Oct. 19, 1926. 1,603,483

W. S. MASENGALE

DRAWER LOCKING MECHANISM FOR TRUNKS

Filed June 22, 1925 2 Sheets-Sheet 1

Fig. 1.

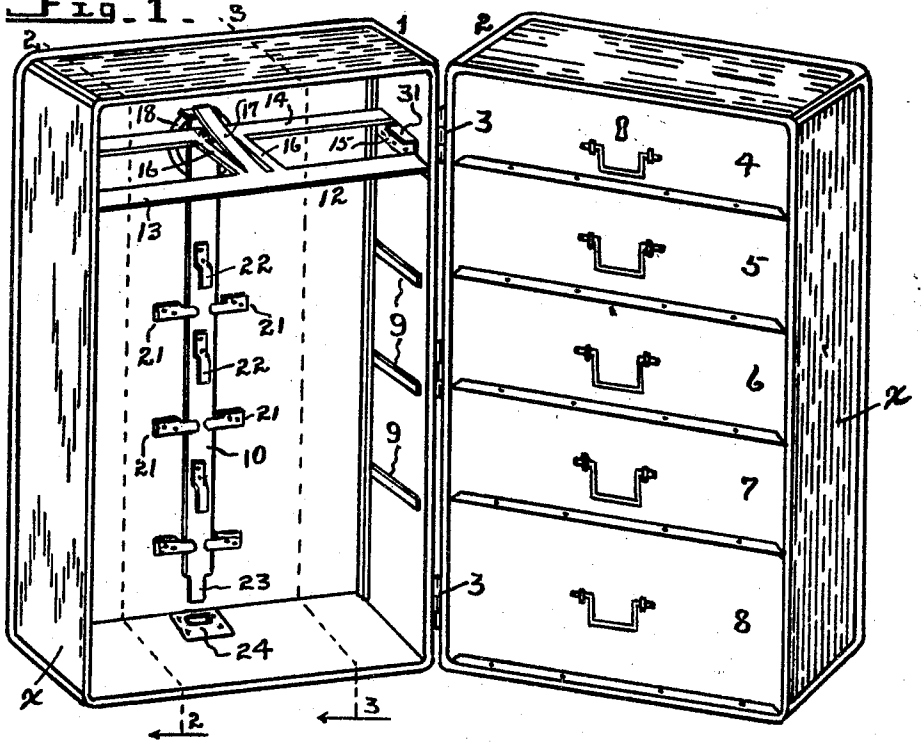


Fig. 2.

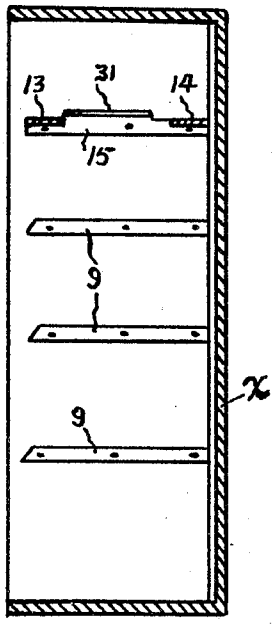


Fig. 3.

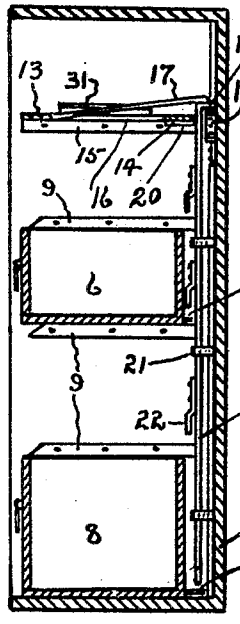
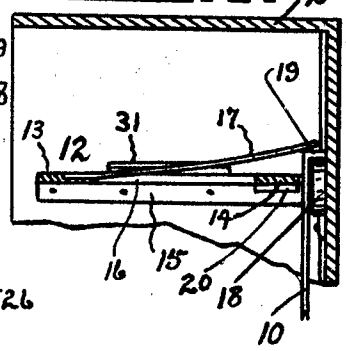


Fig. 4.



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Fig. 5.

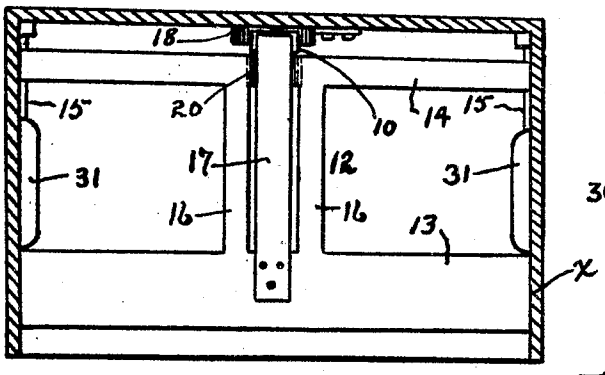


Fig. 6.

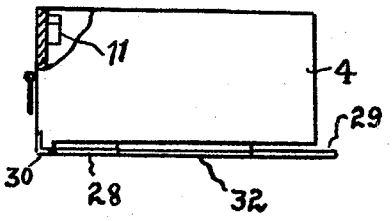
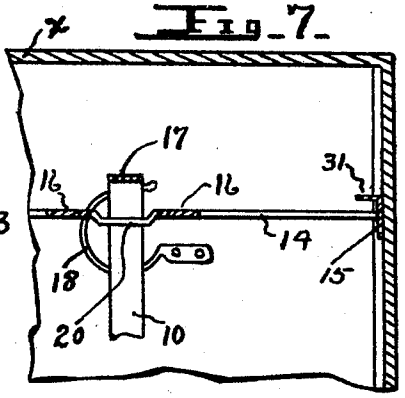


Fig. 7.



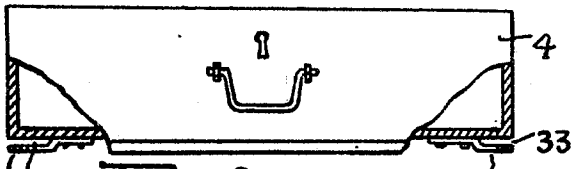
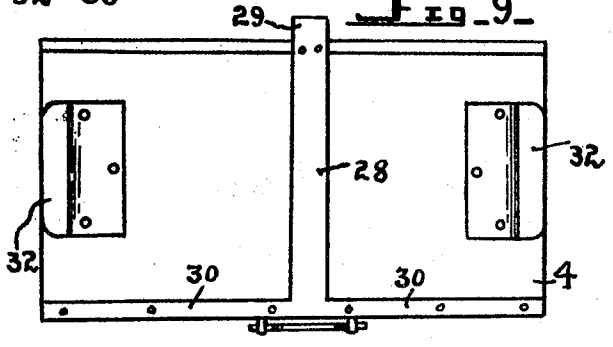


Fig. 8.



Fig. 9.



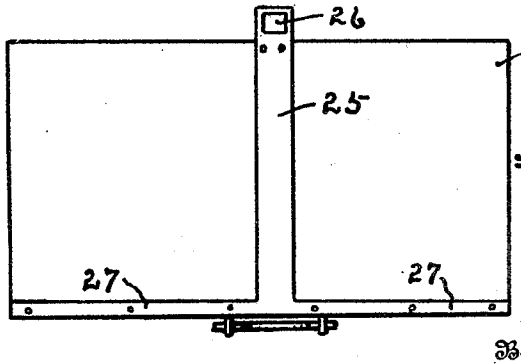


Fig. 10.

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UNITED STATES PATENT OFFICE.

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DRAWER-LOCKING MECHANISM FOR TRUNKS.

Application filed June 22, 1925. Serial No. 38,900.

This invention relates to drawer-locking mechanism, and while useful when applied to wardrobe trunks, it may be used to advantage in other instances where slidingly supported drawers are disposed one above another.

The invention includes a rectangular frame and its connections, said frame being used as a support for one of the drawers of a section and the mounting thereon of a depressor-plate used in moving a bar for locking the remaining drawers of a section, this frame being of such construction that it will prevent any swinging movements of said drawer so that it will effectively move the depressor-plate to cause a release of said remaining drawers from the bar. Other objects of the invention will be mentioned hereinafter, including means for reinforcing the drawers.

The invention consists of the novel and useful construction, combination and arrangement of parts as described herein and as claimed, and as illustrated in the accompanying drawing, it being understood that changes in form, size, proportion of parts and minor details may be made as found to be of advantage, said changes being within the scope of the invention as claimed.

In the drawing, Fig. 1 is a perspective view showing a trunk in open position, a part of the drawers being removed. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Fig. 3 is a sectional view on line 3—3 of Fig. 1, two drawers being added. Fig. 4 is a broken away detail relating to Fig. 3. Fig. 5 is a plan view of a rectangular frame, the body of the trunk being in section. Fig. 6 is an end view of an operating-drawer, being the uppermost drawer of a section. Fig. 7 is a broken away view, being a detail relating to Fig. 1. Fig. 8 is a front view of the drawer shown in Fig. 6, parts being in section. Fig. 9 is a bottom plan view of the drawer shown in Figs. 6 and 8. Fig. 10 is a bottom plan view of a drawer illustrating a feature of construction employed for all except the uppermost drawer.

Referring now to the drawing for a more particular description, numerals 1 and 2 indicate the two parts or sections of a trunk, their walls being indicated at x, said sections being adapted to be swung to open or closed position upon hinges 3. Since the locking mechanism for both of the sections is approximately the same, a description of a single section is considered to be sufficient, and the description may apply to either section.

Any suitable number of drawers may be provided for a section, the drawers herein shown being indicated respectively at 4, 5, 6, 7 and 8, the drawers 5, 6 and 7 being adapted to slide upon the strips 9 which are usually secured to the side walls, the drawer 8 sliding upon the end portion or bottom of the trunk, and as will be explained, any outward sliding movement or release of the drawers 5, 6, 7 and 8 may be prevented by an endwise sliding movement of a locking-bar 10, the uppermost drawer 4, designated herein and claimed as an operating-drawer, being provided with a lock 11 (Fig. 6).

I provide a rectangular frame 12 for a support of the operating-drawer 4, said frame being best shown in Figs. 1 and 5 of the drawing, its side strips being indicated at 13 and 14 and its end strips being indicated at 15; and upon the frame 12 said drawer 4 may have sliding movements.

The strips 13 and 14 are connected midway between the end strips 15 by a pair of cross-strips 16, and between said cross-strips is disposed a depressor-plate or spring 17, one of its ends being suitably secured to the side-strip 13 and its opposite end normally being pressed outwardly from the frame 12, as best shown in Fig. 4 of the drawings, by operation of a spring 18 which is mounted upon the rear wall of a section, the end of the locking-bar 10 being provided with a projection 19 which is interposed between the end of the depressor-plate and spring 18.

Since the pressure of the plate or spring 17 is less in degree than the reverse pressure of the spring 18 on said projection, said plate or spring 17, normally, will be inclined outwardly from the strip 13 to said projection 19, and normally will be maintained in that position.

As described, it will be understoood that if the plate 17 is pressed inwardly the bar 10 will slide a limited distance against the force of the spring 18, and in operation when the operating-drawer 4 has an inward sliding movement it will engage the plate 17 and will press it downwardly to a position parallel with the strip 16, a recess of depression 20 being formed in the strip 14 for

receiving said plate 17 so that this drawer may slide freely and parallel with the frame 12.

To prevent any transverse swinging movement of the bar 10 during its sliding movements, comparatively small contact-blocks or guide-members 21 are secured to a wall of the section, and these are in engagement with said bar. Numerals 22 indicate hooks or latches which are secured to the bar 10, and the lower end of the locking-bar is provided with a reduced part or finger 23. The wall of the section, adjacent to the finger 23 is provided with an apertured plate 24 for receiving said finger when the bar 10 is pressed downwardly.

The bottoms of the drawers 5, 6, 7 and 8 are each provided with a T-shaped reinforcing-frame, one part 25, near its end for each reinforcing-frame, being provided with an apertured part 26 which projects beyond the rear part of a drawer for receiving a hook or latch 22 when the bar 10 is moved downwardly. The parts 27 of the T-shaped frames operate to reinforce said drawers.

The bottom of the operating-drawer 4 is also provided with a T-shaped frame, its part 28 having a terminal 29 which projects beyond the rear side of said drawer for engaging the depressor-plate 17 and pressing it downwardly and for maintaining it in its lowermost position when this drawer is moved inwardly to its normal position, the part 30 of said frame operating to reinforce said drawer.

The frame 12 includes a pair of aligning-plates or wings 31 which project inwardly from the end-strips 15, and the bottom of the drawer 4 is provided at its ends with a pair of engaging-plates 32, as best shown in Figs. 6 and 8, each plate 32 providing a recess 33 opening on the end of the drawer for receiving an aligning-plate 31 when said drawer 4 is moved inwardly to a closed position.

It is well known that, on account of the excessive shocks and vibration to which trunks are subjected, parts of the locking mechanism often become disarranged. It will be appreciated that, according to the present construction, any upward movement of the locking-bar will be effectively prevented when the drawers are in closed position. This is accomplished by means of the aligning-plates 31 which engage in the recesses 33. In operation, when the drawer 4 is moved inwardly the depression-plate 17 will be moved downwardly into the depression 20, the aligning-plates 31 causing the projection 29 to be pressed firmly upon the plate 17 and preventing any upward movement of the drawer 4, the result being that the several drawers will remain locked until the drawer 4 has been drawn outwardly from the section.

Since the parts used in the construction of the trunk are few and simple it is considered that it may be manufactured conveniently and at a moderate expense.

It will be noted that, according to the present construction, it is not necessary that the top of the drawer 4 should engage the top wall of a section and that a liberal space may be permitted above said drawer so that it may have free sliding movements, the bottom of said drawer being maintained in engagement with the frame 12 for effectively locking the drawers 5, 6, 7 and 8. Also vibration of this drawer will be practically prevented since the spring 18 will press the aligning-plates 31 into engagement with the contact-plates 32.

I claim as my invention:—

1. In drawer locking means for drawers having fastening elements and disposed one above another in a trunk, said trunk being provided with an operating-drawer having contact-plates at its ends, a rectangular frame arranged in the trunk having cross-strips midway between and having aligning-plates projecting inwardly from its ends, a locking-bar having a projection and having fastening elements, a spring engaging the projection of the locking-bar, a depressor-plate engaging the projection of said locking bar, said operating drawer being movable on the aligning-plates and depressor-plate against the force of the spring for moving the locking-bar to cause engagement of its fastening-elements with the fastening-elements of said drawers, said contact-plates being in engagement with the aligning plates of said frame.

2. In drawer locking means for drawers having fastening elements and disposed one above another in a housing, said housing being provided with an operating-drawer having contact-plates at its ends, a frame in the housing having cross-strips midway between its ends, a recess between the cross-strips and provided with aligning-plates, a locking-bar having a projection and provided with fastening-elements, a spring mounted on the housing and engaging the projection of the locking-bar, a depressor-plate between the cross-strips and attached to the frame and engaging the projection of said locking-bar, said operating drawer being movable on the aligning-plates and depressor-plate against the force of the spring for moving the locking-bar to cause engagement of its fastening-elements with the fastening-elements of the drawers, said depressor-plate moving into said recess, the contact-plates of said operating-drawer being in engagement with the aligning-plates of said frame.

In testimony whereof, I have affixed my signature.

WILLIAM S. MASENGALE.