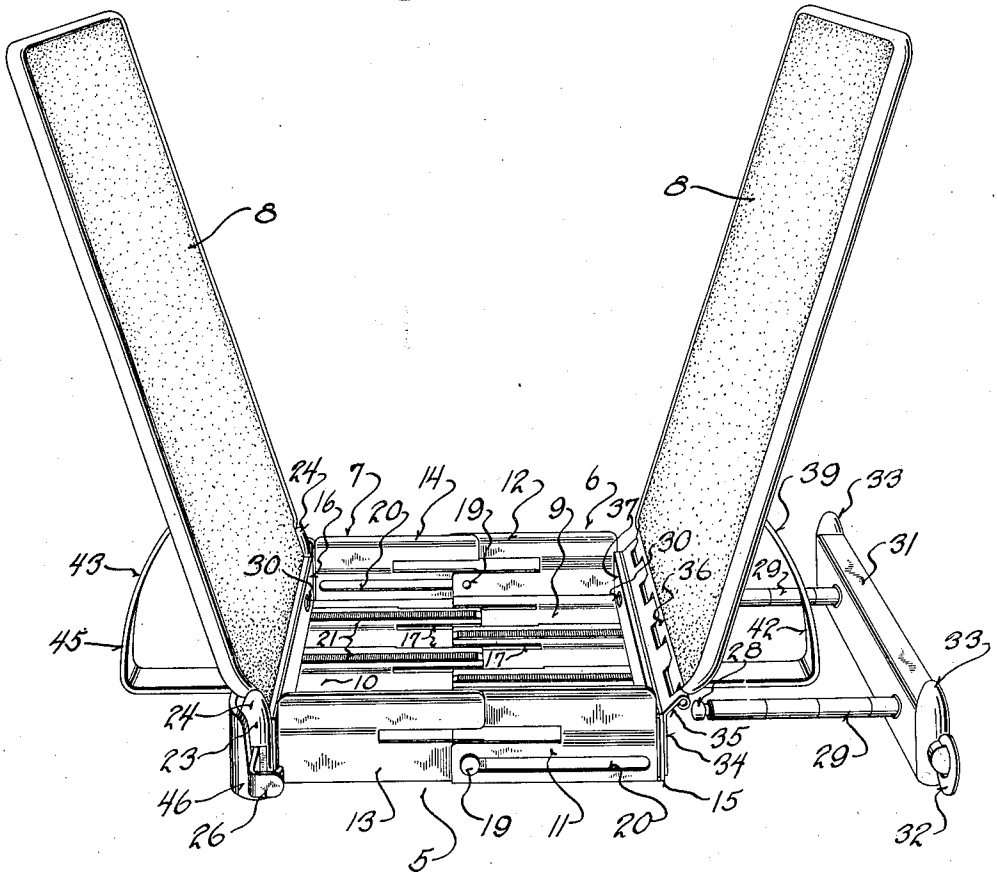
Sept. 11, 1934. A. G. LOTTER 1,973,174

LOOSE LEAF BINDER

Filed March 10, 1934 3 Sheets-Sheet 1

Fig. 1.



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Sept. 11, 1934. A. G. LOTTER 1,973,174

LOOSE LEAF BINDER

Filed March 10, 1934 3 Sheets-Sheet 2

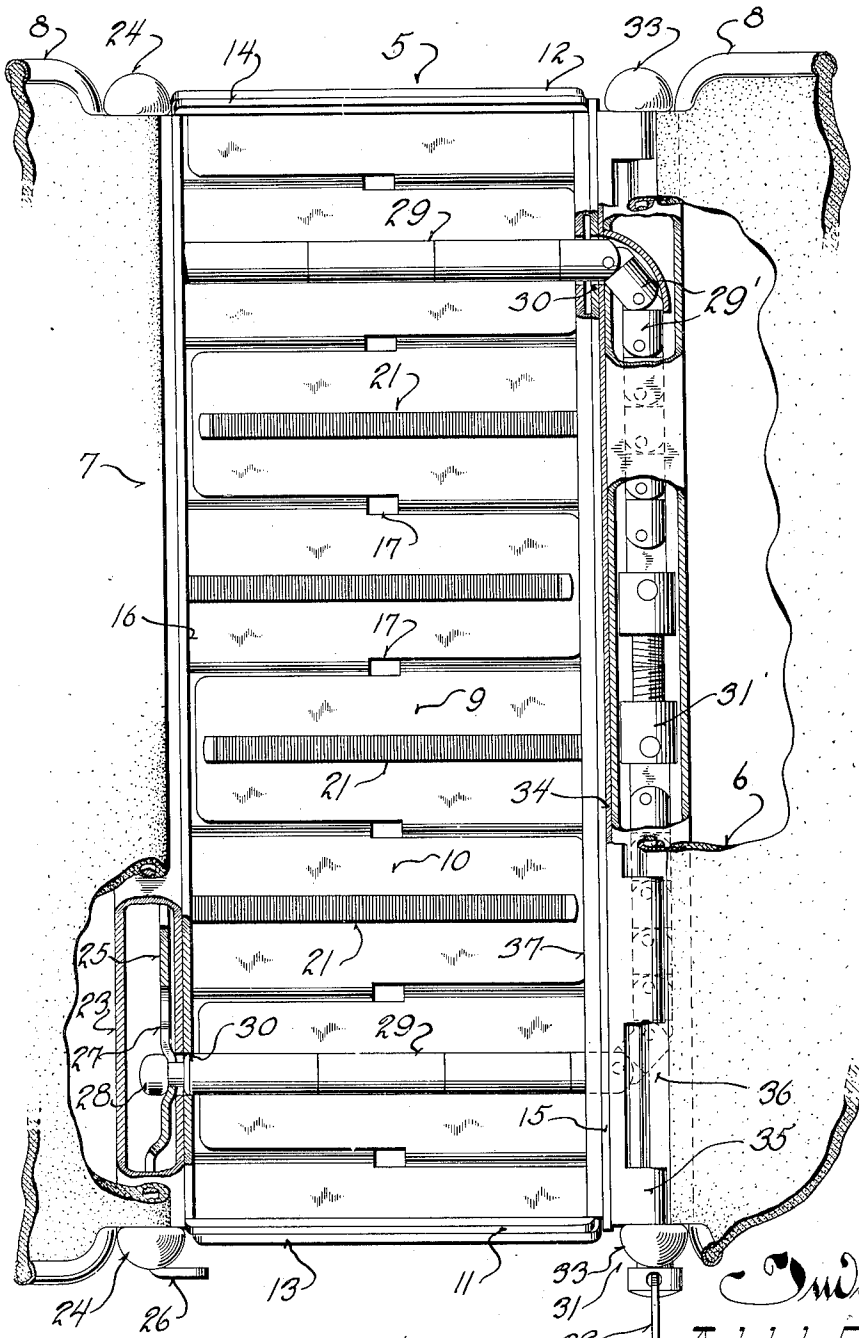


Fig. 2.

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Sept. 11, 1934. A. G. LOTTER 1,973,174

LOOSE LEAF BINDER

Filed March 10, 1934 3 Sheets-Sheet 3

Fig. 3.

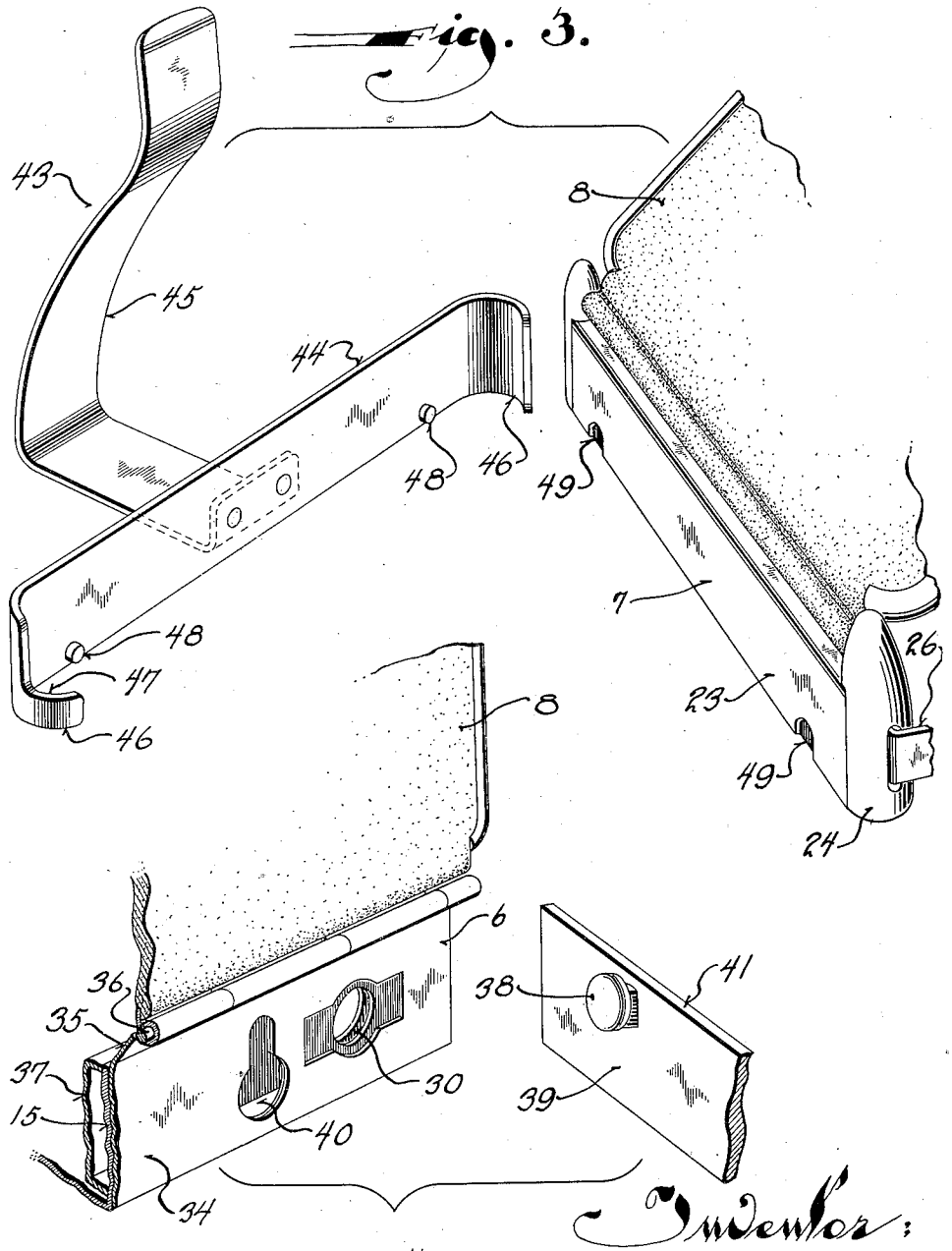


Fig. 4.

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Patented Sept. 11, 1934

1,973,174

UNITED STATES PATENT OFFICE

1,973,174

LOOSE LEAF BINDER

Adolph G. Lotter, Milwaukee, Wis., assignor to Stationers Loose Leaf Company, Milwaukee, Wis., a corporation of Wisconsin

Application March 10, 1934, Serial No. 714,906

6 Claims. (Cl. 129—1)

This invention relates to new and useful improvements in loose leaf binders and refers more particularly to loose leaf ledger books used with machine bookkeeping.

In machine bookkeeping, it is desirable to provide some means to hold the ledger sheets in a manner permitting rapid access thereto, so that the operator can quickly remove any sheet, perform the necessary posting and replace the same in its proper position. Heretofore, in the posting of accounts in this manner, posting trays were generally used, but at the present time, loose leaf ledgers, because of their greater convenience, are replacing the cumbersome posting trays.

These loose leaf ledgers have been arranged for use with posting stands which hold the ledgers so that its leaves are held in an upright position. An example of a loose leaf ledger equipped for posting in this manner is illustrated in Patent No. 1,751,553, issued to A. G. Lotter, March 25, 1930. This patent represents the general type of loose leaf ledger for posting purposes.

In the loose leaf ledger of the aforesaid patent and in other ledgers heretofore proposed for this type of work, the leaves are retained by binder posts which pass through aligned apertures in the leaves. To permit the engagement of the leaves with the posts, the leaves have slits providing entrances to their post holes.

In using this past type of binder, difficulty is experienced in re-inserting the sheets, as the placing of the leaves on the posts requires considerable time. To overcome this disadvantage, devices have been proposed in which the binder posts are entirely removed during the posting operation, as in the Patent No. 1,866,966, issued to R. Connor et al., July 12, 1932. Devices of this type, however, require a complicated and cumbersome posting stand for the reason that when the binder posts are removed, nothing remains to hold the leaves in place.

With these and other objectionable features of existing loose leaf ledgers of the character described in mind, this invention has as one of its objects to provide a loose leaf ledger suitable for machine bookkeeping, which is so constructed that in itself, it provides the equivalent of a posting tray, holding the leaves in a proper upright position even though the binder posts are entirely removed to permit ready insertion and removal of individual leaves.

Another object of this invention is to provide a loose leaf ledger construction suitable for the purpose set forth in which supporting brackets readily attachable to the separable sections of the binder are provided to hold the covers in an upright position, the supporting brackets being so attached to the binder sections as to permit rapid opening and closing of the binder by applying force directly to the brackets.

Another object of this invention resides in the specific manner of attaching the supporting brackets to the binder sections.

Another object of this invention is to provide a binder of the character described in which removable binder posts are extensibly carried by a detachable binder head to be readily removable from the binder as a unit and to provide the means for drawing the binder heads together to hold the leaves in place.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

In the accompanying drawings, I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a perspective view of a loose leaf ledger constructed in accordance with this invention, said view showing the ledger supported in an open position ready for posting;

Figure 2 is a top plan view with portions broken away and in section, showing the inside of the binder head;

Figure 3 is a perspective view of one of the supporting brackets and the binder head to which it is attachable; and

Figure 4 is a perspective view illustrating a portion of the other binder head and the other supporting bracket to show the detailed manner of detachably connecting the same.

Referring now more particularly to the accompanying drawings in which like numerals indicate like parts throughout the several views, the numeral 5 represents the back of the loose leaf ledger which is composed of two separable sections 6 and 7, each of which carries a cover 8. The back sections 6 and 7 have respectively, bottom walls 9 and 10, end walls 11 and 12, and 13 and 14 respectively, and side walls 15 and 16 respectively.

The bottom walls 9 and 10 are slitted at spaced

intervals as at 17 and are offset in line with their slits 17 to provide alternately raised and lowered wall portions. The arrangement of the raised and lowered portions of the two sections is such that they interengage with each other; and the length of the slits 17 is sufficient to permit a degree of expansion substantially equal to the full width of one of the binder sections. By virtue of this interengagement of the bottom walls, the composite bottom wall formed by the two separable sections is substantially flush both on its inside and outside.

The degree of separation afforded the binder sections is defined by the engagement of stop pins 19 carried by the end walls 12 and 13, in elongated slots 20 formed in the end walls 11 and 14.

Serrated bars 21 are secured to the inner surface of the binder section bottom walls 9 and 10 to aid in holding the leaves in an upright position during the posting operation.

The side wall 16 of the binder section 7 has a conventional hollow binder head 23 rigidly secured thereto by rivets or spot welding. The ends of this hollow binder head carry hinge lugs 24 from which the cover 8 is hingedly mounted in the conventional manner.

Disposed within the hollow binder head 23 is a slide bar 25 having a handle 26 projecting from one end of the head to permit the bar to be slid longitudinally. Near its ends the bar 25 has key-hole slots 27, only one being shown, to engage over the headed ends 28 of the binder posts 29.

The binder posts 29 enter the hollow binder head 23 through aligned openings 30 in the side wall 15 of the binder section 6 and the wall 16 of the other section 7 and the adjacent wall of the hollow binder head. The binder posts 29 are of sectional construction to permit lengthening and shortening thereof as required by the contents of the binder and have flexible inner end portions 29' projectable from and retractible within a detachable binder head 31 by take-up mechanism 31' disposed within the head and operable by a key 32.

The specific construction of the take-up mechanism within the binder head 31 forms no part of this invention and is, therefore, merely indicated. Any suitable take-up mechanism may be employed and if desired, a mechanism similar to that shown in the aforesaid Patent No. 1,751,553, may be used.

It is observed that the detachable binder head 31, although it is equipped with end lugs 33 similar in appearance to the hinge lugs 24 of the binder head 23, does not carry the other cover 8. This cover is hingedly connected to the side wall 15 of the binder section 6. If desired, the side wall 15 itself may be extended to provide hinge lugs from which the cover is supported, or as in the present instance, a separate plate 34 having an angularly directed edge portion 35 from which the cover is hinged, as at 36, may be secured to the side wall 15.

Secured to the inner surface of the side wall 15 of the binder section 6 is a channel-shaped cover plate 37, which provides a cover for headed studs 38 carried by a supporting bracket 39 and engageable in key-hole slots 40 cut in the side wall 15 and the plate 34 secured thereto. The interengagement of the headed studs 38 in the key-hole slots 40, enables the supporting bracket to be readily detachably secured to the binder section 6.

The supporting bracket 39 comprises a horizontal bar 41, which carries directly the headed studs 38, and an upright arm 42 secured to the bar 41 with a portion extending laterally therefrom to rest on the binder supporting surface, and its extremity bent upwardly to support the adjacent cover 8.

The other cover is supported in an upright position as illustrated in Figure 1, by a second supporting bracket 43 readily detachably engageable with the binder head 23. This supporting bracket 43 is similar in construction to the bracket 39, having a horizontal bar 44 and a laterally and upwardly bent section 45 secured thereto. The manner of attaching the bar 44 to the binder head differs from that employed in the other supporting bracket. In this instance, the extremities of the horizontal bar 44 are curled inwardly as at 46 to engage over the ends of the binder head and hold the bracket against lateral movement with respect thereto. One of the curled ends 46 is cut away as at 47 to accommodate the actuator 26.

At spaced points, the horizontal bar 44 has two lugs or projections 48 extending inwardly therefrom to engage in notches or recesses 49 in the adjacent wall of the binder head 23, whereby relative vertical motion between the bracket and the binder head is limited in an upward direction. Attachment of the bracket must thus be effected from the bottom.

With the supporting brackets 39 and 43 attached to the two separable sections of the binder to support their covers in an upright position as illustrated in Figure 1, the binder may be used in a manner similar to a posting tray, and as will be readily apparent, the binder sections may be quickly spread apart or collapsed merely by grasping the two supporting brackets and moving them apart or toward each other. It is, of course, understood that prior to the engagement of the bracket 39 with the section 6, the detachable binder head 31 and the posts 29 are removed.

From the foregoing description taken in connection with the accompanying drawings, it will be readily apparent to those skilled in the art, that this invention affords a novel loose leaf ledger and posting tray combination and that the ledger or binder, when not opened to permit posting operations, resembles in every respect a conventional loose leaf binder having all of its advantages.

It is also evident that when opened up to permit posting, the device has all the convenience of a posting tray and permits as rapid work as is possible with such trays because the binder posts are entirely removable and thus obviate slitted holes in the leaves and the necessity for applying each individual leaf over the posts, and also by reason of the fact that the binder sections themselves form the equivalent of a posting tray and are readily extensible and collapsible.

What I claim as my invention is:

1. A loose leaf binder suitable for posting, comprising complementary binder sections, means to adjustably connect the binder sections to form a back of adjustable width for the binder, said sections being so formed as to provide a tray to receive the edge portions of a body of leaves when the binder is supported flat on its back, a removable hollow binder head having take-up mechanism therein, binder posts projectable from and retractible into the removable head, said posts being insertable through holes in opposed walls of the complementary sections with the removable head outside the wall of one section, and means to detachably secure the free end

portions of the posts to the other section, whereby the sections may be drawn together by retraction of the posts within the hollow binder head, and whereby the posts upon detachment from said second designated section are entirely removable so as not to interfere with insertion and removal of leaves during posting.

2. A loose leaf binder suitable for posting, comprising complementary binder sections, means to adjustably connect the binder sections to form a back of adjustable width for the binder, said sections being so formed as to provide a tray to receive the edge portions of a body of leaves when the binder is supported flat on its back, a removable hollow binder head having take-up mechanism therein, binder posts projectable from and retractible into the removable head, said posts being insertable through holes in opposed walls of the complementary sections with the removable head outside the wall of one section, means to detachably secure the free end portions of the posts to the other section, whereby the sections may be drawn together by retraction of the posts within the hollow binder head, and whereby the posts upon detachment from said second designated section are entirely removable so as not to interfere with insertion and removal of leaves during posting, and means connectable to the complementary sections to support the covers in an upright position for posting.

3. In a loose leaf binder, two binder sections forming a back for the binder, covers hingedly connected with said sections, a binder head entirely separate from said sections, and carrying post take-up mechanism, posts extensibly connected with said binder head, said posts being insertable through holes in one of said binder sections with said head bearing against the outside of said binder section, and means to connect the end portions of the posts with the other binder section, whereby said posts provide means to draw the binder sections together, and whereby said posts are entirely removable from the binder sections to facilitate insertion and removal of leaves.

4. In a loose leaf binder, two sections, means to adjustably connect the sections so that they form a back for the binder, covers hingedly connected with the sections, a hollow binder head attached to the outside of one of the sections, a second hollow binder head entirely independent of the sections but engageable with the other section, said second hollow binder head having post take-up mechanism therein, binder posts projectable from and retractible within said second designated binder head and insertable through holes in opposed walls of the sections so that the ends thereof project into the first designated hollow binder head and the second binder head is held in engagement with the adjacent section, and means within the first designated hollow binder head to detachably grip the end portions of the posts, whereby the posts provide means for drawing the binder sections together and whereby upon release of the ends of the posts, said posts and the second designated binder head are entirely detachable from the binder to facilitate insertion and removal of leaves.

5. A supporting bracket for loose leaf binders to hold a cover thereof in an upright position, comprising, a bar having its ends curled inwardly to embrace the end portions of one of the heads of the binder, a laterally and upwardly projecting member attached to said bar to engage a support upon which the binder rests and extend upwardly to hold the cover, and means to prevent accidental detachment of the curled ends of said bar from the binder head.

6. A supporting bracket to hold the cover of a loose leaf binder in an upright position for posting purposes comprising, a longitudinal bar having its end portions curled inwardly to embrace the ends of a head of said binder, means carried by said bar and projecting laterally therefrom to engage a support upon which the binder rests and to extend upwardly and provide a support for the cover, and means on said longitudinal bar engageable with portions of the binder head to prevent upward movement of said supporting bracket with respect to the binder head to thereby preclude accidental detachment of the bracket and necessitate lifting of the binder head from its support to permit attachment and detachment of the bracket.

ADOLPH G. LOTTER.