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F. S. SCHADE

3,035,587

POSTING TRAY CONSTRUCTION

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Fig. 1.

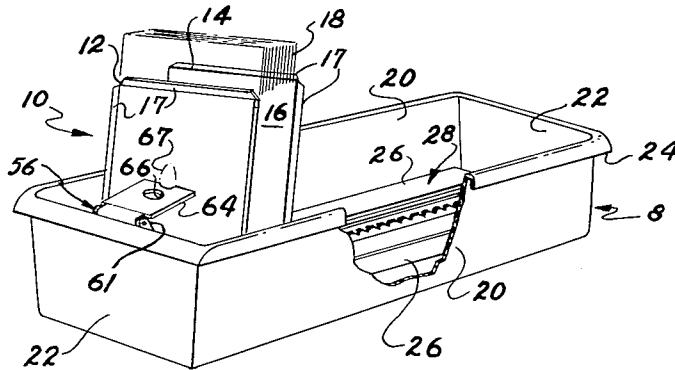


Fig. 2.

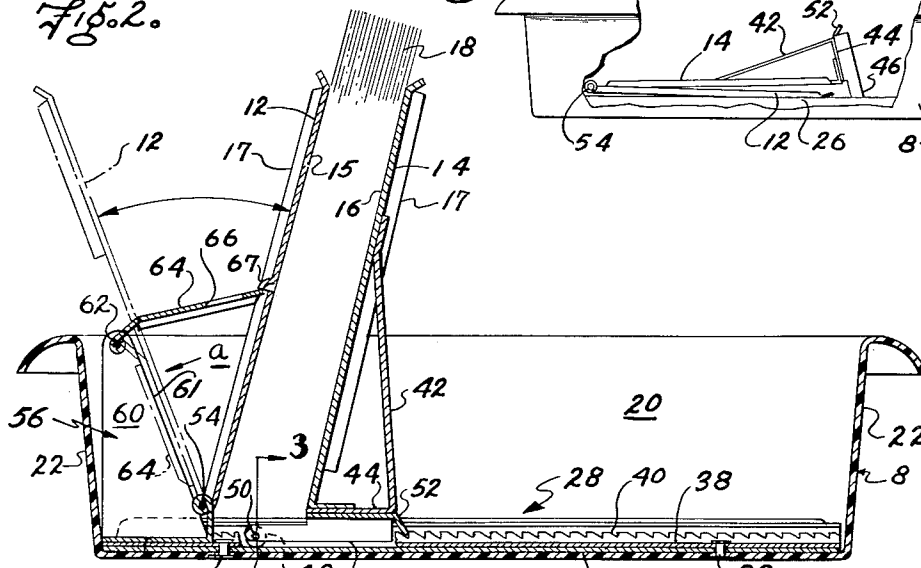


Fig. 4.

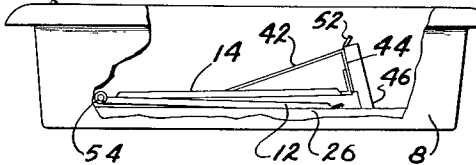


Fig. 3.

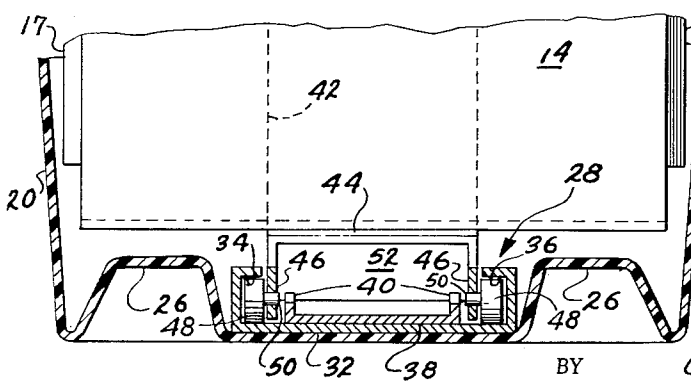
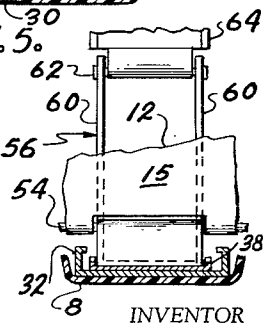


Fig. 5.



INVENTOR

FRANK STANLEY SCHADE

BY

Chapin & Neal

ATTORNEYS

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3,035,587

POSTING TRAY CONSTRUCTION

Frank Stanley Schade, Holyoke, Mass., assignor to National Blank Book Company, Holyoke, Mass., a corporation of Massachusetts

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This invention relates to posting trays of the type used for the storage and handling of various business record forms and which provide convenient access to individual forms for record posting purposes.

An object of this invention is to provide a durable posting tray of simplified, lightweight and inexpensive construction.

Another object of this invention is to provide a posting tray having constructional characteristics enabling it to be shipped as a relatively compact package in fully assembled condition.

A still further object of this invention is to provide a posting tray capable of securely and firmly holding records therein, while the tray is handled or moved from place to place.

Still another object of this invention is to provide a record holding device comprising a lightweight molded plastic tray and a self-contained follower plate assembly disposed within the tray, the assembly being structurally independent of the tray in its operation.

The above and other objects and advantages of this invention will be more readily apparent from the following description with reference to the accompanying drawing in which:

FIG. 1 is a perspective view of a record holding device embodying this invention and with portions cut away;

FIG. 2 is a longitudinal section on an enlarged scale of the device shown in FIG. 1;

FIG. 3 is a section on an enlarged scale taken along line 3—3 of FIG. 2;

FIG. 4 is a side elevation of the device with parts cut away showing the record holding plates disposed in superposed condition within the tray; and

FIG. 5 is a partial view of the device in the direction indicated by the letter *a* in FIG. 2.

Referring in detail to the drawing, a device for the storage and handling of business records embodying this invention is shown in FIG. 1. In general, the device comprises an integral tray 8 molded of a suitable lightweight rigid plastic material and a follower plate assembly, preferably fabricated of sheet metal stampings, indicated generally at 10. The assembly 10 is disposed within the tray and is operable independently of the tray. It comprises upstanding plate members 12 and 14, having opposed, laterally extending, record-engaging, planar surfaces 15 and 16. The plates include edge portions 17 which flare outwardly and rearwardly of the record engaging flat surfaces 15 and 16. This prevents the forms from being creased by plate edges when held tightly clamped between the plates, as will be described.

Plate 14 is movable toward and away from plate 12 which is stationary. Movement of plate 14 is for expanding or reducing the record holding capacity of the assembly as desired. In FIG. 1 the plates are shown positioned in a clamping relation against a plurality of business forms indicated at 18. Plate 12 is disposed in a fixed longitudinal position within the tray adjacent one end thereof and, as will be more fully described below, is pivotally mounted for movement to an upwardly diverging position with relation to the movable plate. This will be seen by the broken line representation in FIG. 2. The latter position may be used for easy access to remove and post entries on the individual forms within the tray, as will

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be readily understood in the art. Both plate members are also pivotable to positions wholly within the tray (see FIG. 4). In such position the plates are generally parallel to the tray bottom and in superposed relation. This position enables shipment of the tray and working parts in a relatively compact folded condition without the necessity of assembly operations.

The tray 8 comprises a bottom and upwardly extending outwardly extending outwardly tapering side and end walls, indicated at 20 and 22 respectively. An outwardly and downwardly curved flange 24 rims the upper edge of the side and end walls. Portions of the flange 24 extend outwardly of the end walls 22 (FIG. 2) sufficiently to provide means for lifting and otherwise handling the tray. The bottom of the tray is formed with upwardly extending longitudinal ribs or corrugations 26, best shown in FIG. 3. These ribs are laterally spaced sufficiently to enable the lower portion of the record holding assembly 10 to be disposed therebetween. In cross section, the ribs 26 are of a downwardly opening generally U-shaped construction imparting strength and rigidity to a tray of extremely light construction. In addition, the upper surfaces of the ribs provided means for supporting the lower edges of the record forms, as will be appreciated from FIG. 3.

The assembly 10 also includes a track 28 secured between the ribs 26 by any suitable means such as rivets 30 (FIG. 2). Plate members 12 and 14 are supported by the track 28 which includes a base plate 32, having opposed side channels 34 and 36 along its length, and a toothed rack or ratchet bar 38. The ratchet bar is in the form of an elongated U-shaped metal stamping, the base of which is secured along the center line of the guide bar. Upper edge portions of the ratchet bar are provided with teeth 40 inclined toward the fixed plate member 12. As best seen in FIG. 3, the upper surfaces of the tray ribs 26 are disposed in a plane above the track 28 and teeth 40. These surfaces support the forms or records clear of the track and prevent damage or interference with the forms by the track.

The plate member 14 is mounted on a carriage 44. A support 42 extends downwardly from the upper back portion of the plate to the carriage 44 supporting the plate in an upright position on the carriage. Laterally spaced arms 46 (FIG. 3) of the carriage extend forwardly of the plane of the record engaging face of the plate 14. The arms 46 are parallel to the upstanding tooth portions of the ratchet bar and are spaced so as to fit freely between the tooth portion of the bar and the inwardly extending portions of the channels 34 and 36 (FIG. 3). Rollers 48 are supported adjacent the outer terminal ends of the arms 46 by means of pintles 50 which extend outwardly from the hub portions of the rollers through openings in each of the arms. The rollers 48 are thus disposed within channels 34 and 36 and are of a diameter enabling them to rotate freely in the channels.

The carriage 44, as will be seen, is pivotable at its front end about the axes of the roller pintles 50. A pawl plate 52 extends rearwardly and downwardly from the other end of back portion of the carriage 44. This pawl has an inclination approximating the inclination of ratchet teeth 40. This relationship and the pivotable mounting of the carriage 44 on the rollers enables the plate member 14 to be moved linearly in a ratcheting fashion toward the fixed plate. Inadvertent reverse motion, away from the fixed plate, is prevented, as will be appreciated, by the engagement of the pawl plate with the vertical surface portions of the ratchet teeth. The movable plate can, therefore, be releasably locked in any given position of the track and may be readily moved

in a direction away from the fixed plate 12 by first pivoting it about the roller pintles 48 sufficiently to disengage the pawl from ratchet teeth and then moving it away from the fixed plate as desired.

The stationary plate member 12 is pivotally mounted on a fixed pin 54 which extends outwardly of both sides of an upstanding support 56. The support 56 is secured to the track adjacent one end thereof by any suitable means. The support includes upstanding laterally spaced arms 60 which are disposed inwardly of the adjacent end of the tray 8. Across pin 62 is supported in opposing portions of the arms 60 adjacent their upper ends. A latch plate 64 is pivotally mounted on the cross pin 62 and is provided with a finger opening 66 for convenient finger engagement and manipulation of the plate. The latch plate is engageable with a projection 67 which extends outwardly of the back of the plate 12 to support the plate in an upstanding position. In this position the record engaging surface 15 of the fixed plate is disposed in upwardly converging relation with respect to the record engaging surface of the movable plate member in the manner shown in FIG. 2. This converging relation of the plates 12 and 14 insures a firm clamping action of the plates on the records 18 disposed therebetween, the upper portions of the records being compressed together between the upper portions of the plates. The plate 14 is held in such position by engagement of the pawl with the ratchet teeth and the latch plate 64 is retained as shown by the pressure exerted against plate 12 by the enclosed record contents 18.

The inner edges at 61 of the support arms 60 are inclined at an obtuse angle with the bottom of the tray and provide means for supporting the plate 12 in an upstanding position in its diverging relation with regard to the movable plate 14. Latch plate 64 is of sufficient width to be supported by the inclined edges of the arms 60 so that the latch plate is conveniently positioned at all times for finger engagement.

Plate 12 may also be pivoted about the pin 54 to a position wholly within the tray and parallel to the bottom thereof, as shown in FIG. 4. In addition, the movable plate 14 may also be pivoted about the roller pintles 50 to a position wholly within the tray and in superposed relation to plate 12. Thus, the plates may be completely collapsed conveniently for shipment or storage purposes.

Having thus described this invention, what is claimed is:

1. A posting device for business records and the like comprising a tray, the bottom of said tray including upwardly extending laterally spaced ribs, a composite track and record holding structure secured within said tray and including opposed channels forming a track between the ribs and extending generally the length of the tray, said ribs being of sufficient height so that the upper surfaces thereof lie in a plane above said track, a pivotable

carriage between said channels having a set of rollers disposed within said channels and longitudinally movable over generally the entire length of said channeled track, a plate member extending from said carriage in adjacent relation to said rollers and in a fixed angular relation to the carriage, the said rollers being rotatably mounted on said carriage on a common axis at opposite sides of the carriage and closely adjacent one end thereof so that said carriage and the plate carried thereby may be pivoted about said roller axis for movement to and from a record engaging position in which said carriage is horizontally disposed and said plate extends upwardly of the tray and in an upright condition and a storage position in which said plate is generally horizontal and said carriage is upright within the tray, a second plate member, means pivotally connecting said second plate member to said track adjacent one end thereof, a support member secured to the said one end of the track beyond said second plate for engagement of the second plate member to support the same in upstanding obtuse angular relation to the bottom of said tray, said support member also including a latch pivoted thereon and pivotable into engagement with said second plate to hold said second plate in upstanding generally parallel relation with said first plate, when said first plate in record engaging upright position is moved toward said second plate and a plurality of record sheets is confined between said plates, said second plate being movable on its pivotal connection into a generally horizontal position within said tray when the tray is free of records and said carriage is moved adjacent the end of the track opposite said one end.

2. A posting tray as set forth in claim 1 in which said structure further includes a ratchet bar having teeth extending generally the length of said channels and in which said carriage has a pawl plate longitudinally spaced from the roller axis of said carriage, said pawl plate in the upright position of said first member being removably engageable with a tooth of the ratchet for retaining said carriage horizontally disposed in a selectively chosen position along said track, pivotal movement of said carriage on said roller axis enabling disengagement of said pawl plate from the ratchet teeth.

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