March 6, 1956 O. A. BLOHM 2,737,043

LOCKING DEVICE

Filed April 1, 1954

Fig. 1

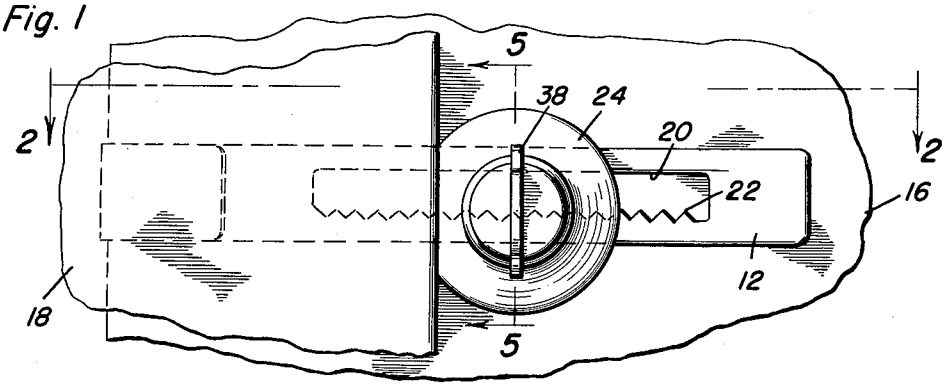



Fig. 2

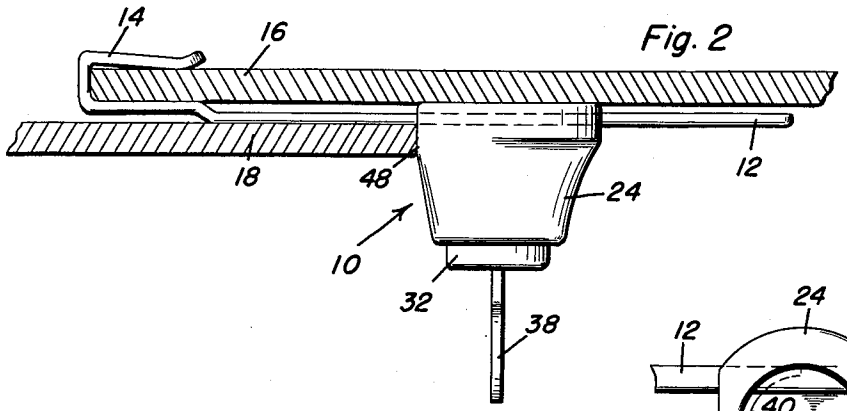



Fig. 3

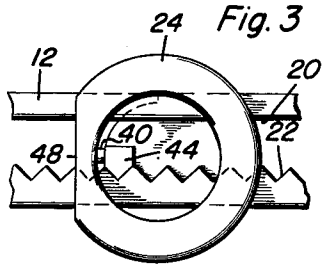



Fig. 5

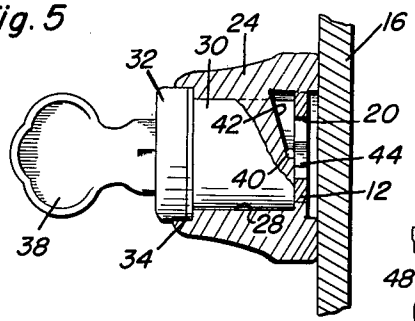



Fig. 4

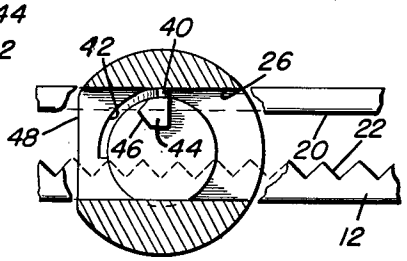
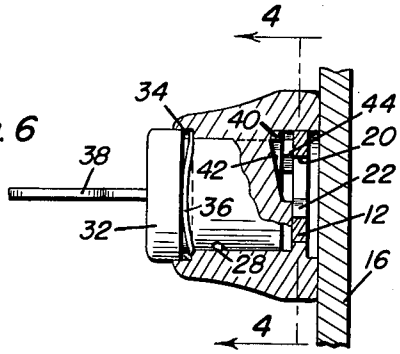



Fig. 6




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# LOCKING DEVICE

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Application April 1, 1954, Serial No. 420,303

3 Claims. (Cl. 70—14)

This invention relates to a locking device and more specifically provides a lock designed for use on a showcase, sliding doors, desk drawers and other fixtures and furniture.

An object of this invention is to provide a locking device which is simple in construction and operation, has a minimum of moving parts, easily assembled and disassembled on the members to be locked, well adapted for its purposes and relatively inexpensive to manufacture and maintain.

Another important object of this invention is to provide a locking device including a locking bar to be attached to one member and a lock slidable on the locking bar for engaging another member thereby precluding relative movement between the members.

A still further object of the present invention is to provide a locking device including a locking bar and a locking member slidably positioned thereon wherein the locking member may be easily removed from the locking bar.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout and in which:

Figure 1 is a side elevational view showing the locking device of the present invention in locking position on a pair of relatively sliding and overlapping doors such as usually found on showcases;

Figure 2 is a top plan view taken substantially along section line 2—2 of Figure 1 showing the door engaging clip on the end of the locking bar and the structural relation between the locking bar and the said locking member;

Figure 3 is a detailed rear view showing the notched slot and the locking lug in locking position and engaging the notches;

Figure 4 is a detailed section showing the locking lug in retracted position where it is disengaged from the notches and also withdrawn from the slot;

Figure 5 is a detailed section showing the locking lug in locked position and the cylinder and lug in its forwardmost position disposed within the slot; and

Figure 6 is a detailed section similar to Figure 5 showing the locking lug in unlocked position and the barrel and locking lug retracted with the locking lug withdrawn from the slot wherein the locking member may be removed from the end of the locking bar.

Referring now specifically to the drawings, it will be seen that the numeral 10 generally designates the locking device of the present invention and includes an elongated strap or locking bar 12 having a reversely bent end portion 14 forming a spring grip for engaging an edge of a showcase door 16 or the like. The main body of the elongated bar 12 extends in parallel and spaced relation to the front surface of the door 16 and also



parallel to the rear surface of an overlapping door or closure 18. The particular arrangement of doors 16 and 18 is that which is usually found in showcases having glass doors. However, it will be understood that the locking device 10 of the present invention may be utilized on various types of closures whether they are pivotal, overlapping, or sliding.

It will be seen that the elongated locking bar 12 is provided with an elongated closed slot 20 having a plurality of V-shaped notches 22 along one longitudinal side thereof and the notches 22 are usually disposed at the lower edge of the slot 20. A cylindrical barrel 24 having a flat inner end for engaging the outer surface of the door 16 is provided with a transversely extending bore 26 adjacent its inner end for slidably receiving the locking bar 12.

A longitudinal bore 28 extends centrally through the barrel 24 and rotatably and slidably receives a cylinder 30. The cylinder 30 includes an enlarged outer end portion 32 received in a socket 34 in the barrel 24 and a circular leaf spring 36 is provided between the base of the socket 34 and the enlarged portion 32 thereby urging the cylinder 30 outwardly of the barrel 24. A suitable key 38 is provided for insertion into the said lock cylinder 30 for rotating the cylinder 30 in the barrel 24. Extending from one side of the cylinder 30 is a projecting member 40 which rides in a cam groove 42 cut into the barrel 24 so as to open into the bore 28 of the barrel 24. It will be seen that this projection 40 moves the cylinder 30 axially in the barrel 24 when the cylinder 30 is rotated. Projecting from the inner end of the cylinder 30 is a locking lug 44 having a V-shaped face 46 for engaging the V-shaped notches 22 when the cylinder 30 is rotated to a locked position. It will be seen that the lug 44 moves axially with the cylinder 30 and moves from a position disposed within the slot 20 and engaging the notches 22 when in its locked position to a retracted position in disengagement with the notches 22 and withdrawn from the slot 20 when in its unlocked position thereby permitting the barrel 24 to be removed from the free end of the elongated bar 12.

It will be seen that the barrel 24 is provided with a flat sided portion 48 for engaging the edge of the sliding door 18. The operation of the device will be readily understood. The locking bar 12 is positioned on the inner sliding door 16 and the elongated portion of the bar 12 extends between the overlapping portion of the doors 16 and 18. When the doors 16 and 18 have been moved to a closed position substantially as shown in Figures 1 and 2, the cylindrical barrel 24 is positioned on the bar 12 with the bar 12 being received in the bore 26 extending transversely through one end of the barrel 24. The barrel 24 is so positiond that the flat side 48 engages the edge of the door 18 thereby preventing any possible chipping or damage due to point contact which would occur if the barrel were cylindrical at its side portion. The barrel 24 is adjustable on the locking bar 12 by virtue of the eccentrically mounted lug 44 on the inner end of the cylinder 30 which is rotatably and axially slidably movable in said barrel 24. By rotation of the cylinder utilizing the key 38, the lug 44 is moved about an axis substantially along the center line of the cylinder 30 into engagement with one of the notches 22 thereby securing the barrel 24 in adjusted position on the bar 12. When the cylinder 30 is rotated, the projection 40 riding in the cam groove 42 and the resilient spring 36 urging the cylinder 30 out of the barrel 24 will cause the cylinder to be retracted slightly from the barrel 24 thereby withdrawing the locking lug 44 from the slot 20 as the lug 44 is disengaged from the notches 22 positioning the lug interiorly of the locking bar where-

in the barrel 24 may be removed from the open end or free end of the bar 12 thereby permitting normal actuation of the sliding doors 16 and 18 in the usual manner.

Obviously, the device may be constructed of any suitable material which is attractive in appearance, and the simplicity of construction of the device will assure a longlasting life. Further, it will be understood that the device may be utilized in other various uses and the use specifically illustrated in this embodiment shows the device utilized with a pair of overlapping sliding doors normally found on showcases. The locking device may be easily attached to door frames for securing pivotal type doors and also may be utilized for locking any closure or the like wherein relative movement of two members is necessary to open or close the closure.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A locking device comprising an elongated strap having means for engaging a first member and extending in parallel adjacent relation to a second member, and locking means slidably positioned on said strap for engaging the second member thereby precluding relative movement between said members, said strap having an elongated closed slot therein with notches along one edge thereof, said locking device including a key operated lug for selective engagement with said notches, said lug being retractable from said slot to permit removal of said locking device from said strap, a cylindrical barrel having a central opening extending longitudinally therethrough and a bore transversely extending through one end thereof for slidably receiving said strap, a cylinder slidably and rotatably mounted in said barrel, a projection on said cylinder, said barrel having a cam groove therein for receiving said projection, said cam groove and projection moving said cylinder axially when the cylinder is rotated thereby selectively engaging the lug in the notches, said lug being mounted on the end of said cylinder for movement into and out of said slot thereby permitting the strap and barrel to be slidably disengaged.

2. In a locking device, a one-piece cylindrical barrel having a transverse bore extending through one end thereof, a locking bar adapted for reception in said bore and having a notched closed slot therein, a cylinder mounted for rotation in said barrel, and a lug mounted eccentrically on the inner end of said cylinder for selective engagement with said notches for locking said barrel in adjusted position on said bar, said cylinder being axially movably mounted in said barrel, said barrel having a cam groove in the inner surface thereof, a projection on said cylinder slidably positioned in said groove, thereby axially retracting said cylinder when the cylinder is rotated for moving the lug from said slot for permitting removal of the barrel from the bar.

3. In a locking device, a one-piece cylindrical barrel having a transverse bore extending through one end thereof, a locking bar adapted for reception in said bore and having a notched closed slot therein, a cylinder mounted for rotation in said barrel, and a lug mounted eccentrically on the inner end of said cylinder for selective engagement with said notches for locking said barrel in adjusted position on said bar, said cylinder being axially movably mounted in said barrel, said barrel having a cam groove in the inner surface thereof, a projection on said cylinder slidably positioned in said groove, thereby axially moving said cylinder when the cylinder is rotated for retracting the lug axially in relation to said slot for permitting removal of the barrel from the bar, said cylinder being provided with resilient means for continuously urging said cylinder away from the bar thereby assuring the retraction of the lug from the slot upon rotation of the cylinder in one direction.

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