Dec. 20, 1932. E. C. BULLOCK 1,891,522

INDEX CARD COMPRESSOR

Filed Aug. 17, 1931 2 Sheets-Sheet 1

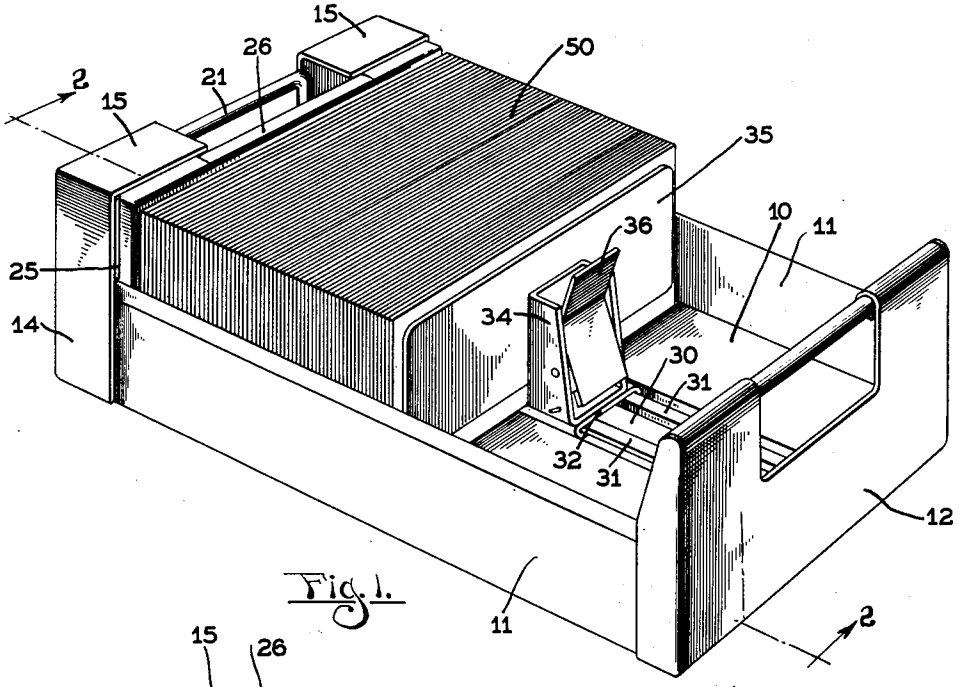


Fig. 1.

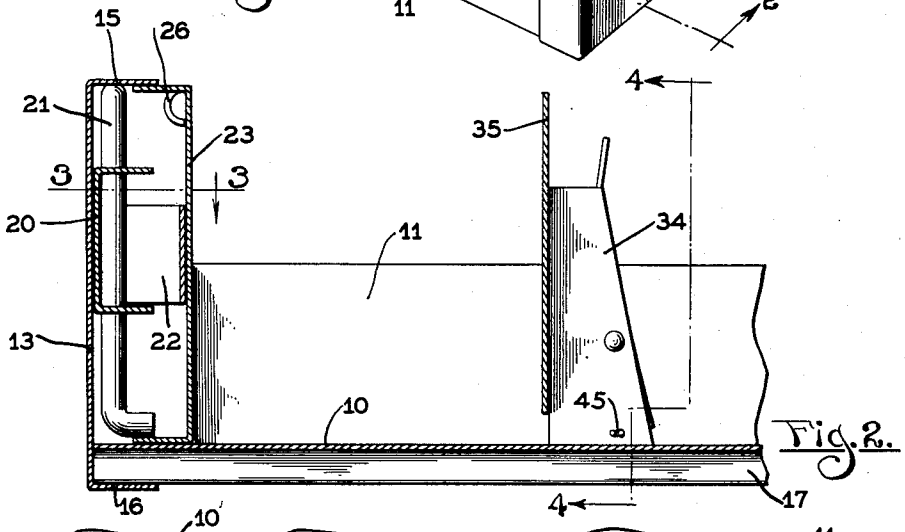


Fig. 2.

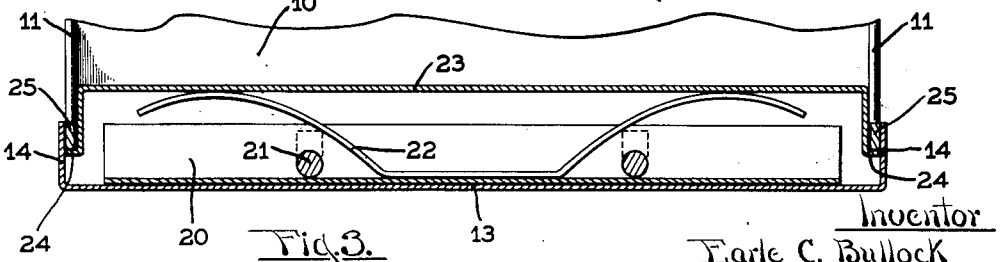


Fig. 3.

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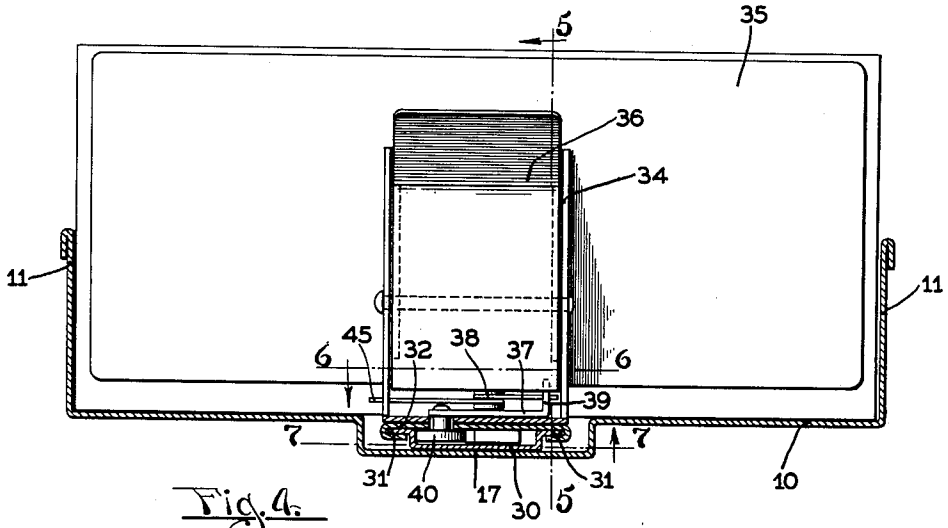


Fig. 4.

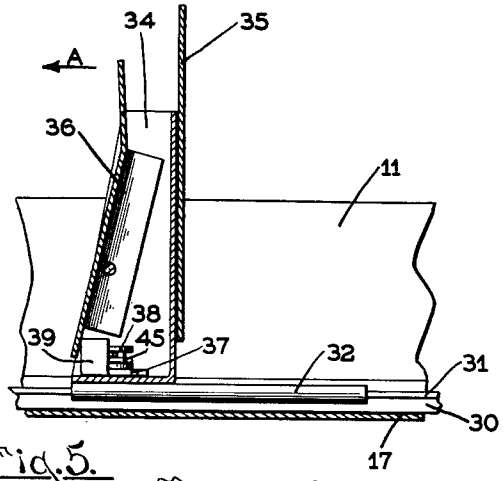


Fig. 5.

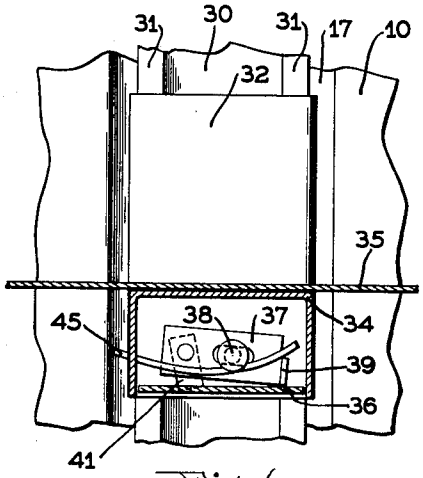


Fig. 6.

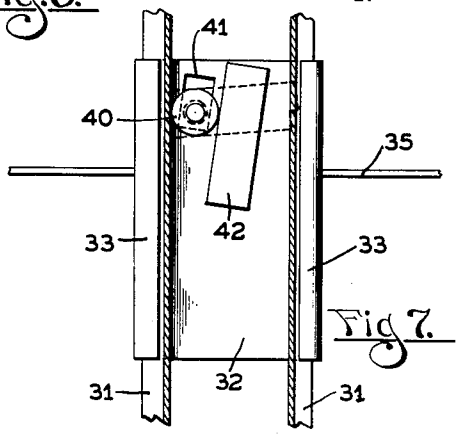


Fig. 7.

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UNITED STATES PATENT OFFICE

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INDEX CARD COMPRESSOR

Application filed August 17, 1931. Serial No. 557,577.

This invention pertains generally to a tray and more particularly to an index card compressor. One defect of devices of the present type has been that the cards cannot be maintained in assembled relationship with the proper pressure holding them together because the slide member which abuts the cards at the rear side of the drawer has not been capable of being held in exactly the desired position. In other words, the rear slide is not capable of being adjusted to exactly a position desired, but could only be adjusted substantially to that position. Moreover, there has been no means for holding the cards under a compressive strain.

In my invention, I not only provide a rear slide plate or member which is capable of being adjusted to an infinite number of positions but I also provide a front plate or member which is spring-pressed against the cards, this front plate cooperating in action with the adjustable rear plate.

Another advantage of my invention resides in the construction of the clutch or gripping means between the rear slide plate and the guiding track upon which the rear plate operates. In this regard it should be noted that the friction roller which engages against the inner side of the guiding channel track member is entirely withdrawn from contact therewith when the finger plate is operated, this finger plate being operated during the movement of the rear slide plate. Thus, the friction roller does not tend to hinder the operation by bearing against the guiding channel track but is out of contact therewith.

Other objects, advantages and meritorious qualities reside in the various elements forming the invention as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein,

Fig. 1 is a perspective view illustrating a drawer equipped with my invention.

Fig. 2 is a cross-sectional view, this view being taken along the plane of the line 2—2 of Fig. 1.

Fig. 3 is a cross-sectional view taken along the line 3—3 of Fig. 2.

Fig. 4 is a rear view of the sliding plate, this view being in cross-section and being taken along the line 4—4 of Fig. 2.

Fig. 5 is a view taken along the line 5—5 of Fig. 4.

Fig. 6 is a view taken along the line 6—6 of Fig. 4, and

Fig. 7 is an inverted plan view taken along the line 7—7 of Fig. 4.

Similar numerals refer to similar parts throughout the several views.

As shown in Fig. 1 of the drawings, a drawer or tray consists of a bottom member 10 bent upwardly at either side thereof to form walls or sides 11 and having an end 12 fastened thereto. The sides 11, at their front ends, extend into the front member 13, this front member 13 having rearwardly extending side walls 14 and rearwardly extending top walls 15. Also, there is a rearwardly extending bottom portion 16, see Fig. 2, which extends underneath the depressed central channel-shaped portion 17 of the bottom member 10. A channel-shaped member 20, see Figs. 2 and 3, is fastened at the rear side of the front plate 13 and a handle member 21 is slidably mounted therein in the manner shown. A leaf spring member 22 is fastened inside of the channel member and its ends extend toward the rear side of the drawer. A box-shaped tab 23 has outwardly extending flanges 24, see Fig. 3, and the leaf spring 22 bears against and tends to push this tab member 23 rearwardly of the drawer. As clearly shown in Fig. 3 the side walls 11 of the drawer prevent excessive movement of the tab member 23 by engagement of the flanges 24 therewith and also strips 25, see Fig. 1, are placed between the rearwardly extending portions 14 of the front member 13 and the sides of the tab member above the side walls 11, these strips being fastened to the portions 14 and hence also aiding in preventing excessive movement of the tab member 23 rearwardly. It will be noted that the tab or abutment member 23 is capable of a limited shifting or universal movement to take care of unsymmetrical cards, as, for instance, cards which have index symbols attached to one side thereof.

The operation of the tab member will now

be apparent. When the cards, designated by the numeral 50, are located in the tray member, the front card is positioned immediately adjacent the tab member 23. This tab member is free to slide forwardly until the flanges 24 abut against the inner side of the member 13 whenever sufficient force is exerted to compress the leaf spring 22. Thus the cards 50 are readily maintained under pressure as desired. The box-like member or tab 23 is cut away and curled downwardly as indicated at 26, see Figs. 1 and 2, thus preventing interference between the tab and the handle member 21.

As previously set forth the bottom member 10 is depressed at 17 and a channel-shaped guide track 30 with outwardly extending flanges 31 is fastened interiorly of the depressed portion 17. A sliding plate 32 has portions 33 which telescope about the flanges 31 and hence a sliding connection is formed between this plate 32 and the track member 30. A bracket member 34 is rigid with the sliding plate 32 and carries the rear slide plate 35, this plate 35 contacting with the rear card in the file. A channel-shaped finger plate 36 is pivoted on the bracket member 34 as clearly shown in Fig. 5.

A lever 37 is pivotally and slidably mounted upon the bottom of the bracket member 34, see Figs. 4 and 6, and this connection is indicated by the reference numeral 38. The lever 37 has an upstanding lug 39 which is adapted to be engaged by the lower portion of the finger plate 36. See particularly Fig. 5. Whenever the upper end of the finger plate 36 is swung rearwardly as indicated by the arrow A, see Fig. 5, the lower portion of the plate 36 will engage the portion 39 on the lever 37 and hence cause movement of the lever.

A friction roller 40 is pivotally mounted upon the other end of the lever 37, the mounting for this friction roller extending through openings through the bracket member 34 and the plate member 32. It will be noted that this opening is in the form of a slot as indicated by the numeral 41. See Fig. 7. An abutment member 42 is located on the bottom side of the sliding member 32 at an angle to the vertical sides of the channel member 30. The roller 40 is positioned directly between the abutment member 42 and one of the vertical flanges on the channel guiding track 30. See Figs. 4 and 7.

The operation of the sliding rear plate 35 will be readily understood. Whenever the finger plate 36 is engaged and pushed rearwardly as indicated by the arrow A in Fig. 5, the lever 37 will be moved so that the roller 40 will be drawn out of engagement with the vertical portion of the channel-shaped member 30 due to the fact that the mounting for the roller 40 engages against the inclined side of the opening 41 and hence pushes the lever 37 bodily and hence draws this roller away from the vertical wall of the member 30 and into engagement with the abutment member 42. Thus, during the movement of the plate 35 to its desired position, the roller 40 will not be in engagement with the member 30 and hence no rotation of the roller will occur and no retarding or interference with easy sliding will occur.

After the plate 35 is in its chosen position, the finger plate 36 is released and the spring 45 engages against the portion 39 on the lever 37 thus causing the parts to assume their normal position whereby the roller 40 again comes into wedging engagement with the track member 30 and thus maintains the rear plate 35 locked in its adjusted position. By suitable adjustment of the plate 35 the front tab 23 may be compressed to exactly the desired extent whereby the cards 50 will be placed under exactly the proper pressure as desired.

Having thus revealed this invention, I claim as new and desire to secure the following combinations and elements or equivalents thereof, by Letters Patent of the United States.

I claim:

1. In a device of the character described, a drawer having a front end member extending upwardly therefrom, a tab member slidably mounted adjacent the front member, yieldable means between the tab member and the front member, a slide plate mounted upon said drawer whereby it may slide to and from the tab member, said slide member and said tab member adapted to receive cards therebetween and means for holding said slide member in any of its many positions.

2. In a device of the class described, a tray having a bottom member and a front member extending upwardly therefrom, a member positioned in slidable relationship to said front member and spaced a slight distance therefrom, spring means between the front member and the last-mentioned member, a plate slidably mounted on the bottom member of the tray and adapted to be moved relative to the member which is yieldably associated with the front of the tray, said plate and said yieldable member adapted to receive cards therebetween, and clutch means for holding the slide plate in any particular one of its several positions.

3. In a tray having a yieldable abutment at one end thereof, the combination of a plate slidably mounted in said tray, said plate being adapted to be moved relative to the abutment, said plate and said abutment being adapted to have cards or the like placed therebetween, and means associated with said plate for maintaining the same in any one of its sliding positions.

4. In a drawer, a guiding track extending lengthwise thereof, a plate slidably mounted

upon said track, a bracket member rigid with said sliding plate, a lever mounted upon said sliding plate, a roller mounted upon said lever and adapted to engage with the track whereby the bracket and its plate is prevented from movement in one direction and means mounted upon the bracket and engageable with said lever for removing the roller from engagement with the track.

5. In combination with a drawer having a track formed therein, a sliding plate mounted upon said track, a bracket member fastened to said sliding plate and extending upwardly therefrom, a lever pivoted upon said sliding plate, a roller pivoted upon said lever, said roller being adapted to engage the sliding track, and a finger plate pivoted upon the said bracket and engaging the lever member whereby the roller may be rendered inoperative.

6. In combination, a guiding track, a slide plate mounted thereon, a lever loosely pivoted upon said plate whereby it may oscillate and also have a slight rectilinear movement, a roller upon the lever, said roller being adapted to engage the track, and means for rotating said lever member whereby the roller is moved from engagement with the track.

7. A device as set forth in claim 6 in which spring means engage the lever member and urge the roller into engagement with the track member.

8. In a device of the type set forth, a tray having a track extending lengthwise thereof, a sliding plate engaged with said track and adapted to move therealong, a bracket member rigid with said sliding plate, a lever having a lug extending upwardly thereon pivotally mounted upon the sliding plate, a roller member pivoted onto the end of the lever and engaging against the track, a finger plate pivoted on the bracket member, said finger plate being adapted to engage the upstanding lug on the lever member whereby the roller is moved in one direction and spring means for urging the roller in the other direction.

9. In combination, a track element, a plate slidably engaged with said track element, said plate having a slot extending at an angle to the track element formed therein, an abutment plate rigidly fastened to the plate, said abutment also being at an angle to the track element, a lever slidably pivoted on the plate, a roller located between said abutment and said track element, means for pivotally mounting the roller upon the lever, said last-mentioned means extending through said slot, and means for moving the lever member in one direction whereby the roller will wedge between the abutment and the track element thereby locking the plate in engagement with the track element and additional means for moving the lever member in the other direction, whereby the mounting means of the roller member will engage the side of the slot thereby withdrawing the roller member from engagement with the track element.

10. The combination with a drawer adapted to receive cards arranged on edge, of two spaced-apart compressing members adapted to receive said cards between them, means for movably mounting one of said compression members for movement toward or away from the other compression member, means for clamping said movable compression member to the position to which it is adjusted, and a yieldable abutment on one of said compression members mounted to yield in a direction opposed to the other compression member, said yieldable abutment being of substantially the same size as the cards and being normally held in parallelism therewith.

11. The combination with a drawer adapted to receive cards on edge, of two compression members spaced apart and adapted to receive said cards between them, means for mounting one of said compression members for movement in a direction toward or away from the other compression member, means for holding said movable compression member in the position to which it is moved, a substantially vertical card-engaging surface on one of said compression members and a yieldable card-engaging abutment on the opposite compression member, said yieldable abutment normally exerting its pressure centrally of the cards and being capable of a limited universal movement.

In testimony whereof I affix my signature.

EARLE C. BULLOCK.