

Aug. 5, 1947.

J. E. NEWTON

2,425,262

LOCKING DEVICE

Filed Aug. 7, 1944

4 Sheets-Sheet 2

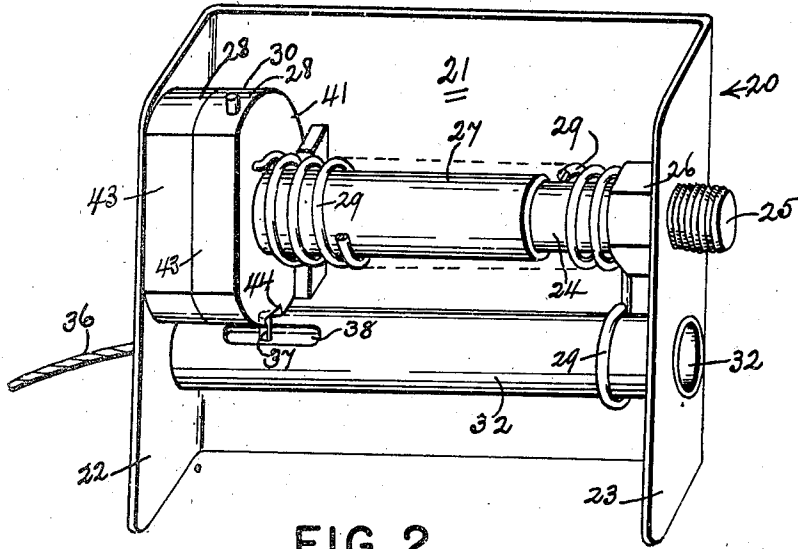


FIG. 2

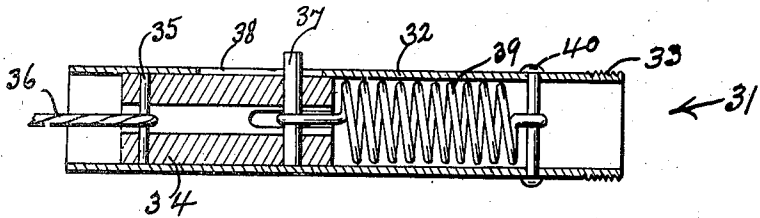


FIG. 3

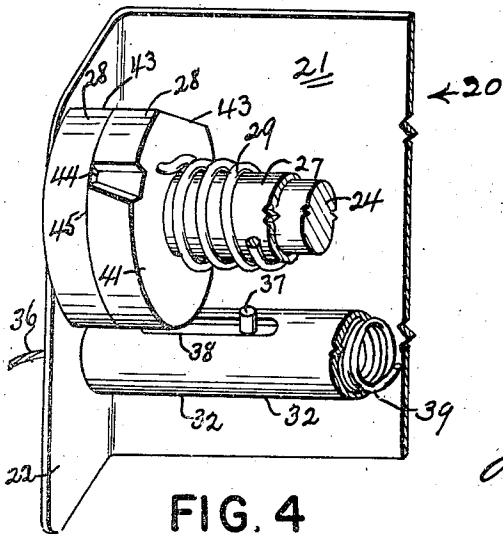


FIG. 4

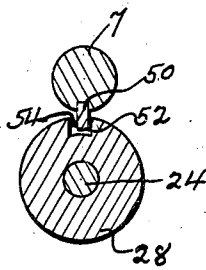


FIG. 9

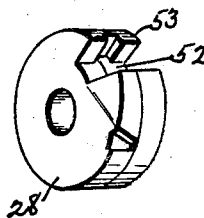


FIG. 10

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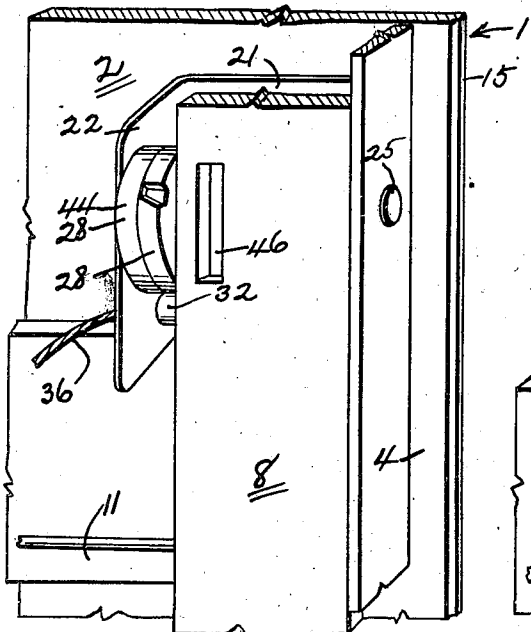


FIG. 5

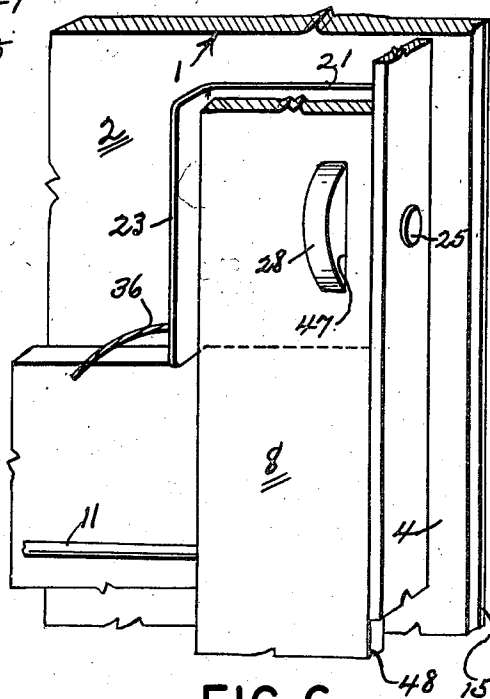


FIG. 6

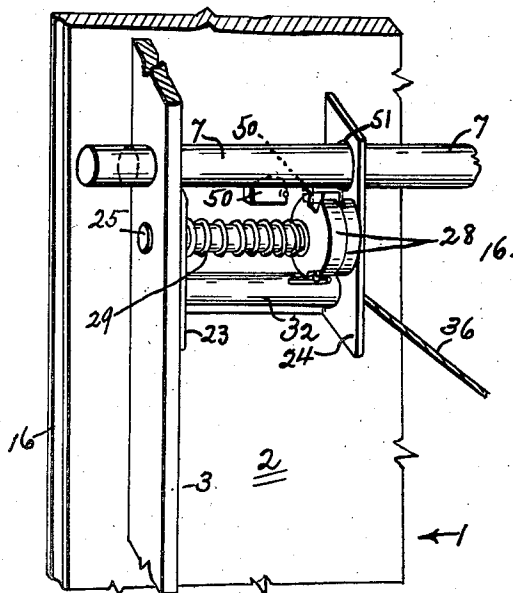


FIG. 7

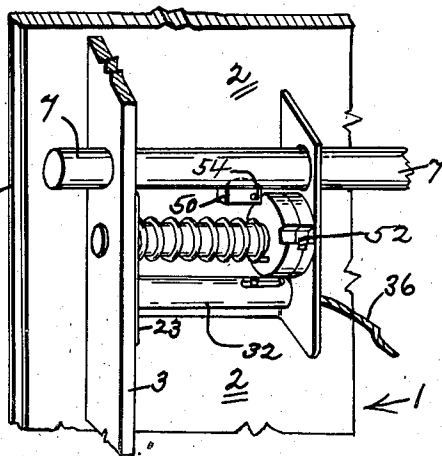


FIG. 8

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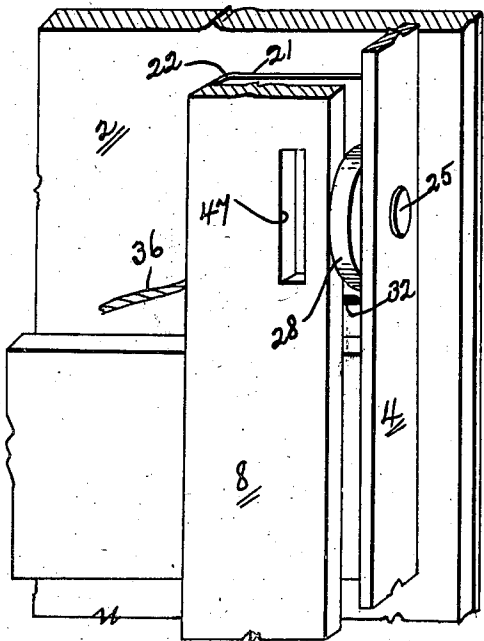


FIG. 11

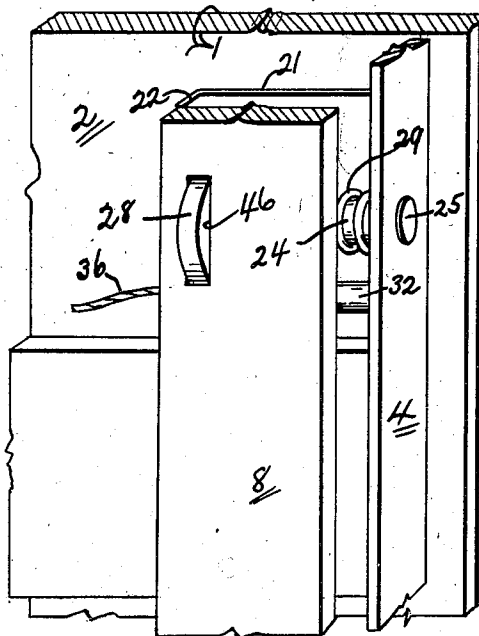


FIG. 12

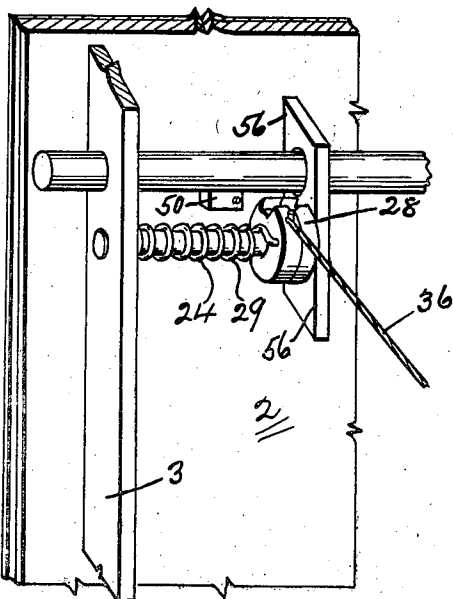


FIG. 13

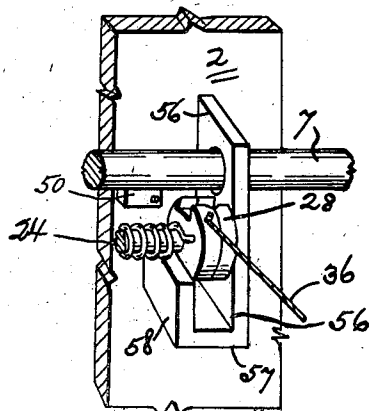


FIG. 14

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UNITED STATES PATENT OFFICE

2,425,262

LOCKING DEVICE

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Application August 7, 1944, Serial No. 548,408

10 Claims. (Cl. 70—1.5)

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The invention relates to means for locking safe, vault, or strong box doors, which have locking mechanism controlled by combinations, and relates more particularly to auxiliary or safety locking mechanism which will automatically render the usual locking apparatus inoperative should such mechanism be forcibly attacked.

The prime object of the invention is to provide an auxiliary or safety mechanism, adapted to be installed in connection with the usual vault door locking apparatus which when installed, will prevent entry by the destruction or changing of the usual combination mechanism.

A further object is to provide a safety or "re-locking" mechanism which will positively and automatically render immovable the usual main bolts and bridle bars of a vault or safe door, should the combination be forcibly attacked.

Safety mechanism has heretofore been provided which will actuate an auxiliary bolt, or set of bolts, should the vault combination be forcibly molested. The mechanism of the present invention differentiates over such devices by functioning to lock the usual and regular locking apparatus instead of actuating a separate and distinct, or auxiliary set of bolts.

The main bolts of a vault or safe door are originally designed by the manufacturer to withstand practically any force to which they might be subjected. Consequently they are heavier and stronger than auxiliary bolts which might later be installed as a safety measure. When safety devices of the auxiliary bolt type are used, it is possible to knock off the combination and throw open the main bolts, even though the auxiliary bolts are closed in so doing. It is then possible to break off the small auxiliary bolts and open the door. This is particularly true since it is possible for the safe-cracker to "spot" the exact location of the auxiliary bolts by observing the vault door when open. He therefore knows exactly how and where to attack the auxiliary bolts.

With the device of the present invention installed upon the usual locking mechanism, an attack upon the combination merely renders the usual main bolts inoperable, thus leaving the door as firmly locked as it was before the combination was molested.

A further object of the invention is to provide a mechanism of this type which will automatically lock the main bolts of a door-locking mechanism against movement should attempt be made to render the safety mechanism inoperable while the door is open.

With the auxiliary-bolt type safety mechanism

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in use, it is possible for a person having access to the open door to either remove the bolts or "jam" them so they will not function. Either of these procedures would not likely be noticed by the person thereafter closing the door for the night. With my device installed, the door could not be closed if the safety mechanism had once been molested.

Another object of the invention is to design a safety device which may be installed on any type of present vault or safe door locking apparatus.

A still further object is to provide a safety mechanism which requires a knowledge of its exact location on the door, and requires especially designed tools, before it can be rendered inoperative after it has once been energized to immobilize the usual door locking mechanism.

Yet another object is to provide a device of this class which can be easily concealed, so as to prevent a person from observing its exact location and the nature of its mechanics while a vault or safe door is open.

Other objects will be apparent from the following description when taken in connection with the accompanying four sheets of drawings, wherein:

Figure 1 is a perspective view of the inside surface of a typical vault or safe door with the usual locking mechanism exposed, and showing one embodiment of the invention operatively installed thereon;

Figure 2 is a perspective view detailing the embodiment of the invention depicted installed in Fig. 1, the parts being shown in their set or "cocked" positions;

Figure 3 is a horizontal sectional view through the lower trigger cylinder of Fig. 2;

Figure 4 is a fragmentary perspective view of the left hand portion of the mechanism of Fig. 2, but showing the parts in their actuated or "sprung" positions.

Figure 5 is a fragmentary perspective view of the mechanism of Fig. 4, the parts being shown in position to lock the bridle bar against opening movement;

Figure 6 is a similar view depicting a slightly different manner of locking the bridle bar against opening movement;

Figure 7 is a fragmentary perspective view of a slightly different embodiment of the invention, such embodiment being depicted as operating in conjunction with one of the main locking bolts instead of in connection with the bridle bar, the parts being shown in their set or "cocked" positions;

Figure 8 is a view similar to Fig. 7 with the parts in their "sprung" or locking positions;

Figure 9 is a vertical sectional view through the rotor and main locking bolt of Fig. 7 and detailing the relative positions of the bolt lug and rotor notch;

Figure 10 is a perspective view detailing the rotor of Fig. 7;

Figure 11 is a fragmentary perspective view showing a slightly different manner of operatively installing the safety mechanism, the rotor being shown in position to lock the bridle bar against closing movement;

Figure 12 is a similar view showing another manner of installing the safety mechanism, the rotor being shown in position to lock the bridle bar against opening movement;

Figure 13 is a view similar to Fig. 7 but showing a slightly different embodiment of the device; and,

Figure 14 is a fragmentary perspective view showing the mechanism of Fig. 13 in position to lock the main bolt against opening movement.

Like characters or reference designate like parts in all of the views wherein they occur.

In the drawings:

The reference numeral 1 indicates as a whole a typical vault or safe door having an inside or rear face 2 upon which is securely and permanently mounted a continuous steel flange which consists of parallel side members 3 and 4 and top and bottom connecting members 5 and 6.

The locking mechanism of such a door may consist of various types of lever actuated bolts, but usually includes at least two horizontally disposed and horizontally movable members or main bolts 7 to which is rigidly mounted at least one bridle bar 8. The bridle bar functions to cause the main bolts 7 to move in unison when the pivoted door T-handle, not shown, is manually actuated. The words "bridle bar" as used herein, are intended to mean any bar or plate which causes a plurality of locking bolts to move in unison. The main bolts 7 pass through both of the side flange members 3 and 4, and their ends project a slight distance beyond the two side members as clearly illustrated in Fig. 1.

The usual vault or safe door locking mechanism further includes a combination apparatus indicated as a whole by the reference numeral 9 and having an ordinarily stationary rearwardly projecting annular flange or disc 10. The combination apparatus extends through the door 1, and contains an interior mechanism or tumblers which engage horizontal thrust link 11 and hold it against longitudinal movement until after the combination has been properly manipulated through rotation of a knob on the front face of the door. After proper manipulation of the combination knob, the thrust link 11 may be moved longitudinally by rotation of the above mentioned vault door handle. The link 11 is connected to the bridle bar 8 and lateral movement of the link causes a similar movement of the bridle bar and main bolts 7.

In some cases the usual vault door locking mechanism also includes one or more vertically movable bolts 12 which are lever actuated to enter the door frame, not shown, when the main bolts 7 are moved to a closed or locking position.

In Fig. 1 the main bolts are shown as being in their locking positions. When in such positions, their right-hand ends 13 are projecting to their fullest extent beyond the side flange member 4, and the bridle bar 8 has travelled to a point in

which it lies against the inside surface of the flange member 4. The opposite ends 14 of the main bolts 7 still project toward the left hand some distance beyond the side flange member 3. In this instance, the swinging edge of the door 1 is indicated by the numeral 15, and the hinged edge by the numeral 16.

With this construction, when the door is swung shut and before the main bolts are moved toward their locking position, the ends 14 of the bolts pass behind a flange carried by the door frame. When the bolts 7 are then thrown to their locking positions, their ends 14 remain engaged behind the flange of the door frame, and the ends 13 project into sockets in the side of the door frame adjacent the swinging edge 15.

All of the above described door parts and locking mechanism are usual, in one form or another, with practically all vault or safe doors, and have been described hereinabove only for the purpose of describing hereinbelow how the device of the present invention is installed and functions with relation to such usual vault door locking mechanism.

It is pointed out that the device of the present invention may be installed to function upon any vault or safe door so long as its usual locking means includes a combination apparatus, one or more main bolts, or one or more bridle bars.

It is further pointed out that the most common method for a safe cracker to forcibly open a vault or safe door is to first knock or blast off the combination. When this is done, the door handle is then free to be turned to move the link 11 and consequently the main bolts 7 to open position.

As will be more fully described hereinbelow, the device of the present invention is designed to lock the main bolts against movement should the combination be forcibly attacked.

One embodiment of the invention is detailed in Figs. 1 to 5 inclusive and includes:

A bracket 20, preferably of sheet steel, having a flat body portion 21 and two parallel end walls 22 and 23 which extend perpendicularly to the body portion 21 and which are integral therewith. The end walls 22 and 23 are alignedly bored to receive a stationary shaft 24 rigidly mounted between said walls, and having an end portion 25 passing through the wall 23 and extending therebeyond. The extending portion 25 is exteriorly threaded and engaged in a threaded perforation in the side flange member 4 of the door 1. A thrust-nut 26 is provided around the shaft 24 to urge the wall 23 into firm engagement with the flange member 4.

Between the end walls 22 and 23 and surrounding the shaft 24 there is provided a tubular sleeve 27 upon one end of which is rigidly mounted one or more discs or rotors 28. A helical spring 29 surrounds the sleeve 27 and shaft 24 and has one end engaged with the rotor 28 and its other end held stationary as will be more fully described hereinbelow. The spring is so arranged that its tension is exerted to normally urge the sleeve 27 and rotor 28 to rotate in a direction in which their upper surfaces move over and toward the body 21. The periphery of the rotor 28 is provided with an outwardly projecting pin 30 which acts to limit or stop rotation of the rotor by contacting the body 21 should the rotor be released to action of the spring 29 as is more fully described hereinbelow.

A spring actuated trigger mechanism 31 (Fig. 3) is also mounted between the ends 22 and 23 of the bracket 20. The office of this trigger mech-

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anism is to normally latch the rotor 28 against movement by the spring 29 as it is later described herein. The trigger mechanism 31 includes:

A rigid metal tube 32 having exterior threads 33 at one end. The tube 32 is mounted in aligned perforations in the ends 22 and 23 of the bracket 20, the perforation in the end 23 being threaded to engage the threads 33 on the tube in an obvious manner. Slidably disposed within the tube 32 is a tubate plunger 34 having at one end a transverse pin 35, to which is attached centrally one end of a wire line 36. The other end of the plunger 34 has a heavier transverse pin 37, one end of which extends outwardly through an elongated slot 38 in the wall of the tube 32. A helical retrieving spring 39 has one end attached to the central portion of the pin 37 within the plunger, and its other end is anchored to a third transverse pin 40 which passes through the tube 32 and is riveted in place as shown.

As best shown in Fig. 1, the bracket 20 and its contained mechanism is mounted against the side flange member 4 and beneath the bridle bar 8. The length of the shaft 24 is so arranged that when the bridle bar lies against the member 4, or in other words when the bridle bar and main bolts 7 are in their locking positions, the right hand face 41 of the rotor 28 lies clear of the left hand edges 42 of the bridle bar. The rotor disc or discs 28 have a portion of their peripheries severed upon a single plane to form a flat surface 43. The disc 28, lying most remote from the bracket end 22, if two discs are used, has a superficial notch 44 in its peripheral surface.

With the bracket 20 and its contained mechanism installed as shown in Fig. 1, the disc 28 is rotated to a position in which the notch 44 coincides with the elongated opening 38 in the tube 32, and the plunger 34 is drawn toward the bracket end 22 by a manual pull upon the line 36. This movement of the plunger overcomes the resistance of the spring 39 and permits the projecting end of the pin 37 to enter the notch 44 of the rotor disc 28. This engagement of the pin in the notch is shown in Fig. 2, and when so engaged, the plane surface 43 of the rotor disc lies parallel to the inside surface of the bridle bar 8. In order to hold the pin 37 within the notch 44, the line is extended to and firmly connected with the disc portion 10 of the combination apparatus 9.

So long as the pin 37 remains in the notch 44, the disc 28 is held against the rotation which the spring 29 is attempting to accomplish. Also, the flat portion 43 of the rotor 28 is held toward the bridle bar 8, and consequently the bridle bar may freely pass the disc 28 as the bolt mechanism is moved to open or to closed position. This normal position of the safety device is illustrated in Figs. 1 and 2, and all parts will remain stationary so long as the position of the disc 10 of the combination apparatus is not changed. It is to be understood, of course, that a normal operation or manipulation of the combination will not in any manner move the disc 10 to which the line 36 is attached. The entire safety mechanism is thus held in its "set" or "cocked" position solely by the end of the line 36 being anchored to the disc 10.

However, should the combination apparatus be attacked either by a blow or blast upon its outside knob, the position of the disc 10 would be changed. Such a change, either radial or lateral will cause a slight slack in the line 36. Since the pin 37 is barely within the notch 44, the least slackening of the line 36 permits the spring 39

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to withdraw the pin 37 from the notch 44. When this occurs, the spring 29 instantly rotates the disc 28 until the stop pin 30 meets the body 21 of the bracket 20. The resultant position of the disc 28 is illustrated in Fig. 4. It is apparent that such rotation of the disc 28 will mis-mate the surface 43 thereof and the inside surface of the bridle bar, and the result is that a rounded portion of the rotor disc 28 will be presented in the path of the bridle bar should attempt be made to move it and the main bolts 7 to an unlocked position. Consequently, even if the entire combination 9 were to be blown or broken off the door, the main bolts and bridle bar would remain as thoroughly locked as they were originally.

It was stated above that either one or two of the rotor discs 28 could be formed integrally with the sleeve 27. By this is meant that the left hand disc 28 (Fig. 2) could well be spotwelded or otherwise attached to the end 22 of the bracket 20, if desired. In such a case, only the right hand rotor disc 28 would be rotated by the spring 29. On the other hand the two rotor discs 28 shown could well be formed in one piece.

Attention is called to the fact that the following side 45 of the notch 44 lies at an angle to the rotative axis of the rotor 28 and rearward with relation to its direction of rotation. This is clearly shown in Fig. 4, the side 45 of the notch is so disposed for the purpose of permitting the action of the spring 29 to assist in moving the pin 37 out of the notch, should the tension of the line 36 be loosened. With this arrangement, slackening of the line 36 would permit the rotation of the disc 28 under action of the spring 29 to alone move the pin 37 out of the notch 44, even though the spring 39 was eliminated, or for some reason failed to function.

In the above description of the trigger mechanism, the pin 37 was described as having only one end projecting outwardly through the tube 32. It may well be found desirable to build the trigger mechanism with both ends of the pin 37 projecting. In such a case, another slot 38 would be provided in the tube 32, opposite to the one shown.

Fig. 5 illustrates the relative position of the rotor 28 and the bridle bar 8 after the trigger mechanism has been released and the rotor has rotated into the path of the bridle bar. It is obvious that when the rotor is in the radial position shown, the rotor positively blocks any unlocking movement of the bridle bar and consequently any similar movement of the main locking bolts 7.

The bridle bar in Fig. 5 is shown as having a through slot 46. This slot is of a width sufficient to permit entry therein of the rotor disc 28 should the rotor be released to rotation during the time the bridle bar is at the left hand end of its throw, or in other words, when the main bolts are in their full unlocking positions. Should some one attempt to defeat the device by cutting or loosening the line 36 while the bridle bar is in its fully unlocked position, the disc 28 would merely rotate and partially enter the slot 46. The door locking mechanism would then be locked in an open position. Tampering would be apparent, because the door could not be locked until the safety mechanism was re-set.

In connection with the safety mechanism thus far described herein, it is thought to be apparent that it will automatically function to anchor the regular door locking mechanism in either a locked or unlocked position, should the usual or normal relation of the regular tumbler apparatus

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with the door be changed, or should the line 36 or trigger mechanism 31 be disturbed after having once been set.

In Fig. 6 is shown a mounting arrangement of the safety mechanism above described; where- 5 in the rotor 28 and shaft 27 have been reversed in the bracket 20. In such a mounting arrangement, the bridle bar is provided with a through slot 47 which is similar in dimensions to the slot 46 of Fig. 5, but which is so located with relation 10 to the bridle bar that it lies directly over the rotor 28 when the bridle bar and bolts 7 are in their locking position. In this case, the line 36 extends outwardly through the opposite end of the tube 32 than it does in Fig. 4. Should the line 36 be loosened while the bridle bar is in locking position as shown, or in other words, while it is against the side flange member 4 of the door, the rotor 28 will rotate and engage within the slot 47 to anchor the bridle bar against any opening movement. 15

With this installation, should the line 36 be tampered with while the bridle bar and bolts 7 are in their unlocking position, or in other words, while the bridle bar is at the left hand end of its throw, the rotor 28 would rotate into a position in which it is disposed between the right hand edge 48 of the bridle bar, and the left hand face of the side flange member 4 of the door. This would anchor the bridle bar and main bolts 30 against any movement toward door-locking positions.

In Fig. 7 is shown another manner of installing the safety mechanism of the present invention. In this case, the rotor 28 is adapted, when released as above described, to move into the path of a shoulder carried by one of the main bolts 7, instead of by moving into the path of the bridle bar as is done in the arrangement of Figs. 1 to 6 inclusive. 35

In this embodiment, the reference numeral 50 indicates a projecting element, lug, or shoulder which is rigidly mounted on one of the main bolts 7 of the regular door locking mechanism. The bracket 20 is positioned against the side flange member 3 of the door by having the shaft 25 threadedly engaged in a threaded perforation for this purpose. In order to obtain a positively stable position of the bracket 20, its side 24 is provided with a through perforation 51 through 50 which the main bolt 7 may freely slide.

Instead of the rotor 28 being cut off to form the flat surface 43 (Fig. 2), the rotor is provided with a peripheral transverse groove 52 into which the projection or lug 50 enters when the bolt 7 is moved to its fully locking position, and when the trigger mechanism has once been set by anchoring the line 36 to the tumbler mechanism. In Fig. 7 the trigger mechanism is illustrated in its "set" position, and is holding the rotor 28 60 against rotation under action of the spring 29. The main bolt 7 is shown in a fully open or unlocked position. The dotted lines in the figure illustrate the position of the projection or lug 50 when the bolt is in its locking position. In this instance the rotor 28 is urged by the spring 29 to rotate in a direction over and toward the door surface 2, should the line 36 be loosened. 65

If the line 36 were to be loosened when the bolt 7 is in the longitudinal position in which it is shown in Fig. 7, the rotor 28 would spin to approximately the position shown in Fig. 8. This would move the groove 52 out of the path of travel of the lug 50, and would result in the preven-

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tion of the bolt 7 being moved to its locking position.

As a means for anchoring the main bolt 7 against unlocking movement should the line 36 be loosened when the lug 50 is within the groove 52, or when in the dotted line position of Fig. 7, the following described structure is provided.

As best seen in Figure 10, a straight sided groove 53 is provided in the center of the following side of the notch 52. The similar side of the lug 50 is provided with a projecting pin 54. Should the line 36 be loosened when the lug 50 is within the groove 52, then the pin 54 will enter the groove 53 and prevent longitudinal movement of the bolt 7. (See Figs. 9 and 10.) 15

In the embodiment of Figs. 7 and 8, the safety mechanism has been shown installed by attachment to the side flange number 3 of the door, or in other words, the side flange member lying next to the hinged edge of the door. It is obvious that a similar installation could well be made by mounting the device on the side flange member 4 of the door instead of the member 3. In that event, the lug 50 would be so located on the bolt 7 that it would reside in the slot 52 of the rotor during the time the bolt is in its fully open position, and when the bolt is in its locking position, the lug 50 would lie between the side member 4 and the rotor disc 28. In this event, should the disc 28 be released to rotation when the bolt 7 is in its locked position, said disc will rotate into the path the lug 50 must travel to unlock the bolt 7. If the disc 28 were to be released to rotation while the bolt 7 was in its unlocked position, then the pin 54 would function in the notch 53 as described with relation to Figs. 7 and 8. 20

In Fig. 12, the mechanism of Fig. 5 is shown as it appears when the bridle bar is locked in an open position by entry of the disc 28 into the slot 46. In this instance, the side 22 of the bracket is shown as being short enough to be beneath the bridle bar 8 as the bridle bar moves to a fully open position. 40

In Fig. 11 the safety mechanism of Fig. 6 is shown as it appears when the disc 28 is in "sprung" position with the bridle bar in fully open position. In this case the rotor 28 has been rotated to interpose between the bridle bar and the side flange number 4 of the door, thus preventing movement of the bridle bar toward locking position. 45

It is obvious that if the line 26 can be arranged to hold the trigger mechanism 31 in a "set" position, in order to anchor the disc 28 against rotation, then the line could also be arranged directly with the disc to anchor the same against rotation, should the trigger mechanism be entirely deleted. Such a device is illustrated in Figs. 13 and 14. 50

The mechanism of Fig. 13 is substantially the same as that of Fig. 7, except that the trigger mechanism has been omitted, and the line 36 has been mounted directly to the periphery of the disc 28. In this case, the other end of the line 36 would extend to the tumbler apparatus and be anchored thereto so that the line alone would act to normally hold the disc 28 against rotation; in Fig. 13 the disc 28 being so held by the line 36. In this type of installation, a slackening of the line 36 will permit the disc 28 to rotate so that the notch 52 no longer lies in the path of the lug 50. 65

It is pointed out, that, if desired, the bracket 20 may be eliminated, and a brace member 56

may be welded or otherwise rigidly anchored to the door surface 2 in order to positively position one end of the shaft 24.

In Figure 14 structure similar to that of Fig. 13 is shown, the only difference being that the brace 56 has a bottom portion 57 which extends beneath the rotor 28, and has an upwardly extending return portion 58 which passes slightly above the lower face of the disc. This type of brace may be used as a caution against some one attempting to "reset" the disc 28 by the use of a tool inserted through a bore hole made in the door for that purpose.

From the foregoing descriptive matter it is thought to be apparent that a safety device has been provided which will positively and automatically "re-lock" the usual safe door locking mechanism should the tumbler apparatus be tampered with to the extent that it is even slightly displaced with relation to the door. Also that the safety device is capable of such a variance of different types of installation, that it may be accommodated to any and all types of vault door locking structures.

I claim:

1. In a device of the class described, the combination with a sliding member of a door locking mechanism, and with releasable apparatus for normally maintaining the member stationary, of: a rotatable element adjacent the path of said member; spring means for urging the element to partial rotation into said path; and means engaging said apparatus for normally holding said element against rotation into said path.

2. In a device of the class described, the combination with a sliding member of a door locking mechanism, and with releasable apparatus for normally maintaining the member stationary, of: a rotatable element adjacent the path of said member; spring means for urging the element to partial rotation into said path; and operative connection between said element and said apparatus, said connections normally holding the element against rotation into said path, but adapted to release said element to rotation should the apparatus be bodily moved with relation to said door.

3. In a device of the class described, the combination with a sliding bolt of a door locking mechanism, and with a releasable tumbler operated apparatus for normally maintaining the bolt stationary, of: a rotatable element adjacent the path of said bolt; spring means for urging the element to partial rotation into said path for preventing movement of said bolt; and means for normally holding said element against rotation in said path, said means attached to said apparatus and adapted to release said element should the apparatus be bodily moved with relation to the bolt.

4. In a locking mechanism for a door, the combination of: a slidable element adapted for movement into and out of the door-locking position; a tumbler controlled apparatus adapted when in one position of adjustment to prevent unlocking movement of said element; a shoulder on the element; a cam rotatably mounted on said door, said cam when in one rotative position adapted to lie in the path of said shoulder; means for urging said cam towards rotation into said position; and means connected to said tumbler apparatus for holding said cam out of said path, said holding means adapted to release said cam should said tumbler apparatus be bodily moved with relation to said door.

5. In a locking mechanism for a door, the com-

5 combination of: a slidable bolt adapted for movement into a locking position of projection beyond the edge of said door; a tumbler controlled apparatus for preventing movement of the bolt; a rigid lateral projection carried by the bolt; a shaft; a laterally projecting element rotatably carried by the shaft, and when in one rotative position, adapted to lie in the path of said bolt projection; spring means for normally urging said element toward rotation into said path; and means connected to said tumbler apparatus for normally holding said element out of said path, said holding means adapted to release said element to the action of said spring means should said tumbler apparatus be bodily moved with relation to said door.

6. In a device of the class described, the combination with a sliding member of a door locking mechanism, and with releasable apparatus for normally maintaining the member stationary, of: a rotatable element adjacent the path of said member; spring means for urging the element to partial rotation into said path; and means engaging said element and said apparatus for normally holding said element against rotation into said path, said last means adapted to release said element should said releasable apparatus be bodily moved with relation to said sliding member.

7. In a device of the class described, the combination with a sliding member of a door locking mechanism, and with releasable apparatus for normally maintaining the member stationary, of: a rotatable element adjacent the path of said member; spring means for urging the element to partial rotation into said path; and means engaging said element and said apparatus for normally holding said element against rotation in said path, said last means adapted to release said element should said means be bodily moved with relation to said door locking mechanism.

8. In a locking mechanism for a door, the combination of: a slidable element adapted for movement into and out of a door-locking position; a tumbler controlled apparatus adapted when in one position of adjustment to prevent unlocking movement of said element; a shoulder on the element; a cam rotatably mounted on said door, said cam when in one rotative position adapted to lie in the path of said shoulder; means for urging said cam towards rotation into said position; and means connected to said tumbler apparatus for holding said cam out of said path, said holding means adapted to release said cam should the holding means be moved with relation to said cam.

9. In a locking mechanism for a door, the combination of: a slidable element adapted for movement into and out of a door-locking position; a tumbler controlled apparatus adapted when in one position of adjustment to prevent unlocking movement of said element; a shoulder on the element; a cam rotatably mounted on said door, said cam when in one rotative position adapted to lie in the path of said shoulder; means for urging said cam towards rotation into said position; and means connecting said cam and tumbler apparatus for holding said cam out of said path, said holding means adapted to release said cam should the distance between the two be varied.

10. In a locking mechanism for a door, the combination of: a slidable element adapted for movement into and out of a door-locking position; a tumbler controlled apparatus adapted

when in one position of adjustment to prevent unlocking movement of said element; a shoulder on the element; a cam rotatably mounted on said door, said cam when in one rotative position adapted to lie in the path of said shoulder; means for urging said cam towards rotation in said position; and means connecting said cam and tumbler apparatus for holding said cam out of said path, said holding means adapted to release said cam should its position with relation to the cam or the tumbler apparatus be disturbed.

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