April 2, 1929. A. H. JOHNSEN 1,707,481

VAULT DOOR STOPPER

Filed Nov. 25, 1927

Fig. 1.

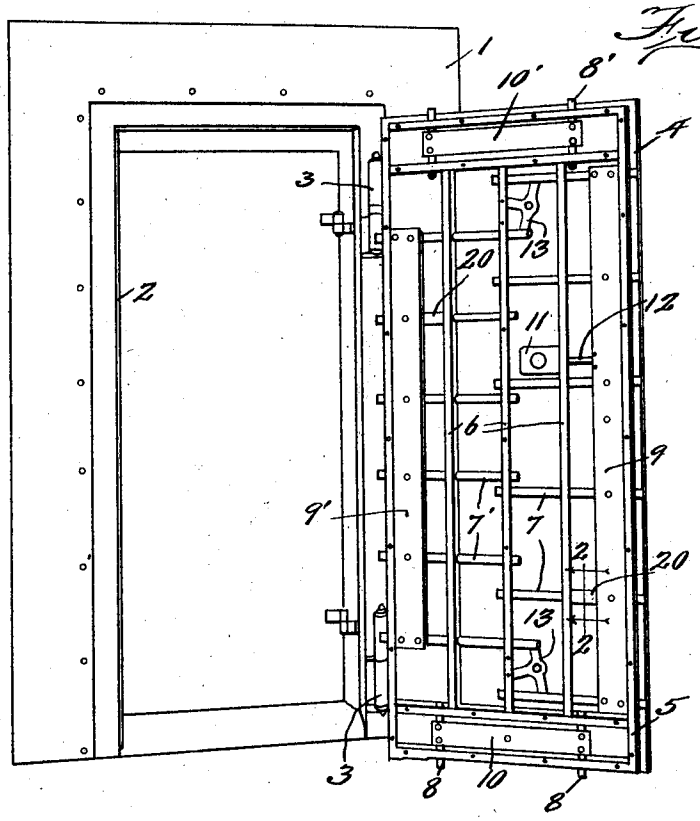
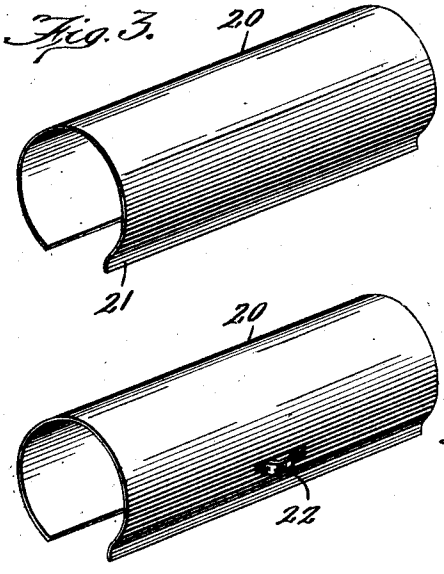


Fig. 3.



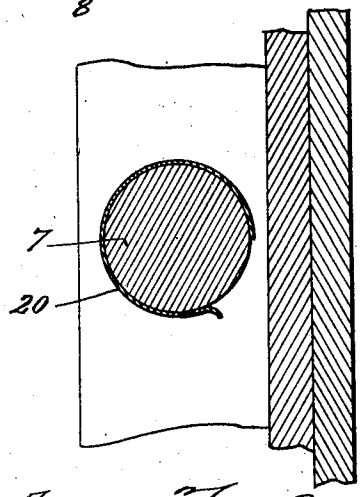


Fig. 4. Fig. 2.

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UNITED STATES PATENT OFFICE.

ALFRED H. JOHNSEN, OF WHITING, INDIANA.

VAULT-DOOR STOPPER.

Application filed November 25, 1927. Serial No. 235,407.

This invention relates to means for preventing a door from being closed and is especially intended for bank vault doors for making it impossible to close the same, in case of a robbery during banking hours, so that the bank employees cannot be locked in the vault.

The bank vault doors in common use are provided with system of bolts adapted to slide into and out of the edges of the door, to engage and disengage the door-jamb, or the inner wall of the vault in locking and unlocking the door. These bolts are usually connected together and are adapted to be simultaneously projected and withdrawn by means of some well known operating mechanism provided therefor on the door. When the vault door is in its open position the said bolts may be held or moved to either a projected or withdrawn position.

It is the main object of this invention to provide means which will, when associated with the bolt mechanism of a vault door of the character described, prevent the closing of the door.

Another object of this invention is to provide an attachment or device which is adapted for association with the bolt mechanism of a vault door of the character described for preventing the movement of said bolt mechanism to a withdrawn position, whereby it will be impossible to move the door to a fully closed position from its open position.

A further object of this invention is to provide a spring sleeve or the like adapted to be slipped over a portion of a bolt in a vault door of the character described for preventing the withdrawal of the same, whereby it will be impossible to close the door from its open position.

A still further object of this invention is to provide a device or attachment which will when placed in operative position on a bolt on a vault door of the character described, prevent a closing of the door, the said attachment or device being held in detachable engagement with said bolt.

A still further object of this invention is to provide a device or attachment for vault doors of the character described adapted to prevent the same when in open position from being moved to a closed position.

A still further object of this invention is to provide a device or attachment of the character described adapted for engagement with a bolt on a vault door or the like, for holding the same in any given desired position, when the said device is in operative engagement.

A still further object of this invention is to provide an attachment or device adapted to be slipped over a portion of a bolt of a vault door of the character described for holding the same in a given desired position, and which will simulate and not be distinguishable from the remaining portion of the bolt, whereby the possibility of its unauthorized removal is avoided.

A still further object of this invention is to provide a device or attachment of the character described being made of spring metal or the like and adapted to be sprung over a portion of a bolt on a vault door of the character described for holding the same in projected position, the said device being so constructed and positioned on said bolt as not to be noticeable thereon, whereby the removal of the same by one not aware of its presence is avoided.

A still further object of this invention is to provide a device or attachment of the character described adapted to be associated with one or more bolts of a vault door of the character described for preventing the movement of the bolts from their projected to their withdrawn position, the said attachment or device being made to simulate the portion of the bolt adjacent thereto, so as not to be distinguishable therefrom, whereby its unauthorized removal is avoided.

A still further object of this invention is to provide an attachment or device comprising a body portion adapted to be sprung over a portion of a bolt of a vault door of the character described for holding the said bolt from being moved from a given desired position, and being so made and of such material as to simulate a portion of the bolt so as not to be distinguishable therefrom, whereby the unauthorized removal of the said device will be avoided.

A still further object of this invention is to provide a device or attachment of a construction adapted to be slipped over a portion of a bolt on a vault door of the character described for holding the same in a projected position thereby preventing the closing of the door, and which will be cheap and easy to manufacture, simple in operation, quickly and easily placed in operative position, readily removable from operative position by one authorized to do so, and efficient in carrying out the purpose for which it is designed.

With the foregoing and other objects in view, which will appear as the description proceeds, this invention consists in the design and construction of my attachment or device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in the appended claims, and illustrated in the accompanying drawings, which form a part of this application, and in which:

Figure 1, is a view in elevation of a bank vault with the vault door therefor in open position, showing one embodiment of my invention in operative position on said door;

Figure 2, is a view in section taken on line 2—2 of Figure 1;

Figure 3, is a view in perspective of my attachment or device embodying my invention; and

Figure 4, is a modification thereof, shown in perspective.

In order that my invention may be more fully understood, I have illustrated in the accompanying drawings, which are referred to herein and form a part hereof, one embodiment of the invention as applied to a bank vault door, the same serving to illustrate by way of example the principles of the invention.

Referring to the specific embodiment of the invention illustrated by way of example in the drawings, the reference character 1, represents a vault of well known construction of the kind generally used in banks or the like, the said vault having a rectangular opening therein in which is fitted a door frame 2, to which is hinged by means of hinges 3, a vault door 4, of a well known construction. The vault door 4, may be of any desired thickness, and is of course, adapted to fit snugly in the door frame 2, to close the opening therein.

In the usual construction of vault doors of this character, the door is provided on the inner face thereof with a system of bolts which are operable to slide out of and into the edges of the door, to engage and disengage the door-jamb, in locking and unlocking the door. In the specific type of door illustrated in the drawings, the door is provided with a bolt frame 5, on the inner face thereof, and interior ribs 6, through which a series of bolts pass in sliding out of and into the edges of the door. In the type of door shown there are provided two systems of bolts 7 and 7′, horizontally disposed, one on each side of the door, and two systems of bolts 8, and 8′, vertically disposed, one at each end of the door. The bolts 7, and 7′, are connected together by the plates or bars 9, and 9′, and the bolts 8, and 8′ are connected together by the plates or bars 10, and 10′, whereby the said bolts may be simultaneously projected or withdrawn by the manipulation of a single operating mechanism, provided therefor on the door. This operating mechanism is shown at 11, and is of a well known construction, and is connected by means of a rod 12 with the bar 9, for moving the same relative to the edge of the door. Any movement of the bar 9, will of course, cause a similar movement of the bolts 7, to which the bar 9 is rigidly connected, and said movement is also transmitted to the other systems of bolts, by means of a pair of bell crank levers 13, which are pivoted on the door, and have one of their ends connected to one bolt in the system 7, and the other one of their ends connected to a bolt in each of the other systems. Thus it will be understood that by manipulating the operating means 11, a simultaneous projection or withdrawal of the bolts is effected. The construction above described forms no part of the present invention and need not therefore be described more in detail. Obviously, when the door is in open position, the bolts may be either withdrawn or projected.

In connection with a vault door of the character above described I provide an attachment or device adapted when placed in operative position on the door to prevent the closing of the same. The device which I provide may comprise an open sleeve, or the like, generally designated by the reference character 20, and of the shape shown in Fig. 3, of the drawings. The shape and size of the sleeve 20, is such as to be adapted to be readily sprung over a portion of a bolt, and to be held thereon by the resiliency of the metal of the body of the sleeve. Either one or both of the edges adjacent the opening in the sleeve 20, may be shaped to form a lip 21, for facilitating in positioning the sleeve on the bolt. The sleeve is made of such a material and is so finished and fitted on the bolt as not to be noticeable thereon or distinguishable from the rest of the bolt when it is placed in operative position thereon. The length of the sleeve is such as to permit it to be placed or sprung over a portion of the bolt when the latter is in projected position, the said sleeve being received and held between a portion fixed on the door, such as one of the ribs 6, for example, and a portion fixed or rigidly secured on the bolt, such as the plate or bar 9, for example. In Figure 1, is shown two such sleeves in operative position on the door, one is positioned on a bolt in the system 7, and is held between the bar 9 and the adjacent rib 6, and the other is positioned on a bolt in the system 7′, and is held between the bar 9′, and its adjacent rib 6.

It will be readily understood that when the sleeve or sleeves 20, are placed on the bolts on the door, it will be impossible to withdraw the bolts without first removing the said sleeves. Since these sleeves are made to simulate the portion of the bolt adjacent thereto so as not to be noticeable thereon, one not knowing that the sleeves are on the bolts,

will be unable to close or lock the door, as the same cannot be closed without first removing the sleeves. Thus it will be noted that the unauthorized removal of the sleeves by one not aware of their presence will be avoided.

In practice, when the bank vault is opened at the beginning of business, the bolts are moved to their projected position and one or more of the sleeves placed in operative position on one or more of the bolts, the number of sleeves employed depending upon the desire of the operator. The sleeves are left on the bolts until it is desired to close the vault door at the close of business, at which time they may be removed, but they may be removed only by a person authorized to do so, as no one else will known of the presence or location of the sleeves.

In the modification shown in Figure 4, the sleeve may be provided at the lower portion thereof, where it will be concealed from view when in position on a bolt, with a rib or projection 22, which may be stamped out of the body of the sleeve, or formed in some other suitable manner. This projection or rib is provided for the purpose of facilitating the removal of the sleeve, as it provides a means by which the sleeve may be grasped, and moved away from the bolt.

It will thus be noted that a person not aware of the presence of the sleeves on the bolts, nor of the location of these sleeves will be unable to close the door, as the same cannot be closed without first removing these sleeves.

The objects of the invention are accomplished in a very simple manner by the construction shown and described, but it is considered that the same is capable of many alternatives without departing from the spirit of the invention as defined in the appended claims.

It will be noted that the invention is capable of use on any door provided with a system of bolts or the like, and which bolts may be reached from the inner face of the door.

What I claim and desire to secure by Letters Patent of the United States, is:—

1. In a vault, the combination with a door frame having a door, and a bolt mechanism thereon; of means adapted for attachment with said bolt mechanism when the latter is in projected position and the door is in open position for preventing the withdrawal of said bolt mechanism, whereby the closing of said door will be made impossible.

2. In a vault, the combination with a door frame having a door, and a bolt mechanism thereon; of means comprising a split sleeve adapted for detachable connection with said bolt mechanism when the latter is in projected position and the door is in open position for making it impossible to withdraw said bolt mechanism in order to close the said door.

3. In a vault, the combination with a door frame having a door, and a bolt mechanism thereon; of detachable means adapted to be positioned on a bolt of said bolt mechanism when said mechaniesm is in projected position, the said means being placed on said bolt between a fixed portion on said door and a fixed portion on said bolt whereby the movement of said bolt mechanism to a withdrawn position is made impossible without first removing said means.

4. In a vault, the combination with a door frame having a door, and a bolt mechanism therefor; of a split sleeve adapted to be detachably connected with a bolt of said bolt mechanism when the latter is in projected position for preventing its movement to a withdrawn position, the said sleeve having a lip formed on the edge adjacent the longitudinal split therein.

5. In a vault, the combination with a door frame having a door, and a bolt mechanism therefor; of a sleeve having a longitudinal opening therein and adapted to be sprung over a portion of a bolt of said bolt mechanism when the latter is in projected position for preventing its movement to a withdrawn position, and means provided at the lower portion of said sleeve for facilitating in the removal of the same, said means being disposed so as to be concealed from view when said sleeve is in operative position.

In testimony whereof, I affix my signature, this 22nd day of November, 1927.

ALFRED H. JOHNSEN.