June 17, 1930. J. M. JONES ET AL 1,764,264

TRAY BINDER

Filed Feb. 13, 1928

Fig. 1.

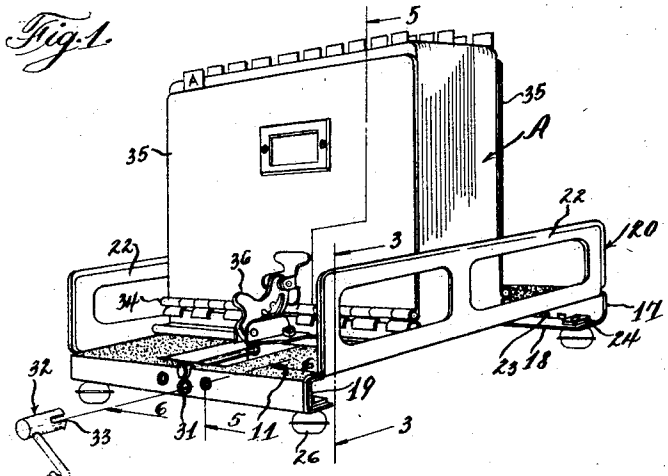


Fig. 8.

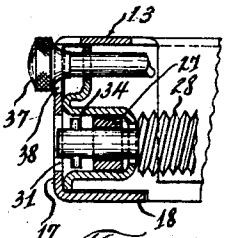


Fig. 2.



Fig. 3.

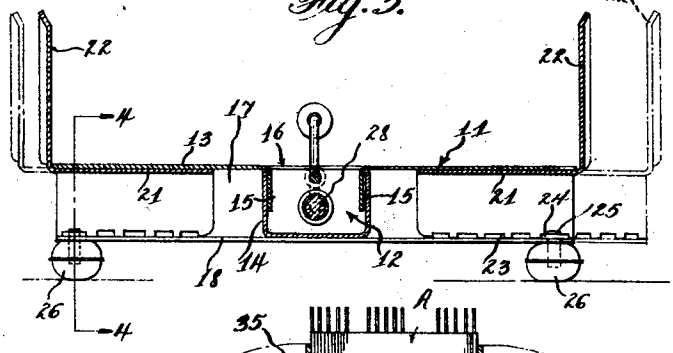


Fig. 4.

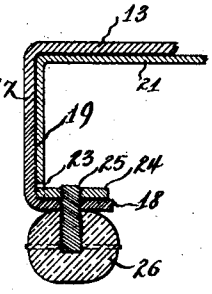


Fig. 5.

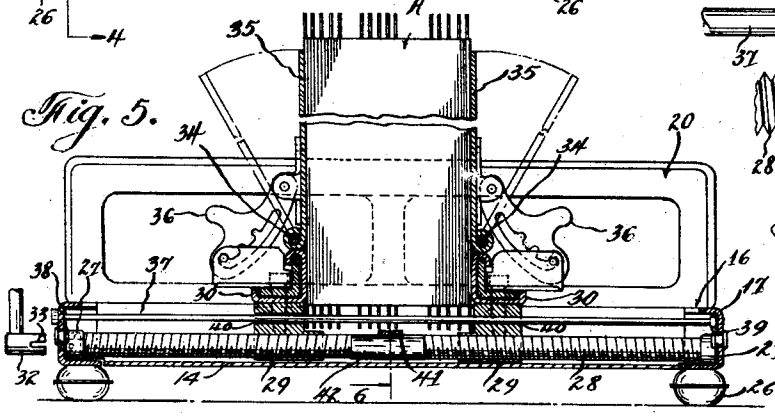


Fig. 7.

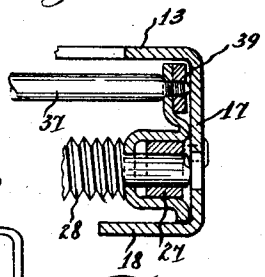
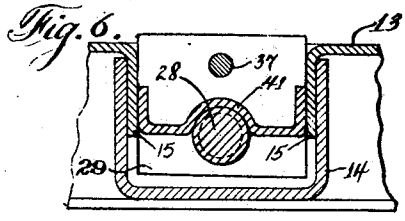


Fig. 6.



Inventors

Jesse M. Jones.

Robert R. Webb.

By Lyon & Lyon

Attorneys

Patented June 17, 1930 1,764,264

UNITED STATES PATENT OFFICE

JESSE M. JONES AND ROBERT R. WEBB, OF LOS ANGELES, CALIFORNIA, ASSIGNORS TO CHARLES R. HADLEY COMPANY, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA

TRAY BINDER

Application filed February 13, 1928. Serial No. 254,020.

This invention relates to tray binders.

One of the principal objects of this invention is to make provision for holding sheets of different widths. Tray binders have been heretofore made with adjustable guide rods that may be moved into different positions, one position close to the edge of the binder end member when the leaves are not offset and another position removed from the ends of the binder end members so as to permit offsetting of the leaves. Such prior tray binders, accordingly, could not take leaves of any materially greater width than those for which the tray binders were originally designed. This invention makes it possible to adjust the tray binder to radically different widths of sheets so that tray binders of one size can be manufactured and carried in stock to meet the demands of a much larger clientele than was possible with the prior tray binders.

Other important objects of the invention are simplicity and inexpensiveness of construction.

Another object is neatness of appearance.

Another object is to provide a construction which is largely punch press work.

Another object is to make it impossible to release the binder leaves without using a properly constructed key wherewith to turn the feed screw.

Other objects and advantages will appear in the subjoined detailed description.

The accompanying drawings illustrate the invention:

Figure 1 is a perspective view of a tray binder constructed in accordance with the provisions of this invention.

Figure 2 is a perspective view of the key which is not shown in Figure 1.

Figure 3 is a sectional elevation mainly on the line indicated by 3—3, Figure 1.

Figure 4 is an enlarged fragmental section on the line indicated by 4—4, Figure 3.

Figure 5 is a longitudinal section of the tray binder on the line indicated by 5—5, Figure 1.

Figure 6 is an enlarged fragmental, vertical section on the line indicated by 6—6, Fig. 5.

Figure 7 is an enlarged sectional detail of the construction at the right end of Fig. 5.

Figure 8 is an enlarged sectional detail of the construction at the left end of Fig. 5.

Referring to the drawings, there is provided a flat support 11 on which the lower edges of the leaves A are adapted to rest. If desired, the upper surface of the support 11 may be roughened to insure against sliding of the leaves along the support when the binder is opened. This roughening may be procured by applying any suitable material or substance to the upper face of the sheet-metal of which the support 11 is constructed. Along its median line, the support 11 is provided with a channel 12. In this instance, the support 11 comprises a main section 13 and a central U-shaped section 14, the opposite sides of which are secured to down-turned flanges 15 of the section 13. The section 13, between the flanges 15, is provided with a longitudinally extending slot 16 which opens into the U-shaped section 14. The sections 13, 14 are preferably made of sheet-metal. The slot 16 is somewhat shorter than the section 13 and the end portions of the section 13 are bent downwardly at 17, thence inwardly at 18 to form transversely extending guides in which are slidably received downwardly projecting flanges 19 of side extension members 20 of the support 11. The extension members 20 each comprises a flat portion 21, that slides beneath the section 13, and an upstanding flange 22. The extension members 20 are also preferably of sheet-metal. In Figure 3 the extension members 20 are shown in their innermost positions in solid lines, thus giving minimum width between the flanges 22 for reception of the binder leaves A, and one of the extension members 20 are indicated in broken lines in position to widen the support 11 for the reception of leaves of a greater width.

Suitable means are provided for adjustably holding the extension members 20 in different positions of adjustment. Although these means may be variously constructed, we have provided, in this instance, the following construction: Each flange 19 is provided

along its lower edge with notches 23 which are adapted to be selectively engaged by a detent 24 mounted on the guide 17. In this instance, the detents 24, of which there are four, are detachably connected with the guides 17 by threaded members in the form of screws 25 which are screwed into the detents 24 that are in the form of nuts. In this instance, the heads 26 of the screws 25 constitute the feet of the tray binder and are preferably made of rubber. To adjust the members 20 to different positions the screws 25 will be unscrewed from the nuts 24 and then the members 20 will be shifted into the desired position. The nuts 24 will then be placed in engagement with the notches 23 that are positioned adjacent to the screws 25 and said screws will be screwed into the nuts to hold them in place.

The guides 17 are provided in line with the channel 12 with bearings 27 in which are mounted the opposite ends of a feed screw 28, a portion of said screw being provided with right-hand threads and another portion with left-hand threads. The threaded portions of the screw 28 are screwed through feed blocks 29 which are secured to clamping members 30. The feed blocks 29 are approximately of the same width as the channel 12 between the flanges 15 so as to be guided by the walls of said channel. This eliminates the use of the pair of rods disclosed in Canadian patent No. 264,657, issued to Charles R. Hadley and issued September 28, 1926.

One of the guides 17 is provided in alignment with the screw 28 with an orifice 31 into which can be inserted a key 32 constructed in the form of a crank, the key being provided with slots 33 to engage a pair of laterally projecting shoulders 34 on the screw 28. The shoulders 34 lie within the orifice 31 and, accordingly, the screw 28 can not be turned excepting by inserting the key 32 in said orifice.

Hinged at 34 to the clamping members 30 are end members 35 which serve to hold the leaves A in vertical position or to hold said leaves aslant, in a manner well understood in this art, so that the entries on said leaves can be read off. An adjustable means, indicated at 36, is provided for adjustably positioning each of the end members 35. These adjustable means will not be described in detail herein, since they have been fully disclosed in the prior patent mentioned above.

To use the invention, if it be desired to remove or replace any of the leaves A, the key 32 will be applied to the screw 28 and turned in the appropriate direction to effect movement of the blocks 29 away from one another, thus unclamping the leaves between the clamping members. If it be desired to place in the tray binder leaves of greater width than the width of the section 13, the extension members 20 will be released and slid outwardly to the required positions and then locked in those positions, as hereinbefore described. It is to be understood that this may be done, even though the leaves project beyond the side edge or edges of the end members 35. However, if desired, end members and clamping members of a width to correspond with the width of the leaves A may be substituted for the narrower ones and it is preferable to do this if the extension members 19 are opened out to any very great extent, in order to properly protect the leaves when the end members 35 are in closed position.

A guide-locking rod 37, of a character well understood in this art, may be provided to extend lengthwise in the channel 12. One end of the rod 37 passes through a hole 38 in one of the guides 17 and the other end of said rod 37 is threaded into a nut 39 secured in any suitable manner to the inner surface of the other guide 17. The rod 37 passes through holes 40 in the blocks 29.

To insure against upward springing of the middle portion of the screw 28, that may result from tightly clamping the lower margins of the leaves A, we preferably provide a half-bearing 41 engaging the upper half of the smooth portion 42 of the screw 28. The half-bearing is welded or otherwise secured to the flanges 15.

We claim:

1. A tray binder comprising a support provided with a laterally adjustable extension member, a means including a foot to secure the extension member in different positions of adjustment, clamping members, a means on the support to move one of the clamping members toward the other, and end members mounted on the clamping members.

2. A tray binder comprising a support including a sheet-metal section, said section having a median slot, blocks in the slot, a means to move one of the blocks toward the other, and end members connected with the blocks.

3. A tray binder comprising a support formed of sheet-metal sections, one of the sections having a median slot and having downwardly projecting flanges at the sides of the slot, another of the sections being U-shaped and having its legs attached to the flanges and extending beneath the slot, blocks in the U-shaped section slidably engaging the side walls thereof, a means in the U-shaped section to move one of the blocks toward the other, and end members connected with said blocks.

4. A tray binder comprising a support formed by sheet-metal sections, one of the sections having its end portions bent downwardly to form guides, another of the sec-

tions provided with downwardly projecting flanges slidably fitting inside of the guides, the last-mentioned section provided with upstanding flanges, both sections provided with flat portions, one sliding beneath the other, and releasable cooperating means on the sections to hold them against relative movement.

5. A tray binder comprising a support including slidably connected sections, cooperating means on the sections to hold them against relative motion, said means including screws provided with heads that project downwardly to function as feet for the support.

6. A tray binder comprising a support having downwardly extending end portions provided with bearings, a screw having its opposite ends mounted in said bearings, one of said downwardly extending end portions provided with an orifice in alignment with the screw, the screw provided with a shoulder positioned in the orifice and with right and left hand threads, a detachable key insertable in the orifice, said key provided with a slot to engage said shoulder, blocks engaged by the right and left screw threads respectively, and end members connected with the blocks.

7. A tray binder comprising a support formed of sheet-metal sections, two of said sections having flat portions, one sliding beneath the other, said sections being slidably connected, the section having the under-sliding portion provided with an upstanding flange forming one side wall of the support, another flange on the support to form the opposite side wall of the support, and releasable cooperating means on said sections to hold them against relative movement.

Signed at Los Angeles, California, this 2nd day of February, 1928.

JESSE M. JONES.
ROBERT R. WEBB.