(No Model.) 3 Sheets—Sheet 1.

G. L. DAMON.

SAFE OR VAULT.

No. 593,200. Patented Nov. 9, 1897.

FIG. 1.

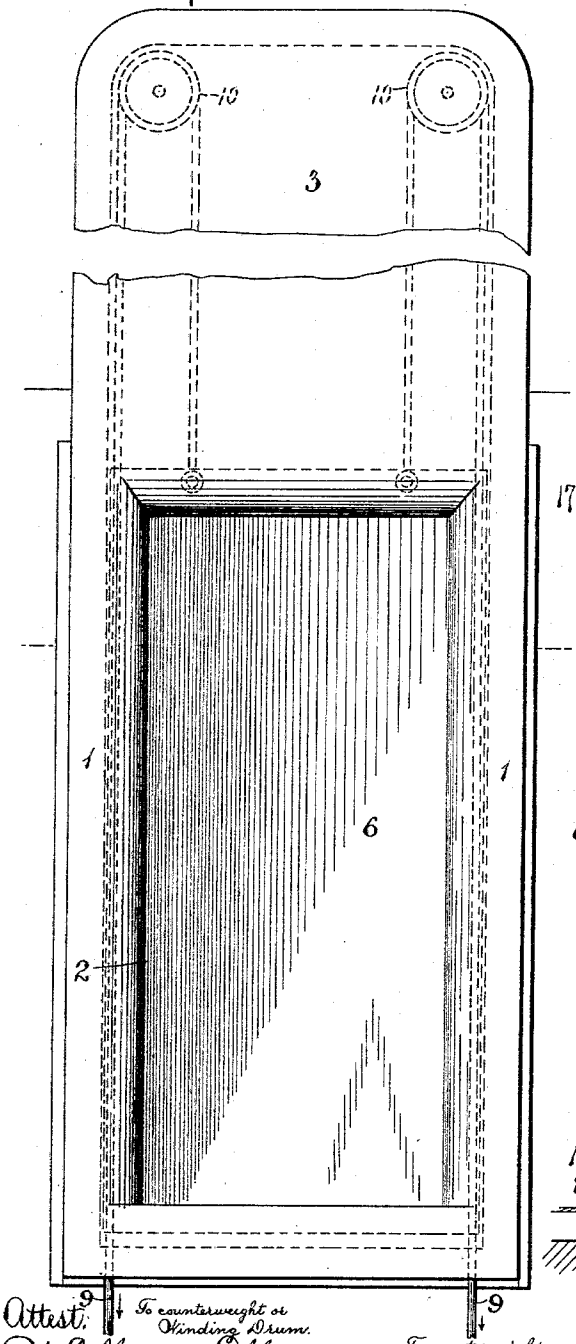
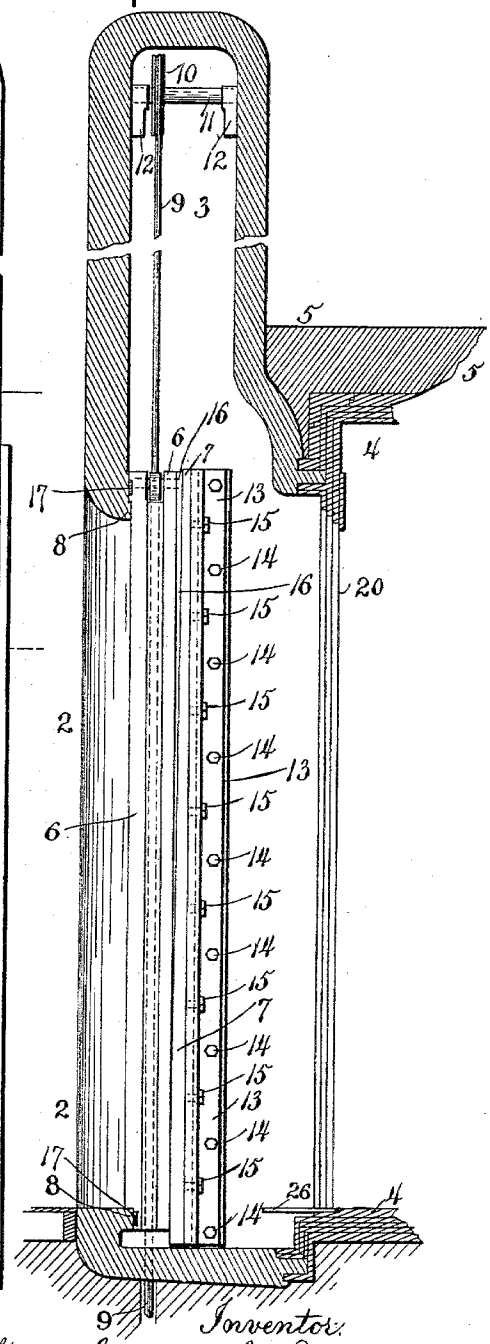


FIG. 2.



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FIG. 3.

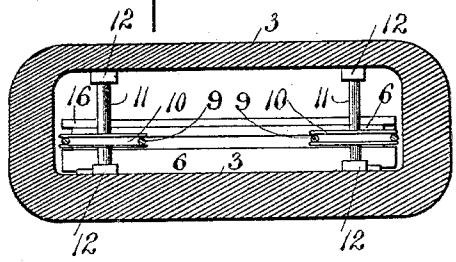
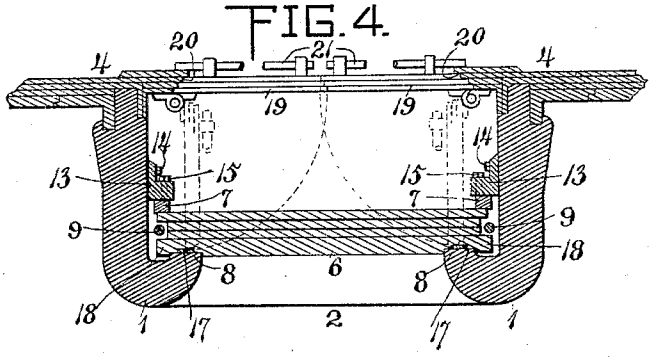


FIG. 4.



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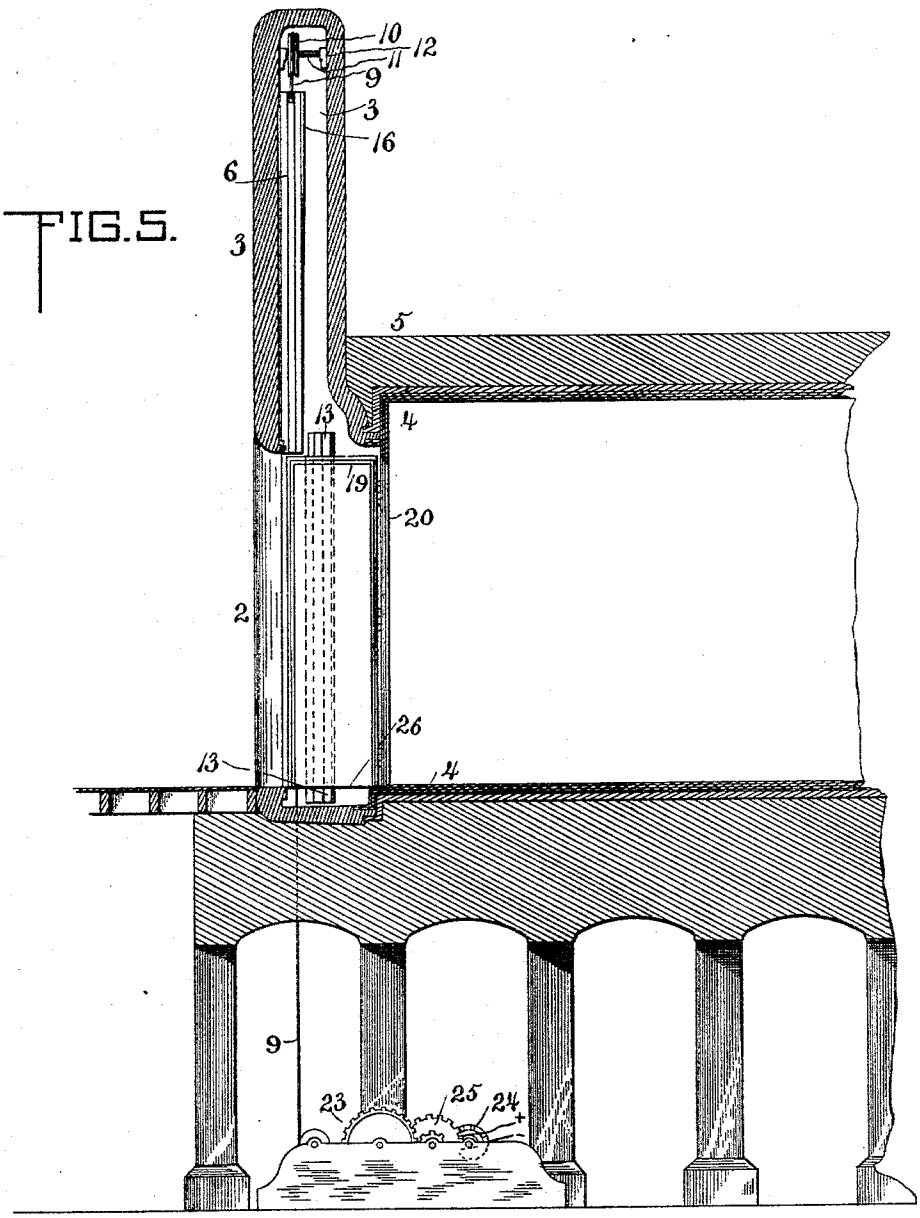
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FIG. 5.



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UNITED STATES PATENT OFFICE.

GEORGE L. DAMON, OF BOSTON, MASSACHUSETTS.

SAFE OR VAULT.

SPECIFICATION forming part of Letters Patent No. 593,200, dated November 9, 1897.

Application filed November 13, 1895. Serial No. 568,829. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. DAMON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Safe or Vault, of which the following is a specification.

My invention has for its object to provide a burglar-proof closure for receptacles, such as safe-deposit vaults or safes, the same being applicable to vestibule closures employing an additional or inner door or to serve as a single door for closing the receptacle.

The invention relates to a closure which is caused to make a sliding wedging movement with relation to the jamb of the doorway and in which the meeting faces are ground or otherwise made by machinery to fit absolutely tight against the passage of gas or liquid between them. It is impracticable to obtain such fits by rectangular swinging doors built up, as heretofore, with stepwork or to make an adequately accurate fit between a doorway and a door by hand to prevent the introduction of sufficient quantity of nitroglycerin or other explosive liquid to force the door-plates away from the jamb.

My present invention consists in making the doorway and the door so that they will have a relative sliding wedging movement for opening and closing, said movement being preferably in a vertical direction and being obtained by mounting the door upon ways with slightly-inclined bearing-faces, so that the door will be made to approach its jamb and come to a seat with considerable pressure against the same, the meeting faces of the door and jamb being accurately prepared by machinery, so as to produce a uniform fit throughout.

In carrying out my invention I employ a housing for the door, which will protect its bearings and other working parts, formed with a hood or pocket of sufficiently strong construction to withstand attack from the outside and which may also accommodate suitable elevating mechanism above the door.

My invention will be understood upon reference to the accompanying drawings, in which—

Figures 1 and 2 are a front elevation and a vertical section illustrating the application of my invention to a vault or safe. Figs. 3 and 4 are horizontal sections taken, respectively, through the hood or pocket above the door and through the lower part of the housing for the door, the view being also made to illustrate the use of inner doors to the closure. Fig. 5 is a view similar to Fig. 2, but on a smaller scale, showing the door in open position and also showing the counterbalancing or operating apparatus beneath the safe.

1 represents the housing, which is formed with the doorway 2 and an integral or otherwise strongly-attached hood or pocket 3.

4 represents the adjacent parts of a vault or safe to which the housing is applied.

6 is the door, which is made to slide between ways 7 and the door-jambs 8 and may be raised and lowered by cables 9, running over pulleys 10, under shafts 11, mounted in brackets 12 in the upper part of the pocket 3, said cables 9 being afterward passed downward into a basement or other subchamber, there to be connected with means for counterbalancing the weight of the door or for winding the cables in raising and lowering the door, as will be hereinafter referred to.

As will be seen more clearly upon reference to Figs. 2 and 4, the ways 7, which are opposite the jambs 8 and force the door against the latter, are supported by brackets 13, which may be secured by bolts 14 to the side of the housing, and said ways 7 may be set out by set-screws 15, mounted in the brackets. As will be observed from Fig. 2, the ways 7 increase in thickness downward, and the sliding door carries a wedging bearing-plate 16, which increases in thickness upward. Surrounding the doorway at top, bottom, and sides the jambs 8 are fitted to the door 6, as shown, and the fit may, if desired, be rendered tighter by suitable packings 17. In addition to this the door has shoulders 18 which engage the jambs 8 laterally, and thus securely bind the vertical jambs together and prevent their being spread by powerful jacks which may be introduced between said jambs. The object of these features is to make a door fit absolutely tight against its jamb, and it will be understood that the fitting faces are so formed that they can readily be made by machinery and made very accurate. Moreover, the sliding movement of the door upon

its jamb will be such as to maintain this smooth fit during the operation.

It should be further understood that while I have represented the housing 1 made an integral casting with its pocket 3 these parts may be built up in any suitable manner.

As stated, the invention is applicable to vestibule closures employing inner doors, and these doors may be provided with the usual stepwork 19 to move with the corresponding stepwork 20 on the jambs formed on the safe or vault. These doors may carry any suitable form of boltwork 21 and be controlled by permutation or other suitable locks.

The outer door is intended to be provided with suitable boltwork and time-lock mechanism, so that it cannot be moved except at the proper time. The construction is such as to offer convenient facilities for application of boltwork, and as this may be of any suitable kind it need not here be described.

As shown in Fig. 5, the supporting-cables 9 pass down into a substructure and are there wound upon a drum 23, which may be operated by any suitable power—such, for instance, as an electric motor 24, connected to the said drum through reducing-gear 25.

It will be observed that the entire movement of opening and closing the door, as well as bringing it to and withdrawing it from its burglar-proof seating, is accomplished by the vertical sliding movement.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a burglar-proof vault or safe, the combination of the housing or vestibule 1, having formed therein a doorway 2, the burglar-proof pocket 3 mounted upon said housing or vestibule, a door mounted between wedging ways or guides and forming an explosive-tight closure, and means for operating the door, as explained.

2. A burglar-proof vault or safe constructed with a vestibule and a pocket 3 securely attached to the vestibule, a door for closing the doorway of the vestibule, sliding between wedging bearings, and wedging shoulders formed on the door and on the door-jambs, whereby said parts engage laterally, and the door-jambs are secured against spreading, and means for operating the door, as herein explained.

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