Aug. 10, 1937. W. E. McINTOSH 2,089,395

MANIFOLDER

Original Filed March 30, 1932 2 Sheets-Sheet 1

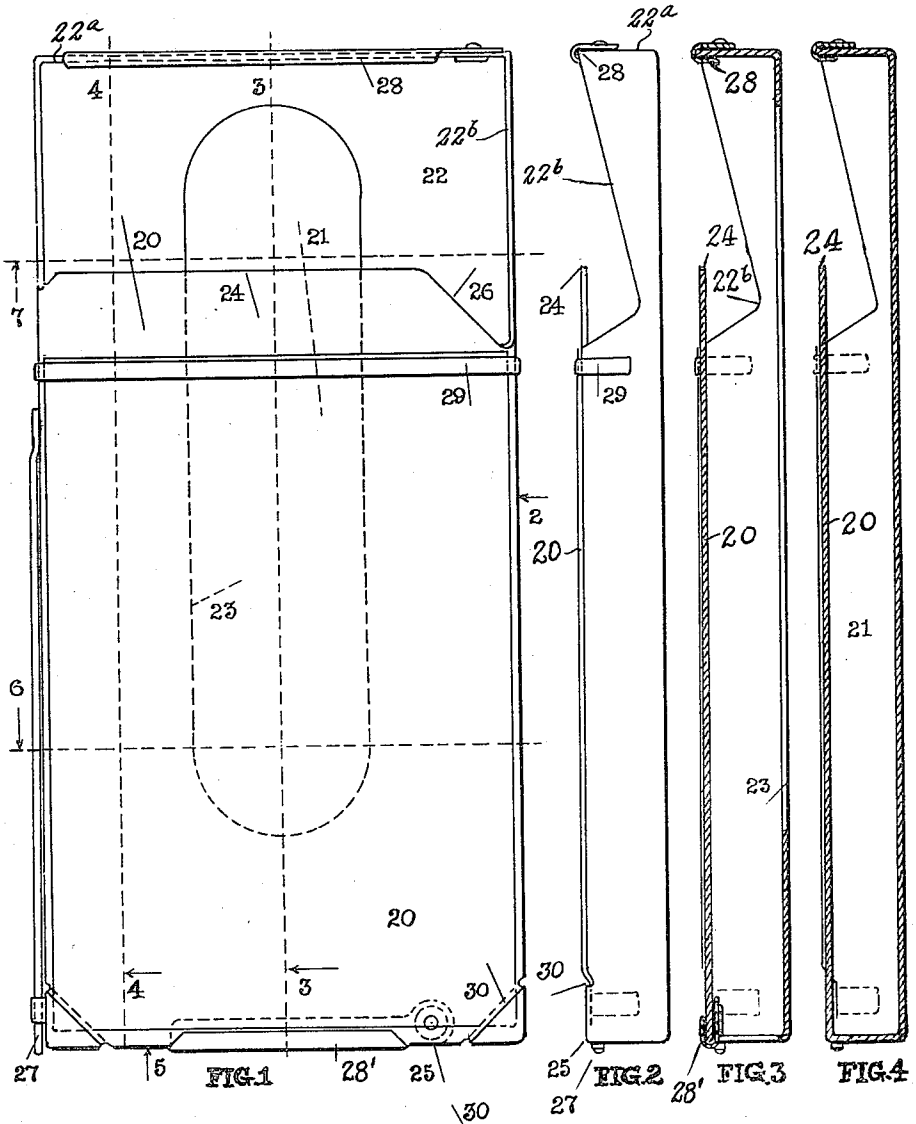


FIG.1

FIG.2

FIG.3

FIG.4

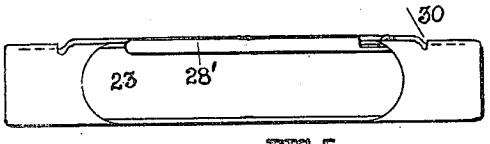


FIG.5

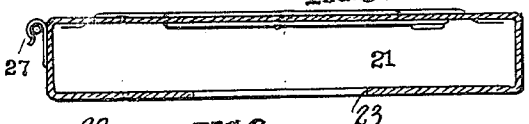


FIG.6

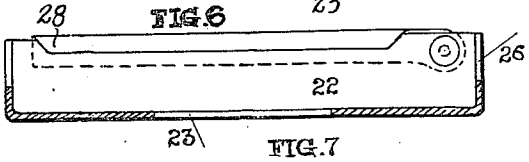


FIG.7

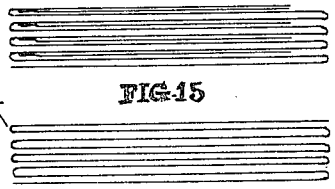


FIG.15

FIG.16

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MANIFOLDER

Original Filed March 30, 1932 2 Sheets-Sheet 2

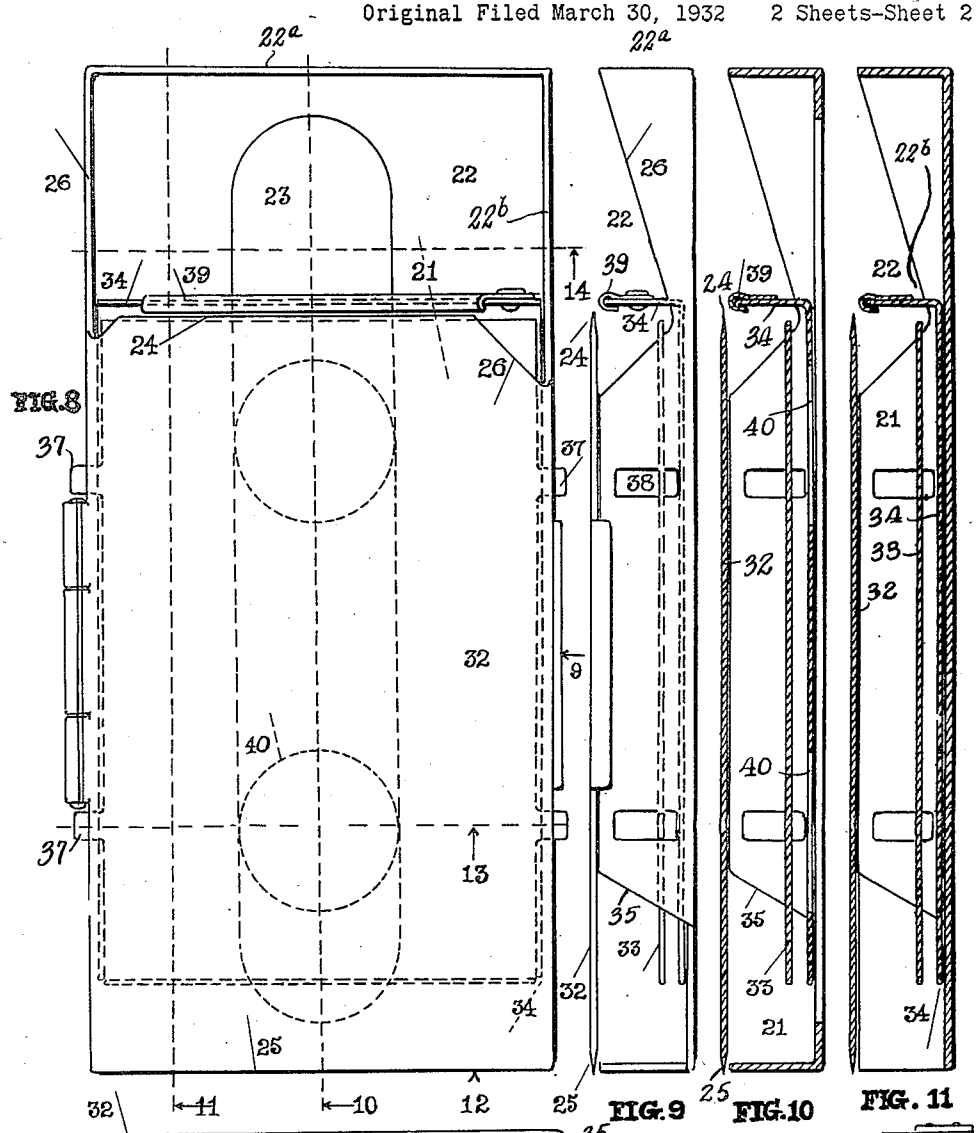


FIG. 8

FIG. 9

FIG. 10

FIG. 11

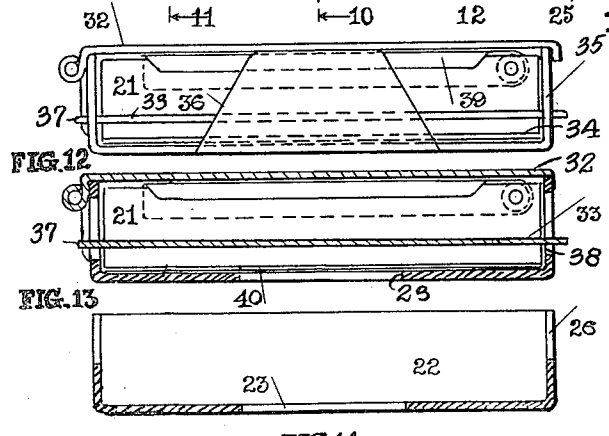


FIG. 12

FIG. 13

FIG. 14

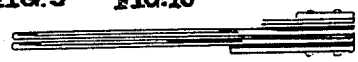


FIG. 17



FIG. 18



FIG. 19

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UNITED STATES PATENT OFFICE

2,089,395

MANIFOLDER

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Application March 30, 1932, Serial No. 601,989
Renewed June 25, 1934

23 Claims. (Cl. 282—8)

This invention relates to improvements in manifolding devices for making single or multiple copies of records for various purposes.

It is a general object of the invention to provide improved means for housing and supporting one or more supply pads of blank record sheets whereby sheets from the pad may conveniently be positioned and aligned for entry and transfer of the inscriptions, and the inscribed sheets severed and stored.

It is a further object of the invention to provide an improved manifolder or support for a supply pad of record leaves, whereby said pad may be slid or moved bodily within the manifolder from a position wherein the record sheets are accessible for manipulation and adjustment into another position in which the leaves extended from the pad will be aligned and maintained in position for the reception of inscriptions.

Still another object of the invention is to provide an improved manifolder having a hold or storage space for receiving a supply pad of manifolding leaves and having an annex to the hold so that the supply pad is freely slidable in reverse directions between the hold and annex.

A further object of the invention is to provide a manifolder having an improved arrangement of a hold and annex for receiving and housing a supply pad, and having an improved arrangement whereby the leaves led from the supply pad are aligned and positioned upon a writing platen as the supply pad is moved into housed position within the hold.

Other objects of the invention will be in part pointed out in the following detailed description of certain illustrative but preferred embodiments of the invention, and will be in part obvious in connection therewith.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts, which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a more comprehensive disclosure of the nature and objects of the invention reference is had to the following detailed description and to the accompanying drawings in which:

Fig. 1 is a plan view of a preferred embodiment of the improved manifolding device;

Fig. 2 is a side elevation looking in the direction of the arrow 2 of Fig. 1;

Fig. 3 is a longitudinal vertical section taken approximately on the broken line 3 of Fig. 1 looking in the direction of the arrow;

Fig. 4 is a view similar to Fig. 3 but taken on the broken line 4 of Fig. 1 and looking in the direction of the arrow;

Fig. 5 is an elevation of the end 5 of Fig. 1;

Fig. 6 is a vertical transverse sectional view taken approximately on the broken line 6 of Fig. 1 looking in the direction of the arrow;

Fig. 7 is a vertical transverse sectional view taken on the broken line 7 of Fig. 1 looking in the direction of the arrow;

Fig. 8 is a plan view similar to Fig. 1 showing a modified structure;

Fig. 9 is an elevation looking at the side 9 of Fig. 8;

Fig. 10 is a vertical longitudinal section on the broken line 10 of Fig. 8, looking in the direction indicated by the arrow;

Fig. 11 is a sectional view similar to Fig. 10 but taken on the broken line 11 of Fig. 8, looking in the direction of the arrow;

Fig. 12 is an elevation of the end 12 of Fig. 8;

Fig. 13 is a vertical transverse sectional view taken on the broken line 13 of Fig. 8, looking in the direction of the arrow;

Fig. 14 is a sectional view similar to Fig. 12 but taken on the broken line 14 of Fig. 8, looking in the direction of the arrow; and

Figures 15–19 are partially diagrammatic views of some of the forms of supply pads or books adapted for use with the improved manifolding device.

For convenient reference, the manifold book or the supply of blanks or forms is hereinafter called pad, and the housing or apparatus for operating the pad is called manifolder. Likewise, carbon sheets repeatedly used to make a plurality of copies from different originals are called master carbons to distinguish from sheets individually provided with carbons or carbon coatings.

A simple preferred embodiment of the invention is illustrated by Figures 1–7. While the improved manifolder disclosed in the drawings may be constructed of any convenient known material, it is preferably made of sheet metal and includes a writing platen or tablet 20 on which the record sheets may be inscribed, and a housing space or hold 21 adapted to house a supply pad of record leaves or blanks for receiving the inscriptions. Part of the housing of the hold is extended to form an annex 22 at one end of the hold. A freeway or unobstructed passage is provided between the hold and the annex so as to allow the supply pad to slide freely into the hold when the manifolder is tilted

in one direction and to slide freely from the hold to the annex when the manifolder is tilted in the opposite direction. The annex 22 is open at its top side so as to provide free access to the leaves of the supply pad when the latter occupies a position on said annex. The annex 22 is preferably equipped with a flanked border or end wall 22a to limit movement of the pad, and the side walls of the annex may be notched or cut away as shown at 22b so as to provide free access to the pad sheets when the pad occupies a position in the annex.

Holes of any suitable shape, size and position, such as indicated at 23, may be utilized to provide access to the pad in the hold 21 for controlling movements of the supply pad and forms therein. Edges 24 and 25 of the ends of the writing tablet or platen 20 provide means for positioning, aligning and supporting the sheets of the pad and also for severing the sheets from the pad after said sheets have received the inscriptions. To facilitate lifting and withdrawing the sheets from the pad in the hold as they may be required for use, forward marginal parts of the platen plate 20 may be cut away or notched at the corner portion thereof so as to form a gap or space as indicated at 26.

Any suitable means for supporting master carbons and blanks such as the bar 27 or the hinged clamps 28 and 28' may be provided adjacent to the tablet. A transverse strip 29 and corner slots 30 may be provided to detachably hold a summary record sheet for receiving summary inscriptions of records written upon the record pad.

When single records or originals only are desired, such as ordinary memoranda and the like, the pads shown in Figs. 15 and 16 are suitable for use with the improved manifolder. Fig. 16 shows a single strip continuously folded zig-zag and preferably scored or perforated at the folds 31. Length of the pad should preferably be, though not always, slightly less than that of the tablet or platen 20 aforesaid and its width should be less than that of the hold, the pad being adapted to slide longitudinally, in this instance, in and out of the hold. When the upper or open end of the manifolder is tilted upward, the end of the pad will be substantially adjacent to the stripper 24; and, when the same end of the manifolder is tilted downward, the pad should slide out of the hold through the freeway, onto the annex until its end abuts the flanked border, or at least until the movement of the pad is sufficient to amply expose the edges of its sheets adjacent to the notches 26 to provide for conveniently lifting and withdrawal of the sheets from the pad through the freeway from the hold. If for any reason the pad should lodge in the hold, then the desired movement may be produced by the operator's fingers working through any of the hand holes 22b, 23 or 26 aforesaid.

Next, with the point of a lead pencil or with one's fingers at the notch or gap 26, a group of sheets or folds, in this instance two sheets, may be withdrawn from the pad, lifting and drawing the fold upward and towards the closed end or away from the freeway end of the manifolder, spreading the fold over the tablet. This will have drawn the pad back into the hold and caused the upper stripper 24 to engage or impinge between the bottom sheet of the fold and the upper sheet of the pad, to lift the pad from the bottom of the hold, to adjust so that the said stripping edge 24 is contiguous or adjacent to the perforation or score of the sheets and to firmly align and hold the sheets spread over the tablet ready for inscription and ready thereafter for severing from the pad. If the edge of the tablet or stripper 24 is sharp, it may be used to cut the fold from the pad, then requiring, if the stripper is sharp for cutting, no perforations or scores in the pad, but merely a folded strip.

The memorandum may now be written on the upper sheet over the tablet. Then the written sheet or record may be folded back toward the operator on the stripper 25 and torn thereover from the fold. It will be observed that in this operation, since no carbon sheet has been used, no copy will have been made and that the other sheet on the tablet is ready for another record. When this, the latter, has been made, it may be torn or cut from the pad against the stripper 24. Then the records may be consecutively stored, if desired, through the freeway into the hold, being drawn down into filing position, below the pad and controlled through hand holes 23 aforesaid. As the sheets are used and cut from the pad, thickness of the latter decreases and provides increasing space for accumulating records. In view of this, it will be understood that all the records may be stored below the pad and they will not interfere with its operation.

The ordinary pad shown in Fig. 18 may likewise be used. This operation is substantially the same as that described above, except that with this pad single sheets are drawn from the pad and spread over the tablet.

Next, the manifolder is tilted downward and the pad slides partly out of the hold into the annex, when a sheet is lifted, drawn from the hold upward and backward and spread over the tablet, causing thereby the pad to lift, slide back into the hold and to jam the stripper 24 between the uppermost and next ears of the stub, aligning and firmly holding the sheet spread over the tablet for inscription and firmly holding the stub ready for separating or severing the sheet therefrom, against the stripper 24, after the record is made. Then all of the records may be stored in the hold beneath the remainder of the pad and controlled through a hand hole as described above.

If carbon copies of the record are desired, in duplicate, triplicate or multiples, either of the pads shown in Figs. 15 or 16 or others may be conveniently used in the pad holder together with one or more master carbons, when individual carbon sheets or coatings are not furnished.

When an ordinary pad, such as that shown in Fig. 18, is used, a number of master carbons corresponding to the number of copies required should be secured in position by the lower clamp 28' or by the side bar 27. The operation is substantially the same as that previously described, except that a master carbon is spread over each of the copy sheets before the record is written.

When the folded strip pads, such as shown in Fig. 16, are used and one copy only is desired, the master carbon should be secured by the side bar 27 or by the upper clamp 28. If multiple copies are required, master carbons should be secured in both upper and lower clamps 28 and 28' or by the side bar 27.

Any or all of the master carbons not in use may conveniently be placed beneath and protected by the summary of records card or sheet above described.

A modified form of the improved manifolder shown in Figs. 8–14 includes parts described above.

It may also include a hinged lid or upper tablet 32, an automatically adjustable lower tablet 33 and a slidable receptacle 34 adapted to receive the pad and to slide therewith in and out of the hold to positions facilitating operations such as described above. The side of the manifolder is cut away at 35 and the end at 36 to afford access, if desired, to the hold to facilitate withdrawal of sheets from a pad therein. Lugs 37 on the lower tablet are adapted to loosely mate with slots 38 provided in the sides of the manifolder. This provides for movement of the lower tablet up and down, to and from the lid and bottom. Insertion or removal of the lower tablet 33 may be effected by slightly springing the sides of the holder when the lid is open. The slidable receptacle 34 may be arranged to slide together with the pad also across the hold. It should be provided with any suitable means such as the swinging clamp bar 39 for attaching master carbons or blanks; also, with hand holes 40 for access to the hold. The lower tablet may also be provided with means for holding master carbons and blanks.

Any of the pads described above and others may be used in the modified form of pad holder substantially as described. In the modified form, however, records may be made on two pads at one writing, which in some cases is an advantage. For instance, when in a series of records sometimes an original and one copy, and sometimes an original and two copies are required, or more, then the requirement is met as follows:

Suppose for example, that sometimes an original and one white copy are required and sometimes an original, one white and one pink copy.

First supply the apparatus with suitable pads and master carbons. Open the hinged lid 32, cause the receptacle 34 to slide from the hold onto the annex and insert therein, say such pad as that shown in Fig. 16 of white paper. Replace the sliding receptacle 34 in the hold, the pad being then positioned under the lower tablet 33. Secure a suitable master carbon in clamp 39 of the sliding receptacle. Next, insert and jam the lower edge of tablet 33 into the stub of such pad as that shown in Fig. 18 as at 41, the latter pad being of pink sheets. A carbon leaf for transfer inscription to the leaves of the blank record book may be mounted in any appropriate manner. Close the hinged lid. The apparatus is ready for operation.

By tilting the annex end of the manifolder downwardly the sliding receptacle 34 is caused to slide longitudinally and to enter the annex 22. Lift and hold the corner of one sheet of the pad and return receptacle and pad to the hold. Draw out two sheets from the pad, spreading the second sheet over the tablet 32 and causing thereby the edge of the tablet to insert between the inner and outer sheets contiguous to the fold, or score or perforation. Then having placed the master carbon over the second sheet, fold back the first sheet over the master carbon. Write the inscription. This operation will have given an original and one white copy. The original may now be folded back over the lower edge 25 of the tablet and cut, separated or stripped against said edge and thus removed from the pad. Then the copy can be stripped against the upper edge 24 of the tablet and separated from the pad.

When one white and one pink copy are required, the operation will be as follows: Open the hinged lid. Cause the sliding receptacle 34 to enter the opening or annex 22. Lift and hold the corner of one sheet of the white pad and return the sliding receptacle and pad to the hold. Draw two sheets from the pad spreading the second sheet over the master carbon covering the pink pad below, causing thereby the upper edge 24 of the tablet 33 to insert between the inner and outer sheets contiguous to the fold or perforation; then having placed a master carbon over the second sheet, fold back the first sheet over the master carbon. Write the inscription. The result will be an original, one white and one pink copy. The original may be stripped from the pad over the lower edge 25 of the tablet, and the white and pink copies may be severed respectively over the upper edge 24 and the lower edge 25.

It will be understood that when more copies are required, a corresponding number of master carbons should be used.

It may sometimes be desirable when using two pads, that writings on one pad may appear in different positions on the other. In such cases the upper pad should be relatively narrow and slidable, longitudinally and/or laterally, across the lower pad. Then suitable means should be provided on or adjacent to the side or end of the tablet to slidably support master carbons and/or pads.

The foregoing simple embodiments of the invention have been described for the purpose of disclosure with the understanding that the invention is not to be thereby limited, it being understood that there are other forms and arrangements in which it can be embodied.

I claim and desire to protect by Letters Patent the following combinations and combinations thereunto equivalent:

1. A manifolder including in combination, a hold adapted to house a pad of inscribable sheets, an open annex to said hold, freeway between the hold and annex, said pad being shorter than the combined lengths of the hold and annex thus allowing said pad, upon tilting the manifolder in one direction, to slide from the annex into its normal inscription position in the hold, and from the hold to the annex when the manifolder is tilted in another direction, a writing tablet adjacent to the hold, means for retaining superposed pad sheets in inscription receiving position on said writing tablet, and means adapted to support a carbon sheet superposed to said tablet.

2. A manifolder including in combination, a hold, a slidable carrier for carrying a pad of inscribable sheets, an open annex to said hold, freeway between the hold and annex allowing the carrier and pad to slide from the annex into the hold and from the hold to the annex and a writing tablet, overlying the hold, comprising part of the housing thereof and being hinged for uncovering the same.

3. A manifolder including in combination, a hold, a slidable receptacle suited to carry a pad of inscribable sheets and mounted to slide therewith in and out of said hold, a writing tablet adjustably superposed to said pad and receptacle when in the hold, a second writing tablet superposed to the hold and first said tablet and mounted to be raised therefrom, means adapted to support a carbon sheet superposed to the first tablet and means arranged to support a carbon sheet superposed to the second said tablet.

4. A salesbook register including a support, means for supporting a salesbook for longitudinal sliding movement upon said support, and a writing bed associated with said support and adapted to normally rest upon said salesbook.

5. A salesbook register including a support, means for supporting a salesbook for longitudinal sliding movement upon said support, and an automatically perpendicularly adjustable writing bed associated with said support and adapted to normally rest upon said salesbook.

6. A salesbook register including a support, a plate longitudinally slidable upon said support, means for supporting a salesbook upon said plate, and a writing bed associated with said support and adapted to normally rest upon said salesbook.

7. A salesbook register including a support, means for supporting a salesbook for sliding movement upon said support, and a writing bed carried by the support and adapted to normally rest upon said salesbook.

8. A salesbook register including a support, means for supporting a salesbook for sliding movement upon said support, and an automatically perpendicularly adjustable writing bed carried by the support and adapted to normally rest upon said salesbook.

9. A salesbook register including a support, a plate slidably mounted upon said support, means for supporting a salesbook upon said plate, and a writing bed carried by the support and adapted to normally rest upon said salesbook.

10. A salesbook register including a support, a plate slidably mounted upon said support, means for supporting a salesbook upon said plate, and an automatically perpendicularly adjustable writing bed carried by the support and adapted to normally rest upon said salesbook.

11. A salesbook register including a support, means for supporting a salesbook for sliding movement upon said support, and a writing bed associated with said support and adapted to normally rest upon said salesbook.

12. A salesbook register including a support, means for supporting a salesbook for sliding movement upon said support, and an automatically perpendicularly adjustable writing bed associated with said support and adapted to normally rest upon said salesbook.

13. A salesbook register including a support, a plate slidably mounted upon said support, means for mounting a salesbook upon said plate, and a writing bed associated with said support and adapted to normally rest upon said salesbook.

14. A salesbook register including a support, means for supporting a salesbook for sliding movement upon the support, a writing bed associated with the support and adapted to be located above the salesbook, and compensating means adapted to hold the salesbook and writing bed in contact with each other as leaves are torn off of the salesbook.

15. A salesbook register including a support, means for supporting a salesbook for sliding movement upon the support, a writing bed associated with the support and adapted to be located above the salesbook, and compensating means adapted to cause the writing bed to follow down upon the salesbook as leaves are torn off of the salesbook.

16. A manifolding device for the purpose described including, in combination, a hold in the manifolding device, a writing tablet, a pad-carrier for carrying a pad of relatively superposed inscribable leaves, reciprocally shiftable on the manifolding device to and from said hold beneath the tablet to expose more or less of the length of the pad for grasping the leaves thereof, means for limiting the extent of reciprocal shift of said pad-carrier relative to said tablet, and a leaf-aligning straight-edge overlying said hold in fixed relation to said writing tablet and engageable in aligning relation with and between the leaves in writing position and those beneath said tablet, said pad-carrier having an upstanding member cooperable to contact said pad and urge the leaves of the latter into aligning relation with said straight-edge.

17. In a manifolding device, in combination, a hold adapted to house a pad of record leaves, an annex adjacent to said hold, said pad being shorter than the combined hold and annex, said annex communicating with the hold whereby the pad is freely slidable from the annex into the hold and from the hold into accessible position on the annex for withdrawing upper pad leaves, a platen adjacent to said hold for supporting said withdrawn leaves of said pad in inscription receiving position, and means for aligning said withdrawn pad leaves in inscription position upon movement of said pad into said hold.

18. In a manifolding device, in combination, a hold adapted to house a pad of record leaves, an annex adjacent to said hold, said pad being shorter than the combined hold and annex, said annex communicating with the hold whereby the pad is freely slidable from the annex into the hold and from the hold into accessible position on the annex for withdrawing upper pad leaves, a platen adjacent to said hold for supporting said withdrawn leaves of said pad in inscription receiving positon, an aligning edge adjacent to said platen and annex for aligning said withdrawn pad leaves in inscription position upon movement of said pad into said hold, and means for limiting the sliding movements of the pad.

19. In a manifolding device, in combination, a hold adapted to house a pad of record leaves, an annex adjacent to said hold, said pad being shorter than the combined hold and annex, said annex communicating with the hold whereby the pad is freely slidable from the hold into position on the annex and back again to the hold, a platen for supporting leaves of said pad in inscription position, said annex having an opening in the vicinity of said platen through which the pad leaves are accessible when the pad has been moved to the annex, and through which the leaves may be drawn into inscription position on the platen, and means for positioning and aligning said drawn leaves on said platen by pad movement into said hold.

20. In a manifolding device, in combination, a hold adapted to house a pad of record leaves, an annex adjacent to said hold, said pad being shorter than the combined hold and annex, said annex communicating with the hold whereby the pad is freely slidable from the hold into position on the annex and back again to the hold, a platen for supporting leaves of said pad in inscription position, said annex having an opening in the vicinity of said platen through which the pad leaves are accessible when the pad has been moved to the annex, and through which the leaves may be drawn into inscription position on the platen, and an extension on said platen having a positioning and aligning edge for engaging in positioning and aligning relation with said drawn leaves of the pad by pad movement into said hold.

21. A manifolding device including in combination, a hold in the manifolding device, a writing tablet, a pad of relatively superpose inscribable leaves, said pad being supported for reciprocal

sliding movement on the manifolding device to and from said hold in a plane beneath that of said tablet to positions first within the hold and second exposing the pad partially from beneath said tablet, means cooperable for arresting said sliding movement with said pad in position for grasping one or more leaves thereof to one side of said tablet and drawing said grasped leaves from beneath said tablet for disposition in inscribing position on the said writing tablet, and a leaf-aligning member overlying said hold and closely juxtapositioned to said pad and cooperating with and between pad leaves above and beneath the tablet so as to effect alignment thereof during movement of the pad into the hold.

22. A manifolding device including in combination, a hold in the manifolding device, a writing tablet, a pad of relatively superposed inscribable leaves, said pad being supported for reciprocal sliding movement on the manifolding device to and from said hold in a plane beneath that of said tablet to positions first within the hold and second exposing the pad partially from beneath said tablet, means cooperable for arresting said sliding movement with said pad in position for grasping one or more leaves thereof to one side of said tablet and drawing said grasped leaves from beneath said tablet for disposition in inscribing position on the said writing tablet, a leaf-aligning member overlying said hold and closely juxtapositioned to said pad and cooperating with and between pad leaves above and beneath the tablet so as to effect alignment thereof during movement of the pad into the hold, and means movable with said pad cooperable to urge leaves on said writing tablet into aligning relation to said aligning member.

23. In a manifolding device, in combination, a hold adapted to house a pad of record leaves, an annex adjacent to said hold, a pad of connected relatively superposed inscribable record leaves supported for sliding movement to and from said hold, said pad including a zig-zag folded record strip and being shorter than the combined hold and annex, said annex communicating with said hold whereby the pad is freely slidable from the hold into position on the annex and back again into the hold, a platen positioned in a plane above said pad for supporting leaves of the latter in inscribing position while still connected in the pad, said manifolding device having a passageway in the vicinity of said platen through which the pad leaves are accessible when the pad has been moved to the annex and through which the leaves may be drawn and placed on said platen, said platen overlying said hold so that a leaf drawn through said passageway and still connected to the pad will be moved, by movement of the pad, into inscribing position on the platen when said pad is being moved from the annex into the hold.

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