and has a pivotal connection with the top and bottom plates of the vault by the studs 16. The edge walls 17 of this support are beveled, which prevents access being had to the working parts supported thereby, as the beveled plates will deflect a drill. The free edge of this support may be locked in connection with the top and bottom plates of the vault

by the bolts 18, having a pivotal connection with the head 19 through the links 20. The bolts are guided in loops 21. The head is operated by the lever 22, and in turning the head the bolts will be moved in their lengthwise direction. Each bolt has a notch 23 for a purpose to appear hereinafter. The front face of the support has three openings 24 of a size to admit the arms 7. The top and bottom openings have wings 25 flaring therefrom. To the inner face of the front plate of the support are secured guideways 26. A bar 27 has extensions 28, guided in the guideways 26, and also has a toothed rack 29. From this bar 27 extend three arms 30 of a size to pass through the openings 8 in the arms 7. A toothed wheel 31 is supported by the face-plate and meshes with the rack 29 and has an extension 32, provided with a rectangular opening 33, adapted to receive the rectangular end 34 of the extension 13. The front face-plate of the support supports a combination mechanism common to combination-locks, which guides the toothed wheel 31 and is operated by the extension 11 entering the opening 35 in the knob 36. The ends of the extensions 28, guided in the guideways 26, enter openings 23 in the bolts 18.

In locking the door to the vault the support is locked in the position shown at Fig. 1 and the arms 30 are moved from over the openings in the face-plate of the support. The door to the vault is then closed, and the wings 25 will guide the arms 7 into the openings 24 and also the extensions 11 and 13 into engagement with the openings 33 and 35. The bolt-throwing lever is then turned, which will move the boltwork of the vault-door into engagement with the casing and move the arms 30 through the openings 8 in the arms 7 and also move the extensions 28 into the notches 23 in the bolts 18. The combination is then thrown on, which will guard the boltwork of both the door and support. In opening the door the combination of the support is thrown off through the extension 11 by manipulating the knob 9 and the arms 30 moved free of the arms 7 and the bolts of the door withdrawn, which will permit the opening of the door, after which the arms may be folded against the inner face of the door. The support is unlocked and moved on its pivotal connection with the vault into



the position shown at Fig. 2, which will give free access to the contents of the vault. The extensions 28 engaging the bolts 18 when the outer door is locked prevents the withdrawal  
5 of the bolts 18 until the influence of the extensions has been removed. By this arrangement the combination controlling the locking movements of the bolts of the outer door is located some distance from the door, and it  
10 will be necessary to disengage the arms from the support before the outer door can be opened.

I claim as my invention—

1. In a vault, the combination of a door, a  
15 support independent of the door, a connection between the door and support and a combination-lock carried by the support controlling the movement of the connection.

2. In a vault, the combination of a door, a  
20 movable support independent of the door, a connection between the door and support and

a combination-lock carried by the support controlling the movement of the connection.

3. In a vault, the combination of a door, a pivotal support independent of the door, 25 means for locking the support against movement, and a linked connection between the door and support.

4. In a vault, the combination of a door, a support independent of the door, the door- 30 supporting arms, and means for locking the arms in connection with the support.

5. In a vault, the combination of a door, a support independent of the door, arms connected with the door, means for locking the 35 arms in connection with the support, and a combination-lock controlling the locking-arms.

FRED I. LONG.

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