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R. I. GRAY, JR

2,674,510

LOCKING DEVICE FOR TWIN DRAWERS

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Fig. 1.

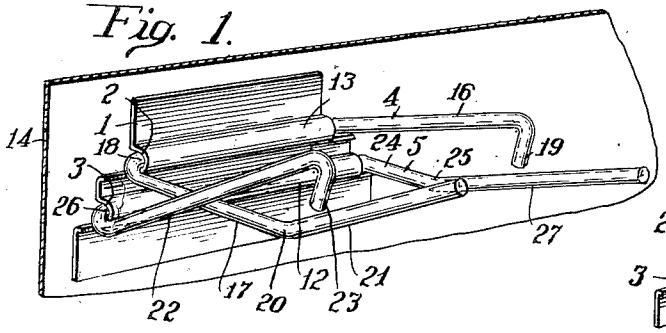


Fig. 6.

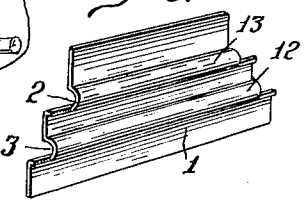


Fig. 2.

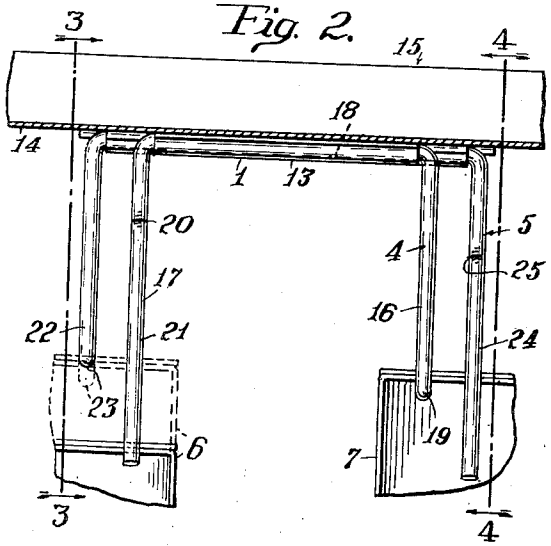


Fig. 3.

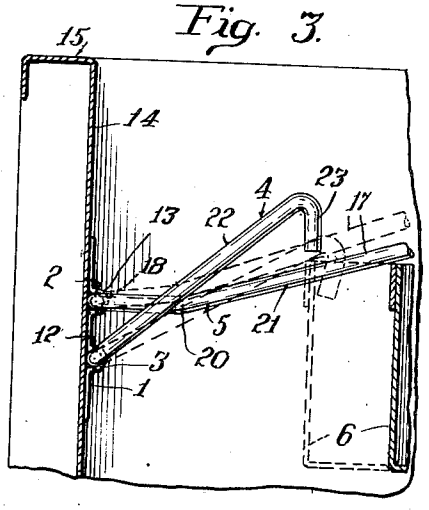


Fig. 4.

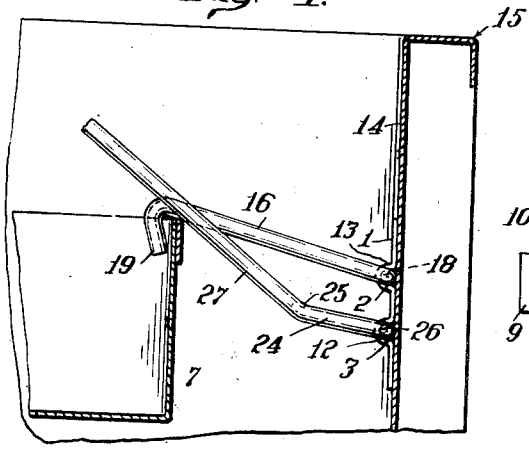
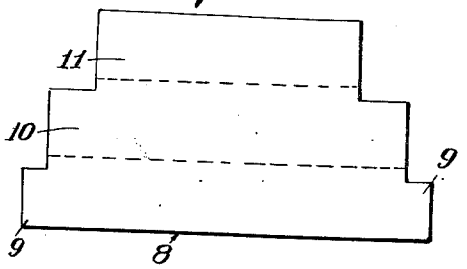


Fig. 5.



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LOCKING DEVICE FOR TWIN DRAWERS

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8 Claims. (Cl. 312—222)

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The invention relates to a locking device for twin drawers.

An object of the present invention is to provide for laboratory and other cabinets having two adjacent oppositely disposed drawers in side-by-side relation, a locking device of strong, durable and comparatively inexpensive construction adapted to be readily applied to a cabinet and comprising two separate latches, one for each drawer, having an operating member controlled by the other drawer, for locking one of the drawers when said other drawer is opened, thereby safeguarding the contents of the two drawers which may be of material advantage in chemical laboratories and other places where it is desirable to keep the contents of two adjacent drawers separate.

A further object of the invention is to provide a locking device of this character composed of two oppositely arranged latches, each having a latching portion and an operating portion, with the latching portion of one latch and the operating portion of the other latch associated with said drawer and with the operating portions maintaining the latching portions out of engagement with the drawers when both are closed and adapted, when either drawer is opened, to move the latching portion at the other drawer into engagement with the same for locking such drawer in its closed position while the other drawer is open.

Another object of the invention is to provide duplex oppositely arranged latches having operating portions or members provided with cam portions, each maintained in position to be engaged in the closing movement of an open drawer by the engaged latch of the other drawer which, when the open drawer is closed, will be moved out of engagement with the locked drawer so that when both drawers are closed the latches will be disengaged therefrom and either of the drawers may be opened.

It is also an object of the invention to provide a locking device for twin drawers having a latch for each drawer with the operating means at the other drawer, the operating means being controlled by the drawers and maintaining the latches disengaged when the drawers are closed and movable into engagement by the opening of the drawers and arranged to prevent the twin drawers from being simultaneously opened so that only one drawer can be fully opened at a time and the other drawer will be locked.

With the above and other objects in view, the invention consists in the construction and novel

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combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportions, and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

Fig. 1 is a perspective view of a locking device for twin drawers constructed in accordance with the present invention;

Fig. 2 is a plan view, partly in section, showing the locking device applied to a cabinet having twin drawers, both drawers being shown in the closed position;

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2, showing in full lines the operating arm of one of the latches supported by one of the drawers, and showing the latching portion in full lines in its elevated position and in dotted lines in its lowered locking position;

Fig. 4 is a similar view taken on the line 4—4 of Fig. 2 and illustrating the other latch of the locking device;

Fig. 5 is a plan view of the blank from which the bracket is fabricated;

Fig. 6 is a detail view of the bracket.

In the accompanying drawings, in which is illustrated a preferred embodiment of the invention, the locking device comprises in its construction a supporting means such as a bracket 1 having upper and lower bearings 2 and 3 and two separate latches 4 and 5, which are oppositely arranged and each of which comprises a latching portion associated with one of a pair of twin drawers 6 and 7 and an operating member controlled by the other drawer, the operating members of both latches being supported by the drawers when the latter are closed and the latching portions being then maintained in an elevated position out of engagement with the drawers to permit either of the drawers to be opened so that in the opening movement thereof the other drawer will be locked in its closed position by the latching arm or portion associated therewith. When one of the drawers is open, the other is locked, and the arrangement of the latches is such that both drawers cannot be fully opened simultaneously.

The bracket 1, which is designed to be constructed of sheet metal or other suitable material, is preferably formed from a blank 8, illustrated in Fig. 5 of the drawings, and having suc-

cessively reduced portions 9, 10 and 11 and provided at the juncture thereof with tubular beads 12 and 13 forming bearings for the separate latches and positioning the same at different elevations, the latch 4 being pivotally mounted above the latch 5, as clearly illustrated in Fig. 1 of the drawings. The bracket 1 may be spot welded or otherwise secured to the back 14 of a cabinet 15 having the drawers 6 and 7 slidably mounted at the front thereof in any conventional manner.

The upper latch 4, which may be constructed of rod metal or any other suitable material, is substantially U-shaped and consists of a latching arm or portion 16 associated with the drawer 7, an operating arm or member 17 associated with the other drawer 6, and a connecting pivot portion 18 which is arranged in the upper bearing 2 of the bracket. When the drawer 6 is closed and the operating arm or member 17 is supported upon the upper edge thereof at the inner or rear end of the same, the latching arm or portion 16, which is provided with a terminal hook 19, is located above and out of engagement with the drawer 7. The operating arm or member 17 is provided intermediately of its ends with a bend 20 which arranges the front or free portion 21 of the operating arm at an angle to the rear portion so that when the drawer 6 is opened the operating arm or member 17 will be gradually lowered until the hook 19 of the latching arm or portion 16 is lowered into engagement with the inner or rear end of the drawer 7, locking the same in its closed position. When the latching arm or portion 16 is supported by the drawer 7 the inclined portion 21 of the operating arm or member 17 extends above the plane of the top of the drawer 6 and it forms a cam which is adapted to be engaged by the drawer 6 in the closing movement thereof so that as the drawer 6 is closed, the operating arm or member 17 and its latching arm 16 will be swung upwardly. When the drawer 6 is fully closed, the latching arm will be elevated out of engagement with the drawer 7.

The latch 5 comprises a latching arm 22 having a drawer-engaging hook 23, an operating arm or member 24 provided intermediately of its ends with a bend 25, and a connecting pivot portion 26 which is mounted in the lower bearing 3 of the bracket. The bend arranges the outer free portion 27 of the operating arm or member 24 at an angle to the inner or rear portion of the operating arm or member 24 to provide a cam which is arranged at an inclination and which is adapted to be engaged by the drawer 7 for controlling the latching arm or portion 22, similarly to the operation of the latching arm or portion 16 of the other latch. The pivot portion 26 being of greater length than the pivot portion 18 provides ample space for the upper latch, as clearly illustrated in Fig. 1 of the drawings, and by reason of the elevated position of the pivot portion 18 of the upper latch, the bend 20 of the operating arm or member 17 is approximately 15° while the bend 25 of the operating arm or member of the lower latch is approximately 30°. However, the cam portions 21 and 27 may be arranged at any desired angle and may be varied in length, but should, of course, be of such length that the operating arms or members of the latches will be controlled by the opening and closing movements of the drawers 6 and 7.

I claim:

1. A locking device for twin drawers comprising a supporting bracket having successively reduced portions and provided with tubular beads of different lengths located at the juncture of said reduced portions and forming upper and lower bearings, and oppositely arranged substantially U-shaped latches composed of latching arms and operating arms and connecting pivot portions arranged in the bearings of the said bracket, each of the latches having a latch arm associated with one of the drawers and an operating arm controlled by the other drawer.

2. A latch mechanism for use in holding one of two drawers arranged side-by-side closed when the other drawer is opened comprising two U-shaped members, one leg of each member comprising a latch portion, the other leg of each member comprising an operating portion and each base being a pivot portion, the operating portion of each member adapted to be released from engagement by one drawer upon its opening movement to cause the latch portion to engage the other drawer so as to maintain it closed.

3. A cabinet structure, at least two drawers in side by side relationship within the cabinet structure, supporting means on the rear inner wall of the cabinet structure, means supported by said supporting means for maintaining one of the drawers closed when the other drawer is open, said means comprising an operating member and a latch member, the operating member being engaged when one drawer is closed and disengaged when the one drawer is opened to cause operation of the latch member, and the latch member engaging the other drawer to maintain the other drawer closed when the operating member is disengaged by the one drawer.

4. The structure as defined in and by claim 3 wherein the supporting means comprises a bracket, the bracket having tubular beads therein forming bearing surfaces for the means supported by the supporting means.

5. The structure as defined in and by claim 3 wherein the operating member comprises an arm having a cam surface thereon, the cam surface being engageable and operated by one of the drawers upon closing to withdraw the latch member from the other drawer and which cam surface upon disengagement by one drawer upon opening the same will allow the latch member to engage the other drawer and hold the same closed.

6. The structure as defined in and by claim 3 wherein the operating member and the latch member comprise the legs of a U-shaped construction with the base of the U-shaped construction being supported by the supporting means and the operating member of the U-shaped portion having a cam surface thereon.

7. The structure as defined in and by claim 3 wherein the operating member and the latch member comprise the legs of a U-shaped member having an integral base supported by the supporting means, the operating member leg of the U-shaped structure being provided intermediate its ends with a bend and with the free end thereof extending upwardly from said bend and comprising a cam and the latch member having a terminal end portion forming a hook to engage the end of one drawer when released by the other drawer.

8. A cabinet structure, at least two drawers in side by side relationship within the cabinet structure, a bracket on the inner rear wall of the cabinet structure, upper and lower bearings carried by the bracket, two U-shaped members having their base portions supported within the bearings, one of the U-shaped members being

smaller than and within the other U-shaped member, the legs of each U-shaped member comprising an operating arm and a latch arm with a latch arm of one U-shaped member being disposed adjacent an operating arm of the other U-shaped member, the operating arm of each U-shaped member being engageable by the rear upper surface of one of the drawers to cause disengagement of the latch member from the other drawer when that drawer is closed within the cabinet structure and the operating arms having a bend intermediate their ends with the terminal portion beyond the bend extending upwardly

therefrom, the operating member upon disengagement by one drawer allowing the latch member to fall by gravity and engage the other drawer to hold the same against withdrawal from the cabinet structure.

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