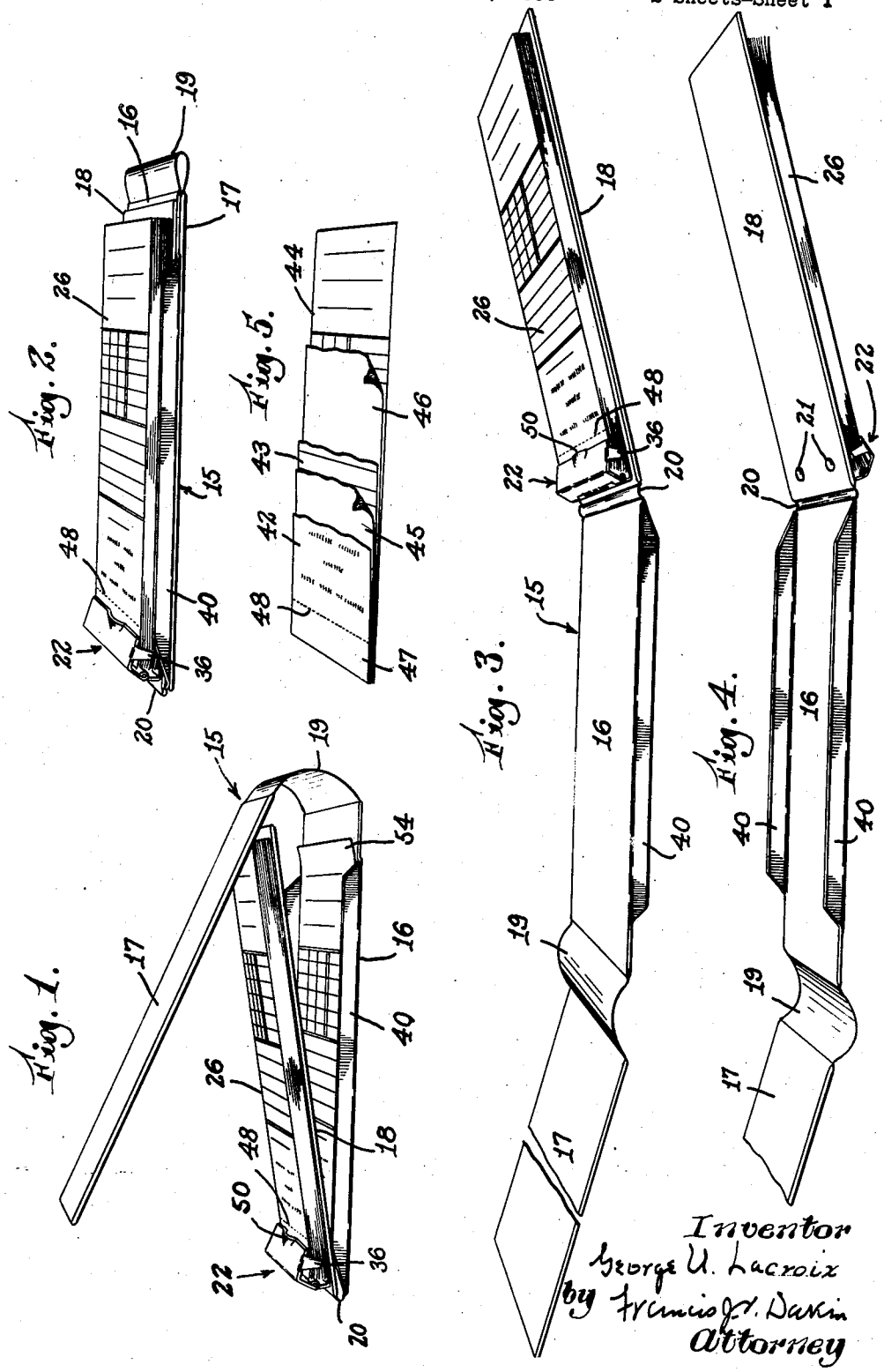
April 9, 1940. G. U. LACROIX 2,196,465

MANIFOLDING BOOK

Filed Oct. 3, 1938 2 Sheets-Sheet 1




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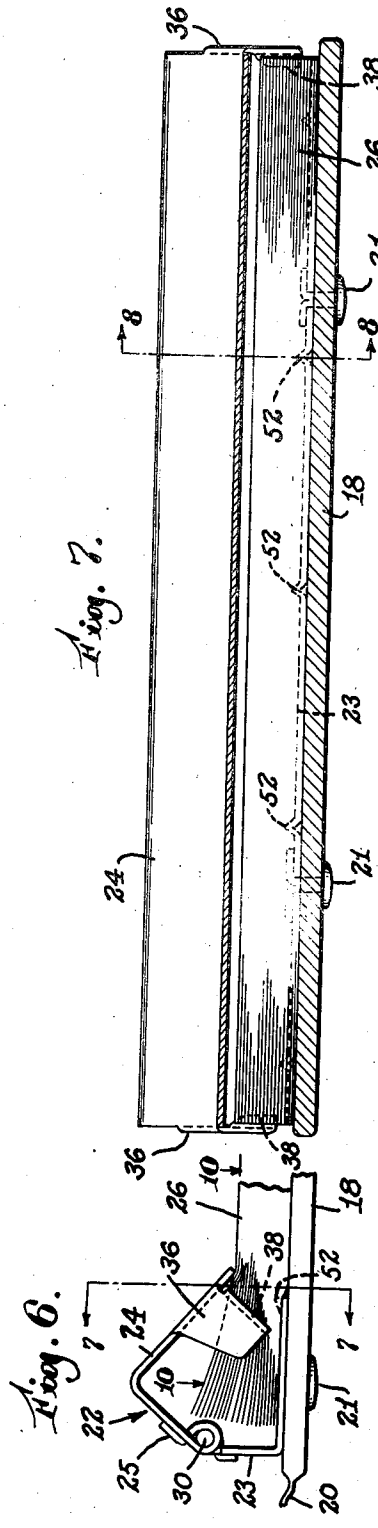


Fig. 7.

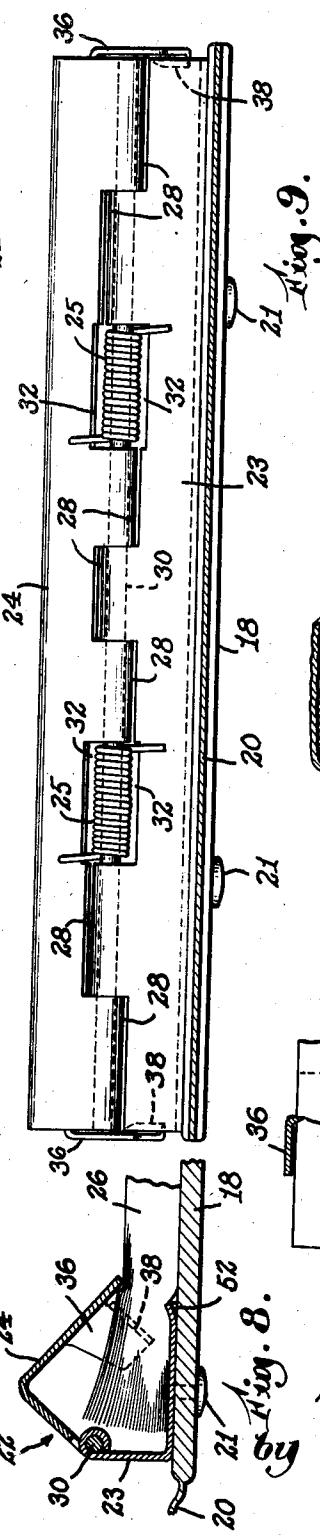


Fig. 9.

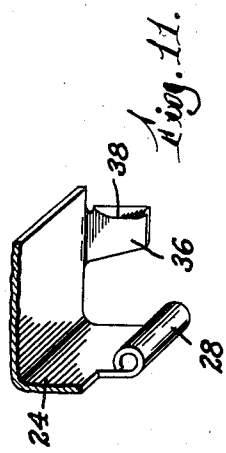


Fig. 11.

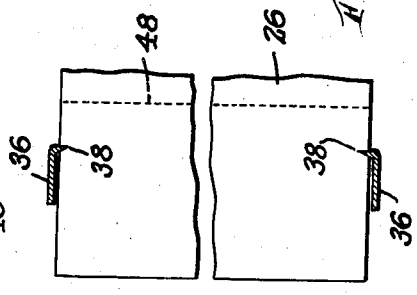


Fig. 10.



Fig. 6.



Fig. 8.

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# UNITED STATES PATENT OFFICE

2,196,465

## MANIFOLDING BOOK

George U. Lacroix, Waltham, Mass.

Application October 3, 1938, Serial No. 233,019

9 Claims. (Cl. 281—44)

My invention relates to manifolding books and particularly to that class of manifolding books comprising a cover or holder and means for holding therein a separable or removable pad or body of leaves, such as is used for sales books, order books, and similar purposes, in which the covers are used continuously and the pads renewed when used up.

Heretofore, such covers have been provided with means such as a clamp, for holding the stub end of the pad or body of leaves in the cover, the leaves being generally perforated outside the clamp for permitting them to be separated from the stub end without disturbing the clamp. When the pad or body of leaves is made up of separate sets, each set comprising a plurality of leaves with interleaved carbon sheets all fastened together to form a unit, considerable difficulty has been experienced in mounting such pads or bodies of leaves in the clamps or other holding devices now in use, for the reason that after the top set has been written upon, its withdrawal from the clamp as a unit tends to pull out from the clamp those sets immediately underlying it. This difficulty can, of course, be obviated by lifting up the free end of the top set and holding the remaining sets firmly to that part of the cover upon which they are mounted, and then pulling the top set from the clamp. This operation, however, requires much care and consumes time, because the grip must be positioned close to the stub end, otherwise, the stub ends of the underlying sets will be pulled out.

The main object of my invention is the provision of a manifolding book provided with holding means adapted to retain in clamped position a plurality of separate sets of forms or leaves assembled together to form a pad, yet to permit the withdrawal of the uppermost set from the holding means without disturbing the underlying sets.

Another object of the invention is the provision of holding means so formed that the topmost unit set of leaves may be withdrawn by a mere pull on the free end of the set without requiring any holding of the underneath sets.

Other objects of the invention will be more specifically set forth and described hereinafter.

In its preferred embodiment, my invention contemplates in a pad-holding device two members hinged together with resilient means for holding them in closed position, one of said members being adapted to be permanently fastened to the cover and the other of said members being provided with means for biting into the opposite side edges of one end of a pad of leaves, yet permitting the topmost set in each case to be freely withdrawn from the clamp by a pull without disturbing the remaining sets. Preferably, this is accomplished by providing the upper member with downwardly turned end portions, each carrying an inwardly turned, thin, sharp edge or fin adapted to bite into the side edge of the pad. The fins are inclined, in an upward direction, toward the free end of the pad and terminate short of the bottom face of the upper member to leave a space through which the topmost set of leaves may be withdrawn. As a result of this construction, any pull on the bottom end of the topmost set of forms in the pad tends to raise the stub end of said set along the inclined fin and off its upper end into the clear space between said upper end and the inner face of the upper member of the clamp, whereupon the set may be removed from the clamp without disturbing the remainder of the pad.

In the accompanying drawings illustrating the preferred form of my invention, there is shown a manifolding book made in accordance therewith, in which—

Figure 1 is a side view in perspective of the book, showing the parts in partially opened position;

Fig. 2 is a similar view, with the parts in folded position and the pad exposed for writing;

Fig. 3 is a similar view, with the parts in open extended position;

Fig. 4 is a similar view of the manifolding book in reversed position, with the parts fully extended;

Fig. 5 is a side perspective view of a unit set of forms, with portions of the leaves broken away to show the formation of the set;

Fig. 6 is a side elevation on an enlarged scale of portions of the cover and pad and the pad-holding device fastened thereto and in pad-holding position;

Fig. 7 is a transverse, sectional view on line 7—7 in Fig. 6;

Fig. 8 is a longitudinal, sectional view on line 8—8 in Fig. 7;

Fig. 9 is an elevation looking from left to right in Fig. 6;

Fig. 10 is a diagrammatic view of the stub end of a pad in plan and showing the gripping fins in section; and

Fig. 11 is a perspective view of one end of the upper clamping member looking from below.

Referring to the drawings, 15 designates generally the holder or cover of the book, which may

be made of any suitable form and of various materials, such as cardboard, leather or cloth, or of metal plated or finished or covered with leather. As shown, the cover is of triplicate form, having a center leaf 16 and end leaves 17 and 18 hinged to the center leaf by flexible hinges 19 and 20 of any suitable construction; but it may be of duplicate form, or a single leaf may be used as a support for the pad.

The pad holding device or clamp, designated generally as 22, comprises a lower member 23, adapted to be permanently fastened to one of the leaves of the cover by rivets 21, and an upper member 24 hinged thereto. One or more springs 25 serve to hold the two members in closed position for gripping between them the end of a pad of leaves 26.

The two members 22 and 23 preferably correspond in length to the width of the pad to be held, but may be made in any suitable form and of any suitable material such as thin metal. In the form shown in the drawings, each of the members is right-angled in cross-section, and on its hinged edge is provided with a plurality of spaced apart knuckles 28 (Fig. 9) adapted to mesh between similar knuckles on the other member to receive a hinge pin 30. Along the hinged edges, the two members may have registering cut-out portions or recesses 32, in which the springs 25 may be mounted on the hinge pin 30 for holding the members closed.

On each end adjacent its free longitudinal edge, the upper member 24 is provided with a downwardly turned portion 36 having an inwardly turned sharpened edge or fin 38 (Fig. 11) adapted to penetrate one side of a pad inserted in the clamp to hold it against withdrawal. Preferably, the portion 36 is in the form of an ear adapted to engage the side of the pad and the fin is formed on the forward edge thereof. Each fin is spaced at its upper end from the inner face of the upper member 24 a distance sufficient to permit a unit set of leaves to be withdrawn from the clamp.

When a pad is inserted in the clamp, as shown in Figures 6 and 8, the fins 38 are, in a downward direction, slanted toward the back of the hinge so that any pull on the topmost leaf or leaves causes the stub ends of those leaves to ride upwardly on the fins and off their upper ends, which releases the leaves for withdrawal. To attain this result, the fins must be inclined in the manner described. In the form of clamp shown, the fins are perpendicular to that part of the clamp on which they are mounted which is permissible when the height of the clamp is somewhat greater than the thickness of the pad, since in closed position, the fins are so inclined. If, however, the height of the clamp more nearly conforms to the thickness of the pad, the fins will have to be oblique in relation to that portion of the upper member 24 by which they are carried, in order to secure the proper inclination for withdrawal of the top leaves of the pad.

The clamp may be fastened in various positions in the cover, but in the form shown, it is fastened to the hinged end of the leaf 18, so that when that leaf is folded over upon the center leaf 16, as shown in Figure 2, the clamp and pad are uppermost and the pad is exposed for writing. In such position, the leaf 17 is turned over in engagement with the bottom face of the center leaf. This latter leaf may be provided with upwardly turned side flanges 40 within which the leaf 18 is nested and held against lateral movement.

Although the clamp may be used for holding any kind of a pad, it is particularly adapted for those pads made up of a loose assemblage of separate leaves or sets of leaves which are intended to be withdrawn in their entirety from the clamp instead of being torn off a stub held by the clamp. When the pad is made up of sets of leaves, each set generally comprises a plurality of record leaves with one or more interleaved transfer or carbon leaves, all fastened together at one end and adapted to be handled as a unit. In Figure 5 of the drawings, such a set is shown comprising three record leaves 42, 43 and 44, with two interleaved carbon leaves 45 and 46, all fastened together, at one end, by pasting or otherwise, to form a stub 47. The leaves may be provided with registering weakened or perforated lines 48, permitting them to be detached from the stub.

In preparing the book for use, the cover is opened up, as shown in Fig. 2, and a suitable pad is inserted in the clamp 22 by raising the upper member through the medium of the finger grip 50, after which the stub end of the pad is inserted in between the two members of the clamp. The upper member is then released and the springs cause it to close upon the pad and the fins to bite into the opposite sides of the stub end of the pad, as shown in Fig. 10. The fins do not extend the entire thickness of the pad, but engage only the upper portion thereof. The free edge of the lower member may be provided with a plurality of struck-up points 52 adapted to penetrate the bottom face of the pad for holding the bottom leaves against withdrawal from the clamp; but these are not absolutely necessary, since the pressure exerted on the pad by the free edge of the upper member is sufficient for holding the pad firmly within the clamp.

In the use of the book, the leaf 17 is turned back, exposing the top of the pad for writing. Whether it is turned over into engagement with the bottom face of the center leaf 16 or is inserted in the pad between the leaves which are to be impressed with writing and the leaves underneath, depends upon the character of the pad. If all the record leaves in the pad are of thin material, interleaved with carbon sheets, the leaf 17 should be inserted between the top leaves which are to be impressed with writing, that is, the top leaf, and such additional copies as are to be made, and the leaves underneath, in order to prevent the writing from being carried through onto the underneath leaves. The leaf 17 serves as a stiff support to prevent this. If, however, the bottom record leaf 44 in each set is made of paper, such as tag-board, which is of sufficient thickness to prevent the writing from being reproduced on the underneath set, then it is unnecessary to insert the leaf 17 in the pad, and it may be turned over into engagement with the bottom face of the center leaf 16.

After the writing on the topmost leaf has been completed, that leaf and the copies may be removed from the clamp by merely exerting a pull on the free ends of the leaves. This pull causes the top ends of the leaves to travel upwardly on the fins and off their upper ends, releasing them for withdrawal from the clamp. This in no wise disturbs the underneath leaves which are held downwardly on the fins by the free, longitudinal edge of the upper member, the pressure of which edge, however, offers no appreciable resistance

to the pull exerted on the ends of the top leaves. Any copies retained by the user of the book may be filed temporarily between the leaves 12 and 16, as illustrated by the leaf 54 in Figure 1, the flanges 40 serving to hold the filed copies securely between those two parts of the cover.

It will be observed that in a book made in accordance with my invention, the used leaves may be removed very rapidly by a mere pull without disturbing the remaining leaves of the pad. This eliminates entirely the difficulties heretofore experienced in removing used leaves from manifold books in which the pads are made up of loosely assembled leaves or sets of leaves, and thereby saves much time and labor on the part of the user.

It is to be understood that my invention is not to be limited to the specific form herein shown and described, since it may be embodied in various other forms within the purview of the following claims.

What I claim is:

1. A clamp for holding a pad of leaves comprising lower and upper members hinged together and a spring for closing said members upon the end of said pad inserted between them, said upper member having on each end a downwardly turned portion provided with a fin adapted to penetrate one side of said pad, said fins being, in a downward direction, inclined toward the back of said clamp for permitting the top leaf or leaves of said pad to be pulled from said clamp without disturbing the underneath leaves.

2. A clamp for holding a pad of leaves comprising lower and upper members hinged together and a spring for closing said members upon the end of said pad inserted between them, said upper member having on each end a downwardly turned portion provided with an inwardly turned fin adapted to penetrate one side of said pad, said fins being when in use oblique with respect to the leaves of said pad.

3. A clamp for holding a pad of leaves comprising lower and upper members hinged together and a spring for closing said members upon the end of said pad inserted between them, said upper member having on each end a downwardly turned ear adapted for engaging one side of said pad and provided with an inwardly turned fin having a free upper end and adapted to penetrate the side of said pad, said fins being, in a downward direction, inclined toward the back of said clamp for permitting the top leaf or leaves of said pad to be pulled from said clamp without disturbing the underneath leaves.

4. A clamp for holding a pad of leaves comprising lower and upper members hinged together, said lower member being adapted to be fastened to a suitable support, and a spring for closing said members upon the end of said pad inserted between them, said upper member having on each end a downwardly turned ear provided with a fin adapted to penetrate one side of said pad, said fins being, in a downward direction, inclined toward the back of said clamp and being free at their upper ends for permitting the top leaf or leaves of said pad to be pulled from said clamp without disturbing the underneath leaves.

5. A clamp for holding a pad of leaves comprising a base adapted to be fastened to a suitable support, a clamping member hinged thereto and a spring for holding said clamping member closed, said clamping member having on each end a downwardly turned ear adapted to engage one side of said pad, each of said ears having an inwardly projecting, sharpened fin adapted for penetrating the side of said pad, said fins being oblique and having their upper ends spaced from the inner face of said clamping member for permitting the top leaf or leaves of said pad to be pulled from said clamp without disturbing the underneath leaves.

6. A clamp for holding a pad of leaves comprising a base adapted to be fastened to a suitable support, a clamping member hinged thereto and a spring for closing said clamping member, said clamping member having on each end a downwardly turned fin, said fins having inwardly projecting sharp edges adapted for penetrating the opposite sides of said pad to hold the same against withdrawal from said clamp and said fins being when in use inclined with respect to the pad for permitting the top leaf or leaves of said pad to be pulled from said clamp without disturbing the underneath leaves of said pad.

7. A clamp for holding a pad of leaves comprising lower and upper members hinged together and a spring for closing said members, said upper member having on each end a downwardly turned fin adapted to penetrate one side of said pad, said fins being oblique for permitting the topmost leaf, when a pull is exerted on its free end, to ride up and off said fin and out of said clamp without disturbing the underneath leaves.

8. A manifold sales book comprising a cover and a clamp adapted for holding one end of a pad of leaves, said clamp comprising upper and lower members hinged together and a spring for holding said members in closed position, said lower member being fastened to the inner face of said cover and said upper member having on each end a downwardly turned fin for penetrating one side of said pad, said fins being oblique for permitting the topmost leaf or set of leaves, when a pull is exerted on the free end thereof, to be withdrawn from said clamp without disturbing the underneath leaves or sets of leaves.

9. A clamp for holding a pad of leaves, comprising lower and upper members hinged together, and a spring for closing said members, the lower member having upstanding elements engaging the bottom of a pad, the upper member having at the ends thereof a pair of fins extending down therefrom and arranged to penetrate into the sides of said pad on lines inclined to the plane of the pad.

GEORGE U. LACROIX.