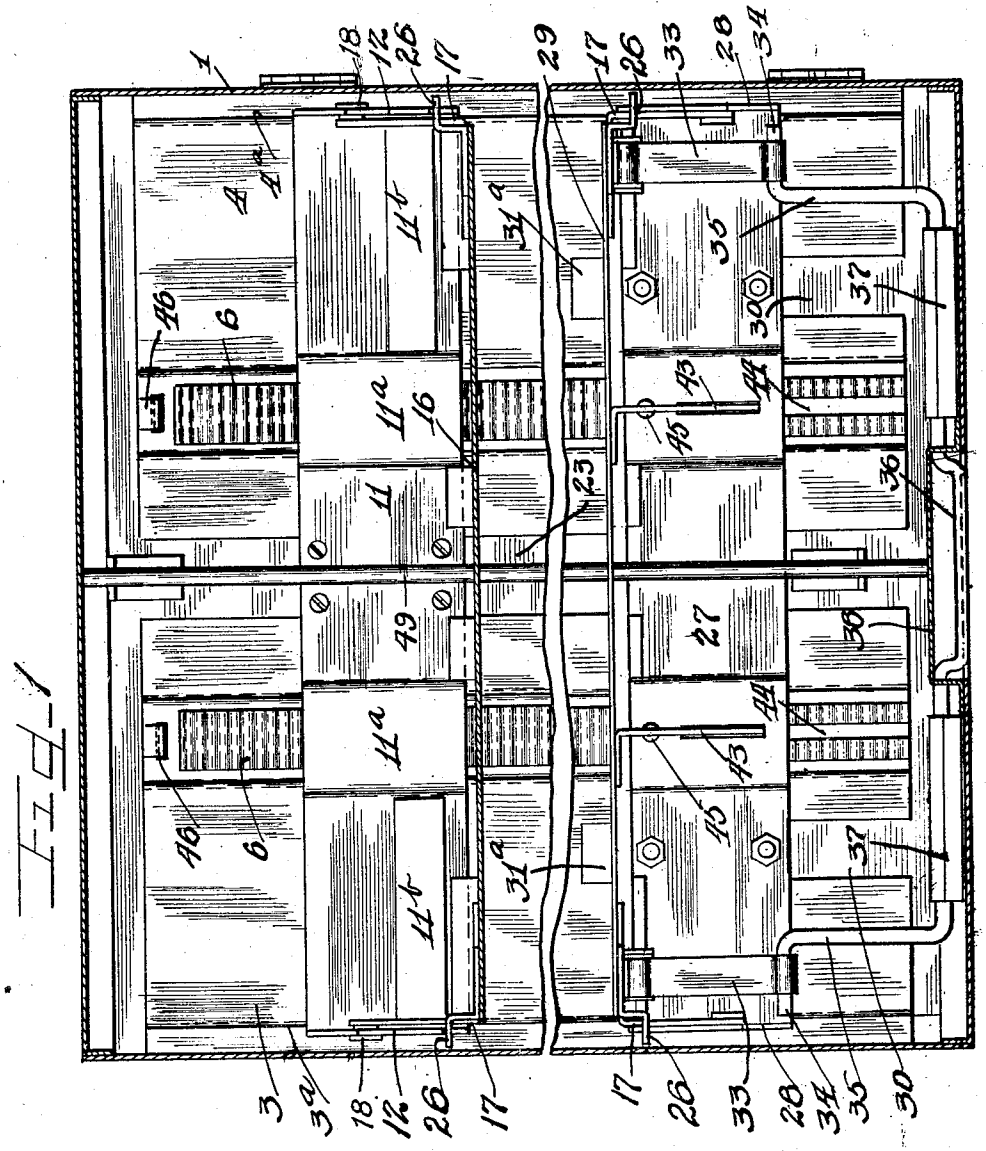
Dec. 7, 1926. 1,609,570

G. W. NEWMAN

POSTING TRAY

Filed June 13, 1923 4 Sheets-Sheet 1



Witnesses
J. W. Angell
Cameron Hill

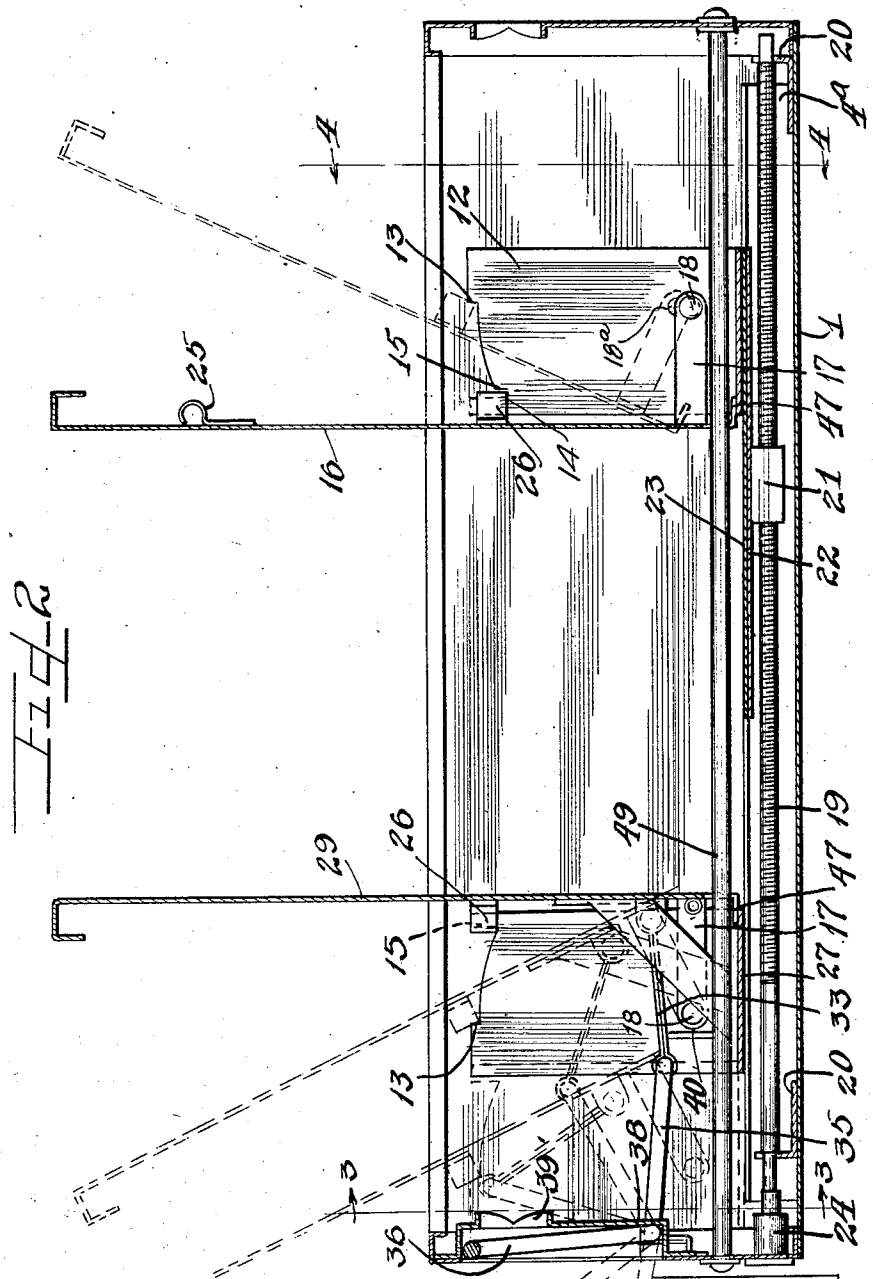
Inventor
George H. Newman.
by Charles Hills
Attys

Dec. 7, 1926. 1,609,570

G. W. NEWMAN

POSTING TRAY

Filed June 13, 1923 4 Sheets-Sheet 2



Witnesses
J. W. Engell
Carlson Hill

Inventor
George H. Newman.
Charles Hills
by
Attys

Dec. 7, 1926. 1,609,570

G. W. NEWMAN

POSTING TRAY

Filed June 13, 1923 4 Sheets-Sheet 3

Fig. 3

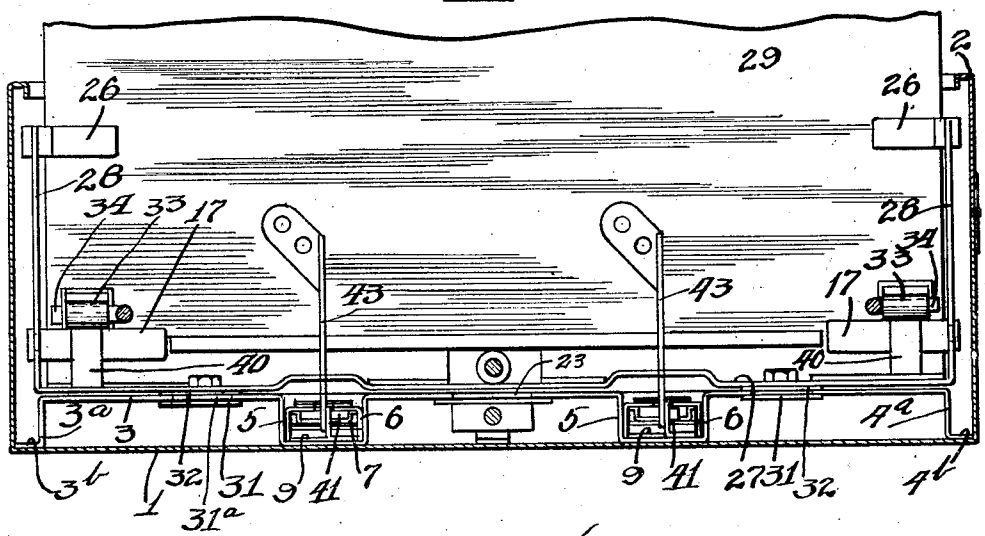
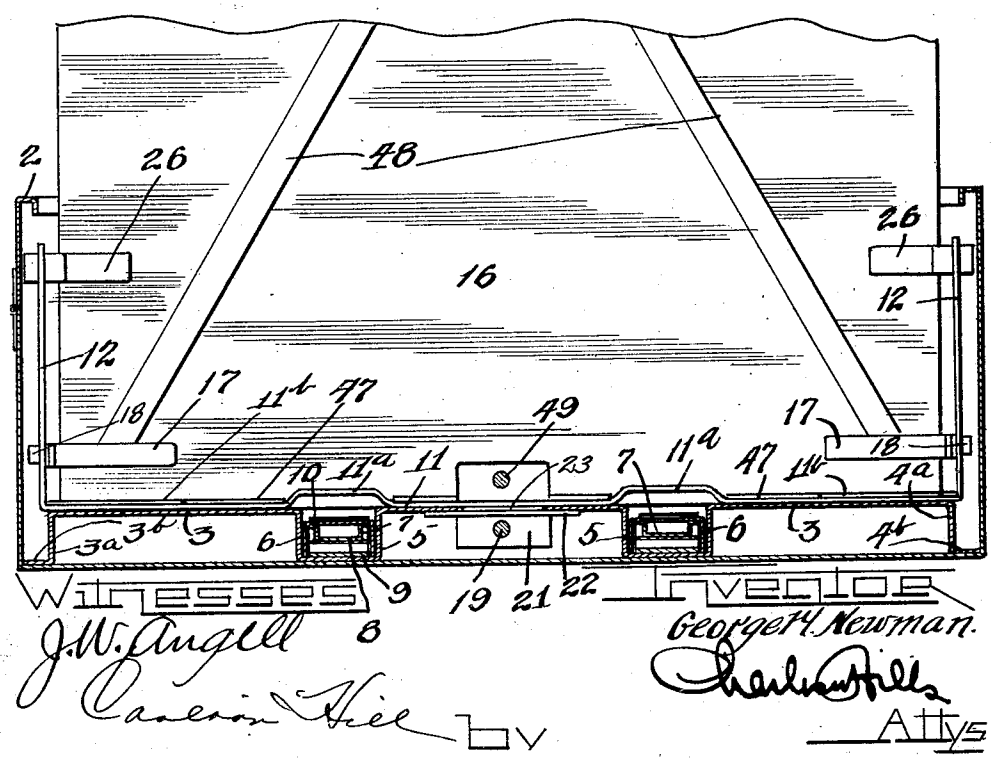


Fig. 4



Witnesses
J. W. Angell
Carleton Hill

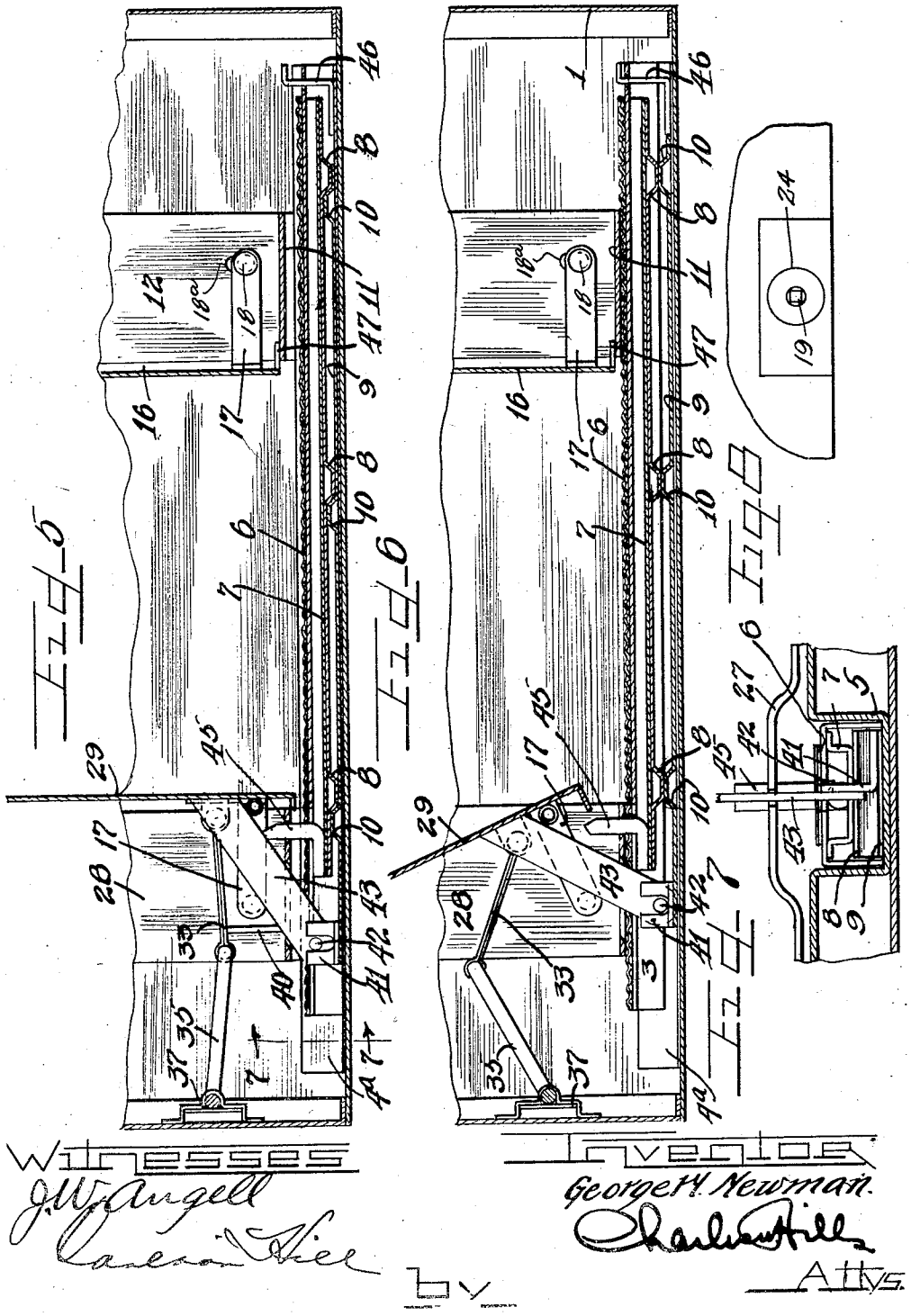
Inventor
George W. Newman.
by Charles Wills
Attys

Dec. 7, 1926. 1,609,570

G. W. NEWMAN

POSTING TRAY

Filed June 13, 1923 4 Sheets-Sheet 4



Patented Dec. 7, 1926. 1,609,570

UNITED STATES PATENT OFFICE.

GEORGE W. NEWMAN, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WILSON-JONES COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF MASSACHUSETTS.

POSTING TRAY.

Application filed June 13, 1923. Serial No. 645,070.

This invention relates to a posting tray adapted to fit in a cabinet.

It is an object of this invention to generally improve such posting trays in providing a better control for the loose leaves whereby they can be readily contracted or expanded and whereby they can be easily separated, fingered and inspected when expanded.

It is a more specific object of this invention to provide a smooth surface for supporting the loose leaves when they are contracted and a serrated or roughened surface for the same when expanded so that the same may be more readily manipulated, and means for controlling the positions of the serrated surface.

With these and other objects in view which will become more apparent in the following description and disclosures, this invention comprises the novel mechanisms and combinations hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawings which illustrate a preferred embodiment of this invention and in which similar reference numerals refer to similar features in the different views:

Figure 1 is a plan view of the interior of the tray with parts in section.

Figure 2 is a vertical longitudinal section through the tray.

Figure 3 is a section on the line 3—3 of Figure 2.

Figure 4 is a section on the line 4—4 of Figure 2.

Figure 5 is a longitudinal section taken through the serrated surface with the upper part of the tray broken away.

Figure 6 is a view similar to Figure 5 with parts in different positions.

Figure 7 is an enlarged fragmentary section taken upon the line 7—7 of Figure 5 with parts in elevation.

Figure 8 is a detail elevational view of the lock casing for the screw.

As shown on the drawings:

In referring now to the drawings which illustrate one embodiment of this invention, there is shown a tray 1 which in the present instance consists of a substantially square metal box or drawer, having a hinged door 2 (Figures 3 and 4) at one side so the sheets can more easily be inserted or removed and which may be lowered to facilitate manipulation of the sheets. The bottom of the tray is covered by a sheet-metal construction which affords a raised smooth horizontal support for loose leaves and the like when not in use. The sheet-metal construction comprises a pair of sheet metal plates 3 and 4 which have vertical marginal flanges 3^a and 4^a, and these marginal flanges are provided with horizontal flanges 3^b and 4^b which respectively form the outer supports for the plates. Intermediate the side edges of the plates 3 and 4 channel-like grooves 5 are stamped therein which extend longitudinally thereof; the bottoms of these grooves rest upon the bottom of the tray and serve as inner supports for the plates 3 and 4. The inner or adjacent ends of these plates are spaced apart a distance of several inches as shown in Figures 1 and 4.

Inverted channel bars or strips 6 are inserted in the grooves 5 for vertical movement with respect thereto. The upper surfaces of these channel bars are transversely serrated or fluted so that when the same are elevated above the upper surface of the sheet-metal construction, they will support the loose sheets and afford a non-slipping track so as to prevent their lower edges from slipping so that they may be easily turned or fingered. Mechanism has been provided for raising and lowering the strips 6 at predetermined times, and in the illustrated embodiment of this invention such means are shown as consisting of U-shaped plates or strips 7 (Figures 5 and 6) secured upon the lower surface of the webs of the channels 6 and provided with intermediate downwardly extending frusto-conical depressions 8 the sides of which serve as cam surfaces. The frusto-conical projections 8 are preferably formed on flat strips welded to the bottom of the web of the U-shaped plates 7. Another strip 9 is slidingly mounted in the bottom of the grooves 5 and provided with

similar upwardly extending frusto-conical projections 10 stamped therein. When the strip 9 is in the position shown in Figure 5, the fluted strips or tracks 6 lie below the smooth top of the plates 3 and 4 but when the strips 9 are moved rearwardly, the projections 10 will ride under the projections 8 and elevate the fluted strips 6 in a plane above the smooth surfaces of the plates 3 and 4, so that the loose leaves will be supported upon the fluted strips. These cam strips 9 are automatically controlled as will be later explained.

A carriage 11 is slidably supported in the rear end of the tray. This carriage consists of a plate extending transversely of the tray and provided with lateral upstanding flanges 12 at its ends. The upper ends of these flanges are formed with arcuate surfaces, the rear ends of which terminate in stop shoulders 13 (Figure 2) and the front ends terminating in notches 14, the front ends of the notches terminating in stop shoulders or abutments 15 for a purpose to be later set forth. The carriage 11 is provided with upwardly stamped depressions 11^a directly over the grooves 5 so that the fluted strips 6 may be elevated. Strengthening plates 11^b may be welded or secured to the top of the carriage for reinforcing the same.

A rear lateral support 16 is hinged to the rear carriage 11. The hinged connections consist of narrow strips 17 having two arms at right angles to each other, one arm of each being welded or secured to the support; the other arm extending parallel with the side flanges 12 and being provided with a pivot 18 extending through a suitable bearing slot 18^a in the adjacent side flange 12.

The carriage 11 is adapted to be longitudinally adjusted by means of a screw shaft 19 (Figure 2) which is suitably journalled at its end in brackets 20 secured to the bottom of the tray and located in the space between the plates 3 and 4. A nut or block 21 is threaded upon the screw shaft 19, and a plate 22 is attached to said block and secured to the carriage 11 by screws or the like. This plate 22 overlaps the plates 3 and 4 upon their under side as shown in Figure 4. The plate 22 is provided with a raised portion 23 that fits in the space between the plates 3 and 4 and serves as a guide. The raised portion may be formed by welding a narrow strip upon the plate 22.

The forward end of the screw rod 19 is of polygonal form and extends into a cylindrical barrel 24 attached to the front end of the tray and is adapted to be operated by a key for which a suitable key hole has been provided in the front end of the tray. Thus by turning the screw rod, the nut block 21 may be longitudinally shifted to advance or retract the lateral support 16 for adjusting the leaf-holding space. The key for such purpose may be retained in a suitable spring clip 25 upon the lateral support 16. An angle clip 26 is attached to each lateral margin of the lateral support 16 and the outstanding flanges of the clips are adapted to ride upon the lateral flanges 12 of the carriage. When the support 16 is in upright position, the outstanding flanges of the clips will be positioned in the notches 14, and retain the support in vertical position. The support 16, however, may be raised and tilted backwardly to bring the clips 26 against the rear stop shoulder 13 as shown in dotted lines in Figure 2.

Another movable carriage 27 is positioned transversely of the tray in the front part thereof and is provided with lateral flanges 28 having arcuate or curved surfaces at the ends of which are limiting stops 13 and 15 similar to those on the vertical flanges 12, the slots 18^a allowing sufficient movement of the pivot pins 18 for such a purpose. A front lateral support 29 for sustaining loose leaves is hinged to the carriage 27 by means of hinge strips 17 secured to said support and having outstanding arms provided with pivot portions 18 entering bearing apertures in the lateral flanges of the carriage in a manner similar to the hinging of the rear support. The lateral margins of this front support are provided with clips 26 similar to those on the rear support; they are adapted to ride over the tops of the lateral flanges and abut the stops.

The carriage 27 is slidably anchored to the bottom plates 3 and 4 which are provided with proper slots 30 extending rearwardly from the front ends. Plates 31 and 32 (Figure 3) overlapping respectively the lower and upper margins of the slots 30 are bolted or secured in some appropriate way to the carriage 27. The upper plates 32 extend to the rear edge of the carriage while the lower plates 31 extend beyond the rear end of the carriage and filler strips 31^a (Figure 1) of a size to fit the slots 30 are welded to the top of the plate 31 so as to lie in the slots 30 and form guides.

The front support 29 is adapted to be tilted and then moved with its carriage by means of mechanism extending exteriorly of the tray. To this end a pair of metal straps 33 or the like are provided with cylindrical bearing loops at each end, the inner ends being suitably pivoted between ears on the support 29 as shown in Figure 1, and the outer ends receiving the bent ends 34 of crank arms 35 which are integral with a rod extending transversely of the front end of the tray and having an offset handle portion 36 extending through an opening in the front end of the tray, the rod being journalled in suitable bearings 37 secured upon the front end of the tray adjacent said

opening. A label plate 38 in the form of a box is secured interiorly of the opening and is formed with a finger slot 39 at its upper end for drawing the tray from a cabinet. The offset handle 36 of the crank rod is designed to fit within the label box as shown in Figure 2.

Now assuming that the parts are in full-line position as shown in Figure 2 and the handle 36 is grasped and pulled outwardly into the first position indicated by dotted lines, this movement will tilt the support 29 into the dotted-line position in which the clips 26 rest against the shoulders 15. Further movement of the handle 36 into the second dotted-line position will shift the carriage 27 and its support 29 forwardly as indicated in dotted lines. Reverse movement of the handle 36 will restore the parts to full-line positions; the connection between the crank arms 35 and straps 33 being forced below dead center as shown in Figure 2, and sustained in such position by angle clips 40 secured to the top of the carriage 27, thuswise locking the front support 29 in its inner adjusted position.

The front support 29 is operatively connected with the aforedescribed slidable cam plate 9 for shifting the same for elevating the tracks 6 during the tilting movements of said support. In the present instance, the forward end of each shiftable cam plate 9 is provided with an upstanding bifurcated lug 41 (Figures 5 and 6) and into the bifurcations of these lugs there extend pivot pins 42 which in turn extend from the lower ends of downwardly inclined struts 43 secured at their upper ends to the support 29. The tracks 6 are suitably slotted at their forward ends as indicated at 44 in Figure 1 to receive the struts 43, and the carriage 27 is likewise suitably slotted to allow the struts 43 to pass therethrough as shown in Figure 1. The carriage 27 is also provided with raised portion directly over the tracks so that they may be suitably elevated.

When the front support 29 is tilted it will shift the cam plate 9 from the position shown in Figure 5 to the position shown in Figure 6 thereby elevating the tracks 6 above the smooth surface of the sheet-metal construction. The upper cam plates 7 are provided with studs 45 at their forward ends (Figures 1 and 5) which extend through the slots in the tracks 6 and through apertures in the carriage 27. Accordingly when the carriage 27 is shifted forwardly the cam plates 7 and 9 will slide longitudinally therewith; the upper cam plates 7 being drawn along by the studs 45, and the lower cam plates 9 being drawn along by the connection of the struts 43 with the bifurcated blocks 41. Therefore, the tracks 6 will remain in elevated position during and after the forward shifting of the front carriage so that the supporting edges of the sheets will always be supported by the tracks 6 during the posting operation. The tracks 6 are, however, lowered or depressed before any rearward movement of the front carriage takes place. That is the upward movement of the handle 36 from the second dotted line position to the first dotted-line position will untilt the support 29 and simultaneously lower the tracks 6 so that upon the rearward movement of the suport 29 to compress the leaves they will slide over the smooth surface of the bottom and thus avoid having their lower edges frayed. These tracks are anchored against longitudinal movement by means of studs 46 secured to the bottom of the tray and extending through apertures in the rear ends of the tracks as shown in Figures 5 and 6. The upper ends of these studs are preferably crimped over to prevent the tracks from becoming dislocated. These studs extend loosely through the tracks so as not to interfere with their vertical adjustment.

The lower ends of the lateral supports 16 and 29 are preferably provided with horizontally extending feet or flanges 47 which rest upon the slidable carriages and form base supports for said lateral supports, and to reinforce the supports diagonal braces 48 may be attached thereto as shown in Figure 4.

The loose leaves are adapted to be confined between the supports 16 and 29 upon a longitudinally extending rod 49 suitably supported in the ends of the tray and spaced a short distance above the top of the plates 3 and 4. The loose leaves are of course perforated to receive the rod. Such a rod support for the leaves is old and well known. Its function is merely to hold the leaves in proper alignment. The lower edges of the leaves rest upon the top of the plates 3 and 4 which may be termed the bottom of the tray and will thuswise be understood in the appended claims.

The operation of the tray in use is briefly as follows: Assuming the tray to be in a cabinet, it is drawn outwardly; the rear support 16 is then tilted; the handle 36 is then pulled out from the label box. The first movement of the handle will tilt the support 29, and continued movement thereof will drawn the carriage and support forwardly to provide a good working space so that the leaves may be inclined against the rear support, bringing the first sheet into good view for posting. As the posting proceeds, the sheets are turned and inclined against the front support 29. When the posting operation is completed and it is desired to return the tray in the cabinet, the rear support is first untilted, then the handle 36 is swung upwardly into the label box. The first part of such movement of

the handle will untilt the front support 29 and lower the serrated tracks 6, the second part of such movement will shift the support 29 rearwardly and compress the leaves against the rear support 16.

Some of the advantages arising from the aforedescribed structure and operation consist in the expansible feature of the tray in that the rear support 16 may be longitudinally adjusted in a simple way to increase or decrease the capacity of the tray. Another advantage resides in the feature of depressing the serrated tracks 6 when the front support is contracted or shifted rearwardly to compress the loose leaves, so that the lower edges of the leaves will slide over the smooth surface of the bottom whereby the lower edges are not likely to be torn or frayed as would be the case if the tracks were not lowered. A further advantage resides in the fact that the rear support may be tilted rearwardly so that the loose leaves may lean thereagainst, and that the front support may be shifted forwardly to provide room for separating the leaves and properly inclining the same rearwardly. The tilting of the forward support will of course afford more ready access to the sheets. These features render the tray very handy in use.

I am aware that many changes may be made, and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim:

1. In a posting tray, a bottom having depressed guideways, serrated strips in said guideways, a support, a second support movable relatively to the first support and means connecting said serrated strips and second support for elevating and lowering said strips during the movement of said second support.

2. In a posting tray, a rearwardly tiltable support, a forwardly tiltable and movable support, and leaf-supporting means controlled by said movable support.

3. In a posting tray, a bottom having longitudinally extending smooth portions and serrated portions, a movable support and means connecting said serrated portions and support for raising and lowering the former.

4. In a posting tray, a screw-threaded element extending longitudinally thereof, a support connected to said element for longitudinal adjustment thereby, a second support and means exterior of said tray and connected to said second support for tilting the same.

5. In a posting tray, a longitudinally adjustable support, a second support, and means exterior of said tray connected to said second support and operative for first tilting the same and then longitudinally moving the same.

6. In a posting tray, a longitudinally adjustable support, a second support and means for first tilting and then moving said second support.

7. In a posting tray, a pair of carriages adjustably supported upon the bottom thereof, vertical supports hinged to said carriages and tiltable in opposite directions, and means exterior of said tray for tilting and shifting one of said carriages.

8. In a posting tray having a bottom with longitudinal ways, sheet-supporting tracks mounted in said ways, adjustable lateral supports for the sheets and means controlled during the adjustment of one of said lateral supports for adjusting said tracks.

9. In a posting tray, a longitudinally adjustable rear support, a forward support and means for tilting and shifting said forward support, said means serving in one position to lock said forward support in contracted position.

10. A posting tray having smooth portions for normally sustaining loose leaves, and serrated portions adapted for sustaining said leaves at predetermined times and means for adjusting said serrated portions.

11. In a posting tray for holding loose leaves, the combination with means for contracting and expanding said leaves, of stationary and movable means for vertically sustaining said leaves and a connection between said movable means and contracting means for controlling the position of said movable means.

12. In a posting tray, a bottom comprising adjustable elements adapted to be elevated for sustaining loose leaves and means for adjusting said elements.

13. In a posting tray adapted for containing loose leaves, the combination with adjustable lateral supports for said leaves and relatively movable longitudinal base supports for said leaves controlled by the position of one of said lateral supports.

14. In a posting tray adapted for containing loose leaves a bottom having spaced longitudinally-extending depressions, fluted strips in said depressions and means for laterally sustaining said leaves and raising and lowering said fluted strips.

15. In a posting tray adapted for containing loose leaves, a bottom having open grooves, transversely fluted strips in said grooves each having cam-like projections upon its lower surface, slidable members in said grooves beneath said strips and having upwardly extending cam projections, adjustable lateral supports for said leaves and means connecting said slidable members with one of said lateral supports.

16. In a posting tray adapted for containing loose leaves, a bottom having spaced

grooves, transversely fluted strips in said grooves, slidable members in said grooves beneath said strips, said strips and members having opposed cam surfaces, lateral supports for said leaves, means connecting said slidable members with one of said lateral supports and means for shifting said last-mentioned lateral support.

17. In a posting tray adapted for containing loose leaves, a pair of relatively shiftable lateral supports adapted for expansion and contraction, a bottom having a leaf-supporting track for sustaining said leaves when said supports are expanded, operating mechanism for one of said supports and means connecting said track with the last-mentioned support and operative for depressing said track prior to the shifting of said support.

18. In a posting tray adapted for containing loose leaves, a pair of relatively shiftable lateral supports adapted for expansion and contraction, a bottom having serrated strips for sustaining said leaves when said supports are expanded, operating mechanisms for first tilting and then moving one of said supports and means connecting said serrated strips with the last mentioned support for elevating said strips prior to the shifting of said support.

19. In a posting tray, a bottom having vertically movable serrated strips, cam-like projections on the bottom of said strips, a slidable member having cam projection below each strip, a U-shaped bearing member upon each slidable member, a movable carriage, a tilting support thereon and a connection between each U-shaped bearing member and said tiltable support.

20. In a posting tray, a longitudinally movable carriage, a lateral support mounted upon said carriage for tilting movement, a pair of metal straps pivoted to said support, and a U-shaped rod having its ends pivoted to said straps and an intermediate portion extending exterior of said tray.

21. In a posting tray, a bottom having longitudinally extending fluted strips, means for raising and lowering said fluted strips, a lateral support for said leaves mounted for tilting movement and a connection between said means and tiltable support for operating the former during the tilting movements of the latter.

22. In a posting tray, shiftable lateral supports between which the leaves are normally confined, a bottom having vertically movable fluted leaf supporting strips and means connecting said fluted strips and one of said supports for depressing said strips below said smooth portion prior to the shifting of said supports toward each other.

23. In a posting tray, the combination with contractible and expansible tiltable supports between which the leaves are confined, a bottom having a smooth portion and a serrated strip below said smooth portion when said supports are contracted, and means connecting said strip with one of said supports whereby said strip is elevated prior to the expansion of said supports.

24. In a posting tray, a bottom having a fluted strip adapted to be raised or lowered, a lateral support for the leaves mounted for tiltable and longitudinal movement, a slidable member under said strip, said strip and member having cooperating cam surfaces and a connection between said strip and support, said connection raising said fluted strip when the support is tilted in one direction and lowering the same when the support is tilted in the other direction.

25. In a posting tray, a bottom having a fluted strip adapted to be raised or lowered, an adjustable lateral support for sustaining loose leaves, a slidable member beneath said fluted strips for raising the same, and a connection between said support and strip whereby the adjustment of said support governs the position of said strip.

26. A tray binder comprising a container tray, two sets of floors therein one set having a normal level below that of the other set, rear and front support plates to clamp sheets, and means actuated by the movement of the front plate for elevating one of the sets of floors and for maintaining it elevated during further movement of said front plate.

27. A tray binder as in claim 26, in which the front plate is capable of independent rocking at the limits of its inward and outward movements.

28. In a tray binder, a clamping plate structure comprising a carriage to which the clamping plate is pivoted, means for guiding the carriage, toggle levers pivotally supported by the tray, and toggle links pivoted to said levers and to the carriage, whereby said plate is operated by a single movement of said levers.

29. A filing device for loose sheets comprising a container, rear and front plate rests for the sheets, floor supports for the sheets having smooth and frictional surfaces respectively, and manually operated means for causing all the sheets to be supported on either the frictional or smooth surfaces as may be desired.

30. A filing device for loose sheets, comprising a container, rear and front plate rests for the sheets, and supports interchangeably engageable with the bottom edges of all the sheets while in the container.

31. A filing device for loose sheets, comprising a container, rear and front plate rests for the sheets, interchangeable supports for the bottom edges of the sheets having smooth and frictional surfaces respectively, and manually operated means for causing

the bottom edges of all said sheets to be wholly upheld by one or the other of said supports.

32. In a device of the character described, a filing container for loose sheets having floor portions with smooth and frictional surfaces respectively, clamping plates for the sheets, and means for changing the comparative levels of said floor portions whereby all said sheets will be wholly upheld by one or the other of said portions.

33. A filing device for loose sheets, comprising a container, rear and front clamping plate rests for the sheets, floor supports for the bottom edges of the sheets having smooth and frictional surfaces respectively, and means for selectively causing all the sheets to be wholly upheld by one or the other of said surfaces.

In testimony whereof I have hereunto subscribed my name.

GEORGE W. NEWMAN.