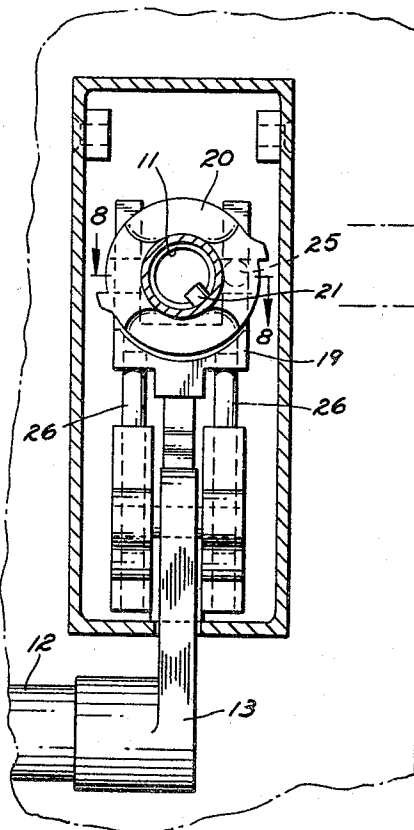
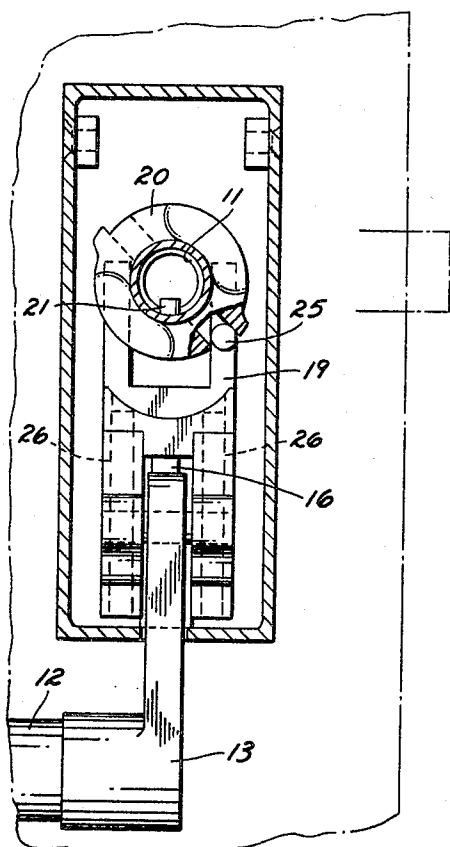
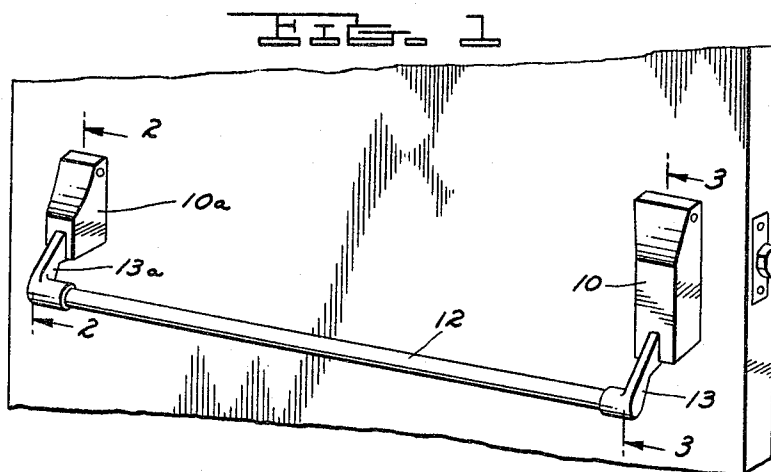


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2 Sheets-Sheet 1



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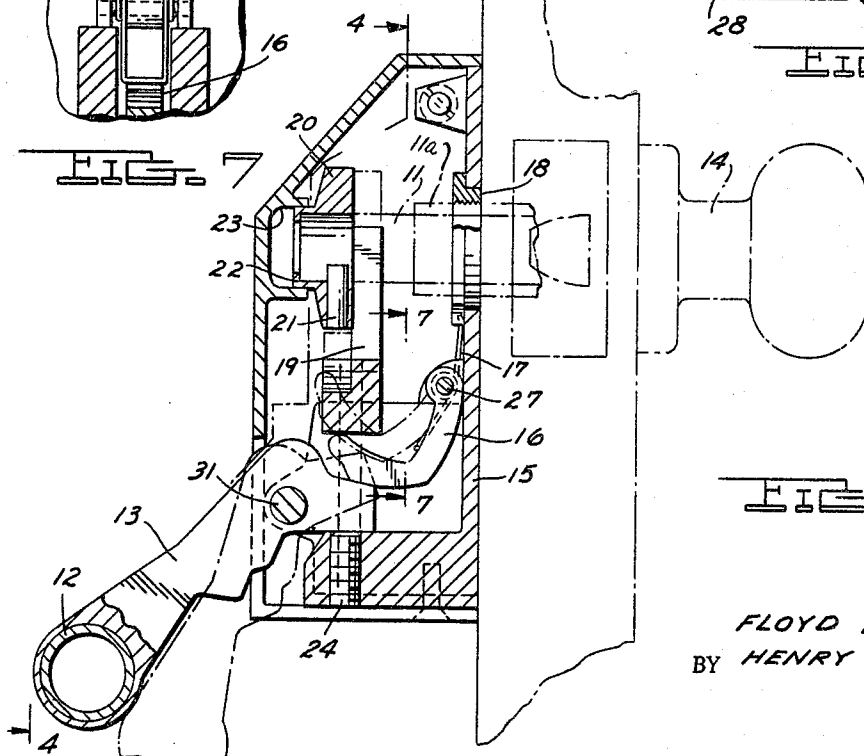
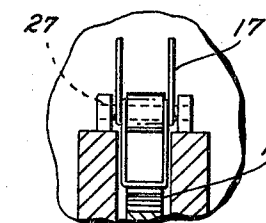
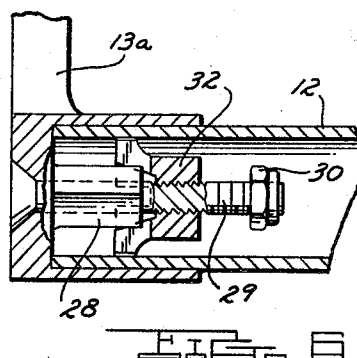
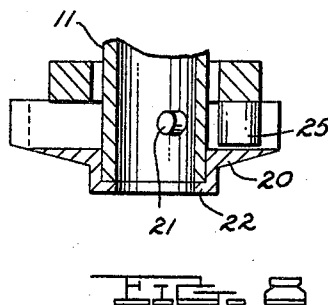
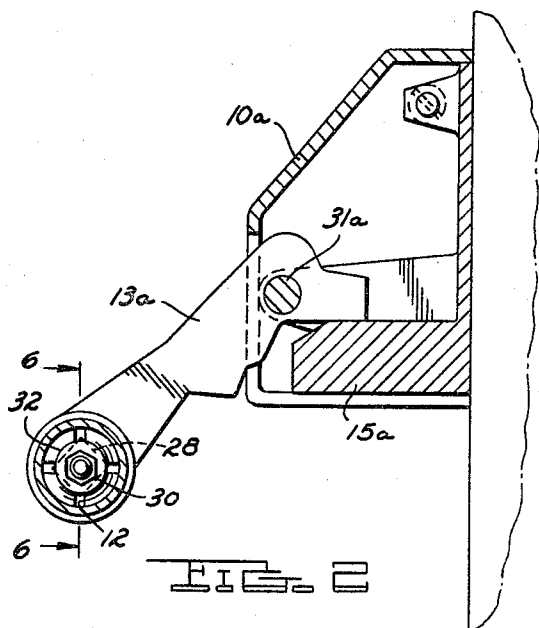
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3,266,829

PANIC LOCK

Filed Sept. 23, 1963

2 Sheets-Sheet 2



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3,266,829

PANIC LOCK

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Filed Sept. 23, 1963, Ser. No. 310,642
2 Claims. (Cl. 292-92)

Our invention relates to door locks and in particular to that kind of lock called a panic lock.

The object of our invention is a mortise type exit device for single point locking which consists of a mechanism to convert a standard knob operated classroom or utility type cylindrical pin tumbler lock into a panic lock which is always operative from the inside of an outswinging door by exerting pressure on a horizontal cross bar.

This function is accomplished by installing our panic exit mechanism, in lieu of the inside knob and rosette, on any one of several brand name standard classroom or utility type cylindrical locks and at the same time retaining the standard outside knob and key operations that are regularly supplied on this type of lock. Pressure applied to the horizontal cross bar activates the mechanism which rotates the hollow lock spindle and, in turn retracts the latch bolt in the edge of the door and permits the door to open for safe egress.

The accompanying drawings illustrate the mechanism and application of the device, wherein:

FIG. 1 is a perspective drawing of the device shown installed on the inside of an outswinging door in which our invention is embodied;

FIG. 2 is a section on line 2-2 of FIG. 1, with the parts shown in position when the device is in a latched or at rest position;

FIG. 3 is a section on line 3-3 of FIG. 1, the parts shown in solid line representing the position of the parts when the device is in a latched or at rest position. The dotted lines show the parts in position when the device has withdrawn the latch bolt and is in an unlatched position;

FIG. 4 is an elevation with part of the outside case removed on line 4-4 of FIG. 3, with the hollow lock spindle in an at rest position with the cross bar arms in an at rest or unretracted position;

FIG. 5 is an elevation with part of the outside case removed, on line 4-4 of FIG. 3, with the hollow lock spindle in a rotated position with the horizontal cross bar held in a retracted position by pressure;

FIG. 6 is a section on line 6-6 of FIG. 2, detailing the method of securing the cross bar tube to the cross bar arm;

FIG. 7 is a section on line 7-7 of FIG. 3, detailing a spring and its application to the lifting lever. The spring function is to urge the device back to the latched or at rest position after pressure has been applied and released to the horizontal cross bar; and

FIG. 8 is a section on line 8-8 of FIG. 5, detailing the cam with its spindle-engaging lug and pickup slot for right and left hand swing doors.

10 is the outside cover for the mechanism on the lock side of the door. Cover 10 is secured to backplate 15 with machine screws. 10a is the outside cover for the mechanism on the hinge side of the door. Cover 10a is secured to backplate 15a with machine screws. 14 is one of several brand name classroom or utility type cylindrical locks with outside knob and rosette and with hollow spindle 11 rotatable within threaded portion 11a which receives shouldered threaded bushing nut 18. 11 is the hollow spindle of lock 14 and rotates within a threaded portion 11a. Threaded portion 11a receives bushing 18. 12 is a horizontal cross bar tube connecting cross bar

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arm 13 to cross bar arm 13a. 13 is a cross bar arm that carries one end of cross bar tube 12 and is pivoted on two extensions from backplate 15. 13a is a cross bar arm that carries one end of cross bar tube 12 and is pivoted on two extensions from backplate 15a. 15 is a backplate with a round aperture to allow the hollow spindle 11 to pass through and with two extensions pivot the cross bar arm 13, and with two extensions to pivot lifting lever 16, and to anchor the outside cover 10. 15a is a backplate with two extensions to pivot the cross bar arm 13a and to anchor outside cover 10a. 16 is a lifting lever that is pivoted on one end to the extensions on backplate 15 and it activates lifter 19 when the nose of cross bar arm 13 is raised by a downward pressure on cross bar 12. 17 is a spring which urges the lever 16 down to help return the cross bar 12 to an at rest position.

18 is a shouldered, threaded bushing nut which turns on to the threaded portion 11a and spans the round aperture in the backplate 15 and as it is turned onto the threaded portion 11a the backplate 15 and the lock 14 are firmly clamped to the door.

19 is a U-shaped lifter which moves up and down in a strict vertical plane when lever 16 is raised or lowered by pressure being applied or released on cross bar tube 12. 25 is a roller pin which projects from one leg of the lifter 19 and engages in a slot in cam 20. 26 is two parallel guide rods on the bottom of the lifter 19 which ride in parallel holes in the two projections on backplate 15 which keep lifter 19 in a two-way vertical alignment at all times. 20 is a cam that slides over the hollow spindle 11 and has a slot through its diameter to receive the roller pin 25 which projects from one leg of lifter 19 and is universal for use on either right or left hand swing door. 21 is a pin which projects into a slot in the hollow spindle 11 which acts as a key to secure the cam 20 to the hollow spindle 11. 22 is a locating flange of proper length to correctly locate cam 20 in the correct horizontal position with respect to the lifter 19, and acts as a guide and support for the end of the hollow spindle 11 as it rides in the socket bearing 23 in the outside cover 10. 23 is a socket bearing which receives the flange on the cam 20 and acts as a guide and support for the end of the hollow spindle 11. 24 is a socket head set screw in the projection on the backplate 15 set directly over the nose of cross bar arm 13 and when it is turned tight against the nose of the cross bar arm the device will become fixed in an unlocked position. 31 is the axle pin around which the cross bar arm 13 pivots. 31a is the axle pin around which the cross bar arm 13a pivots. 27 is the fulcrum pin on which lever 16 pivots.

32 is a threaded nut that has a hollow cone-shaped head that has its outside diameter knurled and has the head cut with thin slots into four quadrants so that each quadrant is free to expand uniformly, thereby exerting uniform pressure to the inside of cross bar tube 12. 28 is a square post with the edges of the post chamfered and is a part of cross bar arm 13 and 13a and has a clearance hole through the center to receive the cap screw 29. 29 is a flat socket head cap screw which passes through the clearance hole in the post 28 and turns into the threaded portion of the expanding nut 32. 30 is a stop nut with a fiber insert to hold the nut in a fixed position after it has been turned onto the socket head cap screw 29. As the flat socket head cap screw 29 is tightened the hollow cone-shaped head threaded nut 32 is drawn towards and over the square post 28, causing the knurled diameter of the threaded nut to expand against the inside surface of the cross bar tube 12, which in turn is forced tightly against the inside diameter of the cross bar arm 13 or 13a, making a

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rigid unit. The stop nut 30 prevents the cap screw 29 from being removed after the assembly has been completed, although it can be loosened to permit the cross bar tube 12 to be removed at will from the cross bar arm 13 or 13a.

What we claim is:

1. A panic assembly for one side of a door provided on its opposite side with a lock assembly including a latch and a rotatable spindle projecting through the door to actuate the latch upon rotation of the spindle and a knob mounted on said spindle on said opposite side of the door, comprising: a housing mounted on said one side of the door having an aperture through which said spindle projects; lifter means including a reciprocable lifter slide guidably mounted for vertical shiftable movement within said housing and a lifting lever pivotally mounted in said housing, said lever having an end portion thereof positioned below said lifter slide, said lifter slide having a U-shaped upper end with the bight of the U embracing said spindle, one of the arms of said U-shaped portion having a roller pin projecting laterally therefrom; a plate-like cam member fixed to said spindle within the housing and provided with a diametrical slot, with said roller pin engaged within said cam slot to rotate the cam and spindle upon reciprocal movement of said lifter slide; a panic bar arm pivotally mounted on said housing having a projecting nose portion engaging said pivoted lifting lever which in turn engages said lifter slide to shift the latter upon pivotal movement of said panic bar arm; a manually actuatable panic bar connected at one end to said panic bar arm and extend-

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ing generally horizontally across said one side of the door spaced therefrom; and spring means operatively coupled to said lifting lever biasing the latter to a normally inoperative at rest position.

2. The invention defined in claim 1 characterized in that said housing is provided with an inwardly facing socket bearing and said plate-like cam is provided with an axially projecting cylindrical flange rotatably positioned in said socket bearing to support and align the cam and said spindle within the housing.

References Cited by the Examiner

UNITED STATES PATENTS

917,685	4/1909	Voight	292—92
927,654	7/1909	Hood	292—92
1,025,102	4/1912	Voight	292—92
1,385,512	7/1921	Wittig	287—23
2,147,581	2/1939	Prinzler	292—92
2,535,894	12/1950	Brundage	287—23
2,719,048	9/1955	Hayes	292—92
2,752,773	7/1956	Abelson et al.	292—92 X
3,123,387	2/1964	Jackson et al.	292—21

FOREIGN PATENTS

2,872 2/1906 Great Britain.

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