

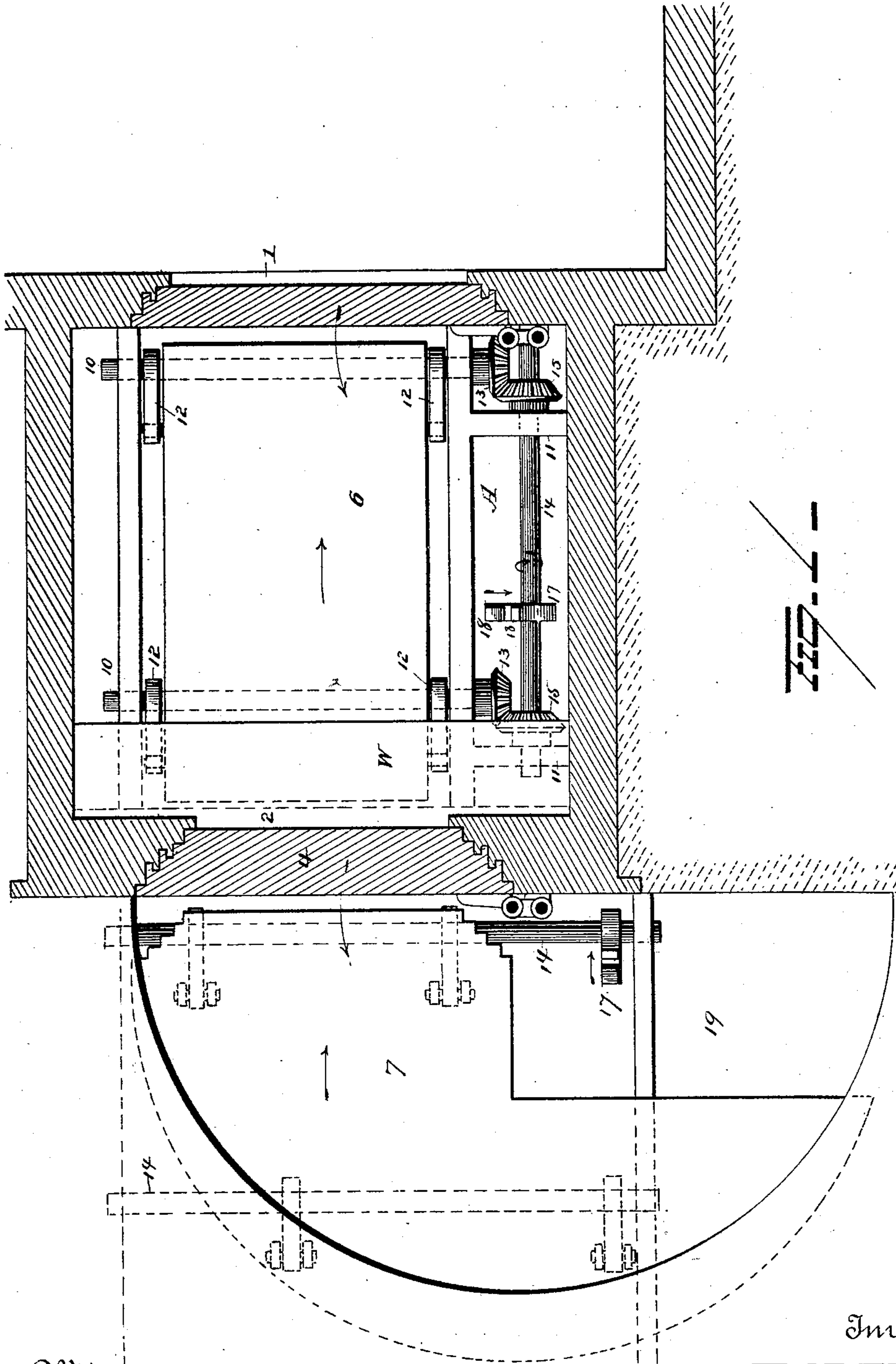
(No Model.)

2 Sheets—Sheet 1.

G. L. REMINGTON.
VAULT OR ANALOGOUS STRUCTURE.

No. 453,279.

Patented June 2, 1891.



Witnesses
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G. F. Downing

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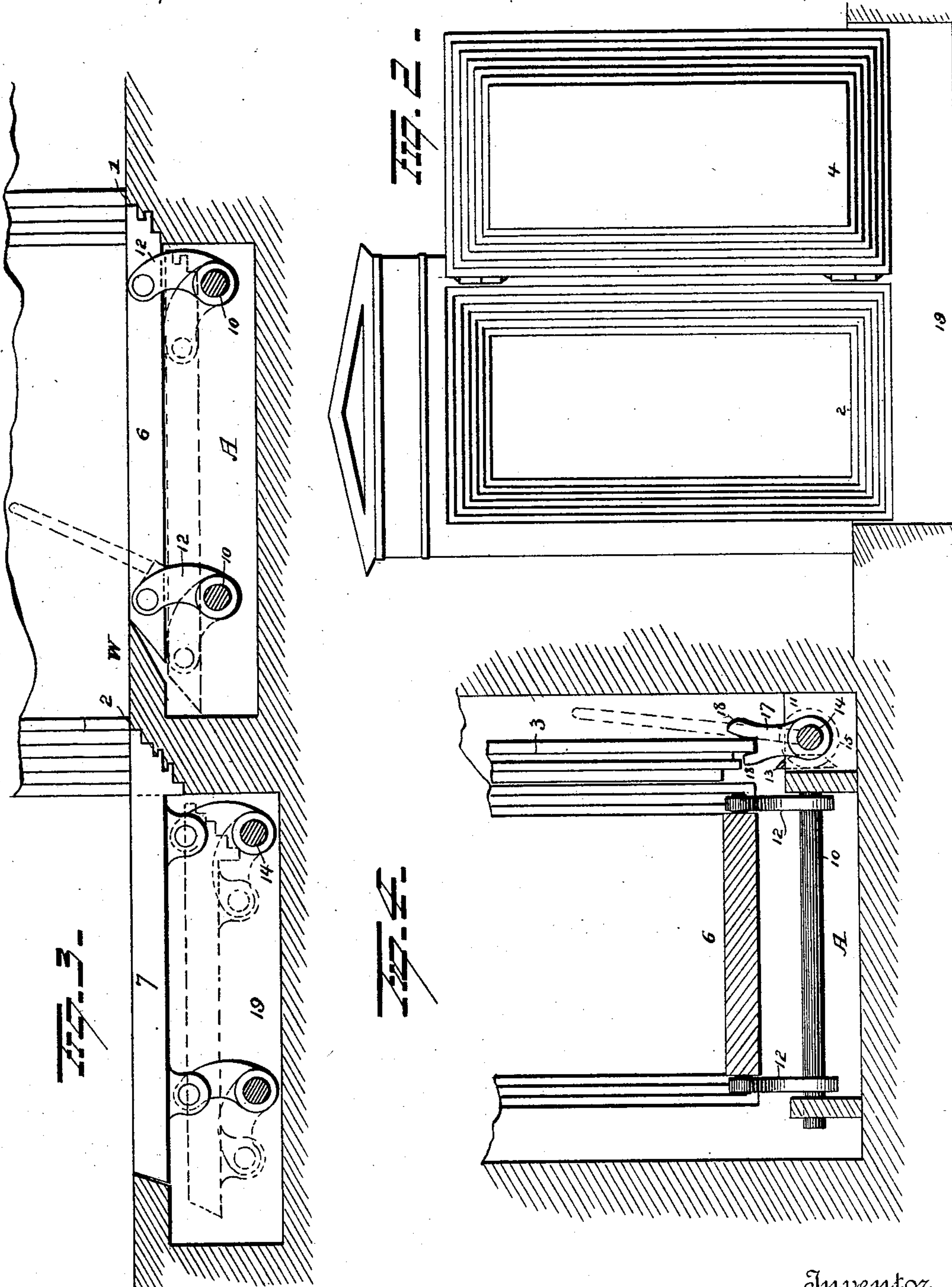
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UNITED STATES PATENT OFFICE.

GEORGE L. REMINGTON, OF PHILADELPHIA, PENNSYLVANIA.

VAULT OR ANALOGOUS STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 453,279, dated June 2, 1891.

Application filed February 20, 1891. Serial No. 382,253. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. REMINGTON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Vaults or Analogous Structures; 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.

My invention relates to an improvement in false floors for the entrances and vestibules of banks, safe-deposits, and vaults, or rooms or similar apartments.

Hitherto it has been the practice to construct vaults, doors, and frames with a less number of steps or rabbets at the bottom than at the sides and top for the purpose of making as small a stumbling-block as possible to be stepped over in passing in and out of the vault. Obviously if a certain number of these steps or rabbets are desirable or necessary at the top and sides of the door in order to form burglar-proof joints, for the same reason an equivalent number should be provided at the bottom, and hence to reduce the number results in a weakness at this point.

It is the object of my invention to obviate this objection and make the door as safe from attack along one edge as another; and a further object is to provide means for creating a flush passage-way in front of and between the sills of the entrance when the doors are open and for dropping these false floors out of the way when the doors are closed.

With these ends in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a horizontal section through a vault, showing the doors closed and the mechanism for operating the false bottoms. Fig. 2 is a front elevation, and Figs. 3 and 4 are vertical sectional views taken at right angles to each other.

A represents the vestibule of a vault, the numeral 1 the inner and 2 the outer sills of the vestibule, and 3 and 4 the inner and outer doors, respectively, of the vault. The sills 1 and 2 are raised above the level of the floor in the usual manner, and the door-frames are

provided with the accustomed steps or rabbets, as a precautionary provision against burglarizing the vault. The four edges of the doors are correspondingly constructed to fit the frames so that when closed the vault is made air-tight and burglar-proof. The essential feature of the present invention, however, consists in the false floors or treads 6 and 7 arranged, respectively, inside of the vestibule and in front of the entrance, and constructed to be elevated to the level of the sills 1 and 2 when the doors are opened, and to be dropped from this position and out of the way when the doors are to be closed. This is a broad statement of my invention, and it is evident that its practical embodiment in mechanical devices could be effected in various ways. For instance, the system of mechanism illustrated has met with approval as being simple, durable, and effective. Hence I will proceed to describe it in details.

6 indicates the inner or vestibule false floor. Shafts 10 10, preferably two in number, extend transversely beneath this floor and are conveniently journaled in bearings 11 11 on the floor of the vestibule. These shafts are provided with arms 12 12, the outer ends of which are pivotally connected with the edges of the false floor 6. It will be observed that these arms are curved and when the floor is elevated they preferably extend a little forward of the shafts, so that the floor will drop by its own weight when means for counteracting this effect is removed. In this connection it may be mentioned that it is not necessary to adhere to this particular arrangement, as the arms might be connected with the false floor further inward, if preferred, in which case its weight would not be sustained by the weight of the door. On corresponding ends of the shafts 10 10 bevel gear-wheels 13 13 are secured, and a shaft 14, extending at right angles to shafts 10 10, is also provided with larger bevel gear-wheels 15 15, the teeth of which intermesh with the teeth of gear-wheels 13 13, to the end that if one shaft is rocked the others are also rocked. The rocking of these shafts is produced by the door, which when swung wide open operates to rock shaft 14. A simple means for accomplishing this result is that shown, in which an arm 17 is secured on the shaft 14. This arm is provided with

a pair of outwardly-curved fingers 18 18 at its free end, which are sufficiently separated to receive the lower edge of the vault-door. When the false floor is in its depressed position, the arm 17 inclines inwardly at an angle of about forty-five degrees and the inner finger 18 would lie below the lower edge of the door, so that when the door is moving outward it would pass over this finger and strike the outer one, thus forcing the arm outward, rocking the shaft and resulting in raising the floor. As the arm swings outward the two fingers embrace opposite sides of the door, where they remain as long as the door is open. The door being heavy, not only sustains the weight of the false floor, but also supports any ordinary weight thereon in addition to its own weight and hence the door has to be closed by force applied directly to it before the floor will drop, and as the operator ordinarily stands on the floor when he closes the door his weight on the floor assists in moving the door. By this arrangement of fingers it will be seen that the floor never drops until the door by its contact against the inner finger rocks the arm inward and starts the floor on its downward course.

Some slight changes could be made without material departure from the spirit of the invention. For instance, it is not absolutely necessary to use two pairs of bevel gear-wheels. One pair is sufficient; or even more than two could be used. Again, the mechanism which has been described was simply applicable to a single large door. When double doors are employed, the gearing, the rock-shaft 14, and its arm 17 should be transferred to the opposite side of the passage, as the inner and last door to open of double doors would open to the left. Another slight departure is shown in the mechanism at the outside entrance. This is an expedient for making a flush passage-way over the pit 19 in which the door swings. This is practically the same mechanism already described with the omission of the bevel gear-wheels and one of the shafts. The false floor or platform is supported on arms mounted on rocking shaft, and the operating-arm 17 is applied directly to one of these shafts, preferably at or near one end. This arm is slightly different from the other one, as one finger is for convenience made a trifle longer and larger than the other. By swinging the door against this arm the shaft is rocked and the floor is raised and held by the weight of the door, as previously described. When the door is closed, the floor again drops. For double doors the necessary modifications could of course be made as described in connection with the vestibule-floor, and hence it is not necessary to enter further into details.

In the above description I have referred to devices for automatically elevating and low-

ering the platform; but as my invention comprehends, broadly, a horizontal platform or platforms adapted to be elevated and lowered while in a horizontal position, I do not wish to be understood as confining the means for lowering and raising the platform to devices which operate automatically. It will be seen at a glance that by removing the arm 17 from a position beneath the door to a point outside of the arc described by the door the platform can be raised by hand. Again, it is evident that the shafts referred to can be dispensed with, and that the arms carrying the platform can be supported directly in stationary bearings below the platforms. With such an arrangement of parts the platform could be elevated and lowered by, for instance, a lever W, (shown in dotted lines secured to the platform,) or in a socket carried by one of the arms.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a vault or analogous structure having a raised sill or obstruction, of a horizontal floor or platform adapted to be elevated while in a horizontal position, and fitting said sill or obstruction when in its elevated position, substantially as set forth.
2. The combination, with a vault or analogous structure having a raised sill or obstruction, of a platform, a rock-shaft, arms connected to the rock shaft and supporting the platform near one end, and movable arms supporting the platform near the opposite end.
3. The combination, with a vault or analogous structure having a raised sill or obstruction, of a series of rocking arms and a platform or floor mounted on the rocking arms, and means actuated by the door for rocking the arms and elevating the platform, substantially as set forth.
4. The combination, with a vault or analogous structure having a raised sill or obstruction, of a series of supports secured at their lower ends and adapted to rock, a platform supported on the free ends of said supports, and means for rocking the supports and elevating and lowering the platform.
5. The combination of an entrance to a vault or room having a pit therein, a door for said vault or room, a movable platform adapted to be moved to the level of the bank-floor, door-sills and floor of the vault, and means actuated by said door for moving the platform, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE L. REMINGTON.

Witnesses:

C. S. DRURY,

G. F. DOWNING.