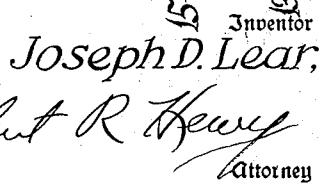


2,733,719

4 Sheets-Sheet 1



Feb. 7, 1956

J. D. LEAR
POSTING TRAY

2,733,719

Original Filed April 10, 1951

4 Sheets-Sheet 3

FIG. 7.

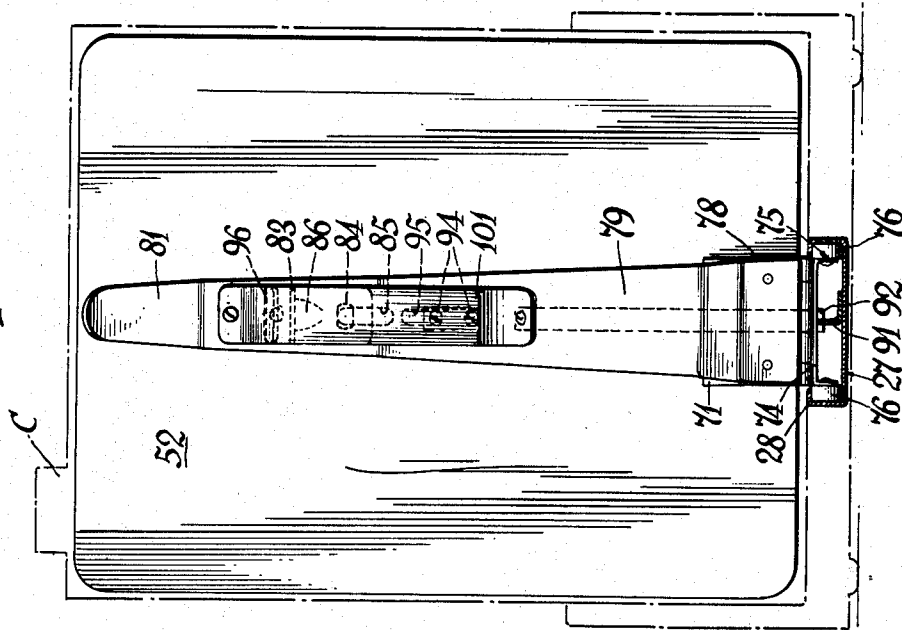
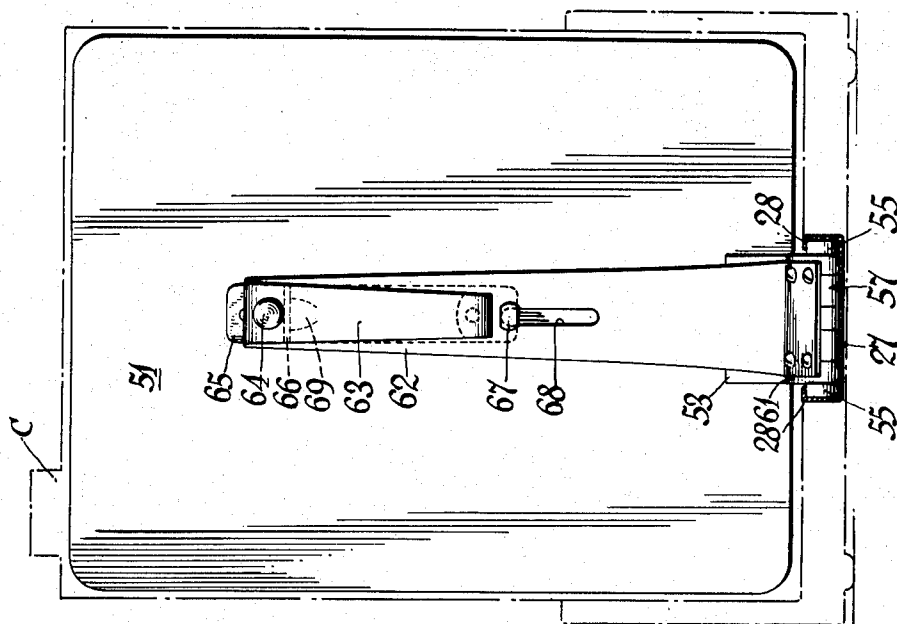


FIG. 6.



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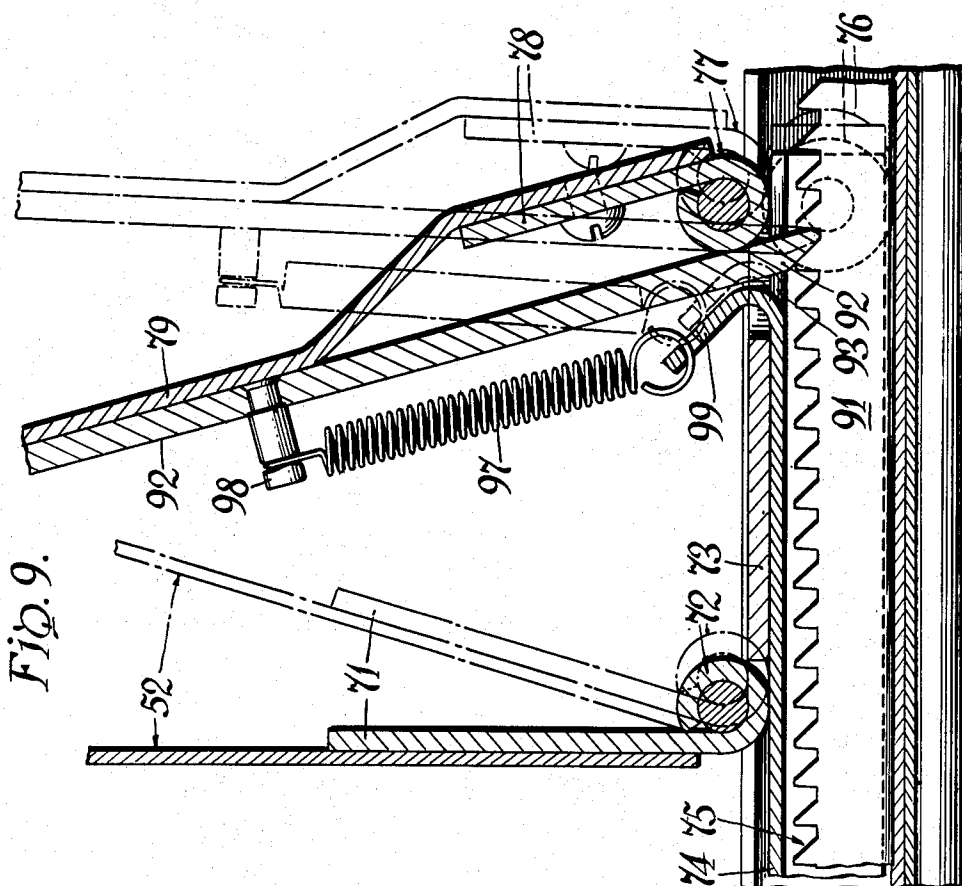


Fig. 9.

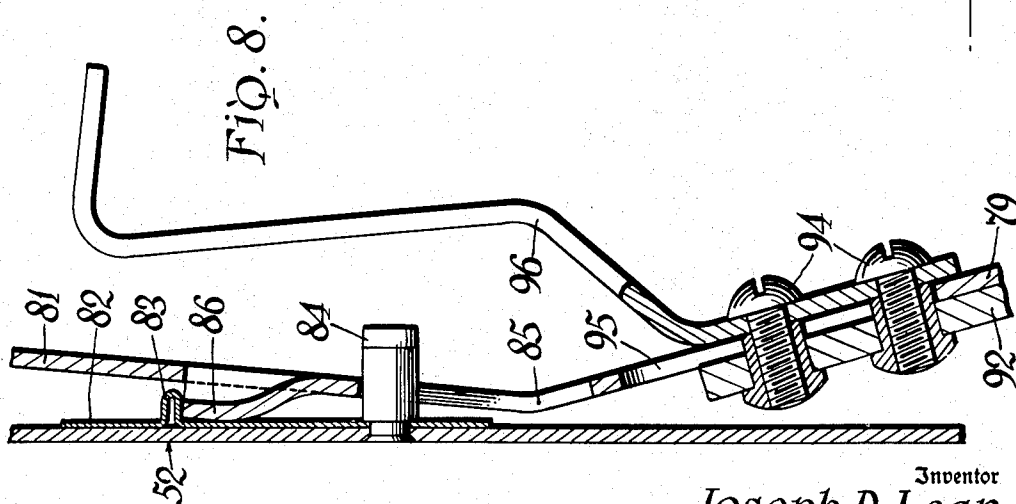


Fig. 8.

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2,733,719

POSTING TRAY

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Original application April 10, 1951, Serial No. 220,156, now Patent No. 2,664,898, dated January 5, 1954. Divided and this application June 1, 1953, Serial No. 358,709

2 Claims. (Cl. 129—28)

This application is a division of my prior application Serial No. 220,156, filed April 10, 1951, now Patent No. 2,664,898, January 5, 1954.

This invention relates to filing trays of the type employed to hold removable sheets, such as are used in conjunction with machine posting of accounts and records. In office equipment of this nature, it is customary to provide the tray or drawer with pivotally mounted follower or compressor plates, at least one of which is longitudinally adjustable, and which may be swung to an open position when it is desired to gain access to the sheets, and to a closed compressive position to retain the cards when the tray is not in use.

The present invention contemplates improvements in devices of this general nature, wherein both front and rear plates are mounted on the base of the tray for tilting movement from an upright or compressive position to an inclined or working position. Provision is also made for retrograde movement of both plates, as an incident to the tilting of the plates to the unlocked position, so that the user has free access to the ledger sheets at the outset of the posting operations. The invention further provides resilient means, incorporated in the latching mechanism of one of the plates, which, in cooperation with the adjusting and latching means of the other plate, enables the two plates to bind the sheets firmly, when brought to the locked position.

Further features of the invention are a pivotally mounted side wall for the tray which may be released readily to facilitate access to the sheets; to provide for ready detachment of the follower plates in the event they should become damaged and require servicing; and generally to provide a sturdy, inexpensive tray which will fulfill the numerous requirements imposed on equipment of this character.

Various other features and advantages will appear from a detailed description of the best embodiment of the invention now known to me, to be read in connection with the accompanying drawings, wherein:

Fig. 1 is a plan of the tray, which is shown with a portion of a bottom plate broken away;

Fig. 2 is a section taken on the line 2—2 of Fig. 1, with the open position of the pivoted side wall shown in broken lines, and with the follower plates removed;

Fig. 3 is a fragmentary elevation of the front of the tray, further illustrating parts of the side wall controlling mechanism;

Fig. 4 is a section on the line 4—4 of Fig. 3;

Fig. 5 is a longitudinal section through the tray, taken substantially on the line 5—5 of Fig. 1, and with the compressor plates shown in elevation—in closed position in solid lines, and in open or working position in broken lines;

Figs. 6 and 7 are respectively end elevations of the front and back plates;

Fig. 8 is an enlarged section through the upper portion of the back or follower plate and latching mechanism, with the parts in locked position; and,

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Fig. 9 is an enlarged section through the bottom of the back plate and latching mechanism, with the parts shown in locked position in full lines, and in open position in broken lines.

Referring first to Figs. 1 to 4, the tray comprises a rectilinear bottom plate 11 formed with spaced runners 12 and with a marginal upstanding flange 13, of which one side portion 13a is provided with a hinge element. A side wall 14 is pivotally mounted to the portion 13a, and an opposite side wall 15, and front and back walls 16 and 17, are welded or otherwise fixedly secured to the remaining portions of the flange 13. These side walls may be finished with trim strips 18, and the front and back walls are also finished with angularly shaped trim strips 19 which extend a slight distance inwardly of the tray body. The front and back walls 16 and 17 are also provided with handles 21, by means of which the tray may be readily carried between a storage vault and a work table. The end walls are also provided, adjacent the pivoted side wall 14, with angle plates 22 which provide stops or rests for the wall 14, when the latter is in its upright position.

The inner surface of the bottom plate 11 is provided with spaced inverted channels 23 and 24, which support the sheets contained in the tray. These channels serve as card supporting shelves, and they are removably retained by screws 25, extending through supporting and spacing collars 26. The upper surfaces of the channels 23 and 24 may be slightly roughened, to minimize slippage of the sheets. The axial portion of the bottom 11 is fitted with a channel member 27, provided with inturned flanges 28, which constitutes a housing and guide for a longitudinally adjustable back follower and compressor, as will presently be described. It may be noted at this point that the guideway 27 is spaced from the front end wall 16, as indicated by the reference numeral 29, to facilitate assembly, as also will be discussed further hereinafter.

The pivoted side wall 14 is retained in both upright and dropped positions by means including latch plates 31, welded to the wall adjacent the ends thereof. These plates, as shown in Fig. 2, are of generally arcuate configuration, and their bottom margins are formed with outwardly turned flanges 32 and downwardly extending latch fingers 33. In the upright position of the wall 14, the fingers 33 engage over the extremities of a latch bar 35, which is mounted on the bottom wall 11, below the channel 24, on pins 36 projecting through diagonal slots 37. This bar is normally retained in the position shown in Figs. 1 and 2, for locking engagement with the fingers 33, by a tension spring 38 connected to the bar and the bottom 11.

The bar 35 is shifted lengthwise and transversely of the tray bottom by means of a push button 39, projecting through the front wall 16, and connected on its inner end to a leaf spring 41 having one end welded to the inner surface of the wall 16. When the bar 35 is thus shifted, its extremities move away from the fingers 33, so that the wall 14 may swing outwardly. The flanges 32 engage the angle plates 22 when the wall has swung substantially ninety degrees, and the wall 14 is thus supported against further downward movement. The movement of the wall to its open position, upon release of the latch bar 35, is also facilitated by means of leaf springs 42, mounted on the adjacent screws 25 and posts 26, which project under and bear against the flanges 32 when the wall 14 is closed. Upon releasing the bar 35, the tension in the springs 42 exerts a thrust on the latch members 31, to impart swinging movement to the wall 14.

The tray contains a front compressor plate 51 and a back compressor or follower plate 52, both of which are mounted for combined pivotal and longitudinal movement. They are provided with latching mechanisms

which engage when the plates are brought to an upright position, to compress and retain between them a group of ledger sheets and tabbed index cards, illustrated schematically in Figs. 5, 6, and 7, and designated by the letter C. It will be noted that the above described latching and releasing mechanism for the side wall 14 is, to a large extent, concealed below the channel 24, on which the cards may rest. Insofar as such mechanism is visible, it is disposed adjacent the ends of the tray, and outside of the space between the plates 51 and 52 within which the cards are retained. By providing the pivoted wall 14, free access may be had to the cards from the edges thereof, and there is no interference from the latching mechanism to the user of the tray.

The plate 51 is connected along its lower edge to one leaf 53 of a hinge 54, which is provided with an elongated hinge pin whose ends underlie the flanges 28 of the guideway 27. These ends receive rollers 55 which travel in the guideway as the plate 51 is manipulated. The other leaf 56 of the hinge 54 is in turn hinged to a second hinge 57, whose knuckle is located at the junction of the front wall 16 and the bottom 11. The lower leaf 58 is secured to the bottom by screws 59, as is best shown in Fig. 5.

The upper leaf 61 of the hinge 57 is connected to an operating or latch bar 62 which curves upwardly into parallelism with the plate 51 when the latter is in its upright position. The upper end of the bar is reversely bent to form a grip or handle 63, formed at its upper end with aligned perforations to receive a push pin 64, the inner end of which may engage the plate 51. When the handle 63 is gripped with the fingers, the pin 64 may be operated with the thumb. The plate 51 is provided with a pressure pad 65 opposite the bar 62, which pad is formed with an outwardly projecting ridge or strike plate 66, and a headed pin 67 which may ride in a slot 68 formed in the bar 62. The upper portion of the bar 62 is formed with a struck-out tongue or latch element 69, adapted to engage under the plate 66.

The slot 68 and pin 67 are so related to each other that, when the plate is in its upright position, as shown in full lines in Fig. 5, the pin engages the upper margin of the slot, and thus restrains the plate 51 from movement toward the right. At the time time, the latch 69 is engaged under the plate 66. In this position, the plate 51 is securely locked from movement, as motion in either direction of the plate will require motion of the hinge leaves 56 and 61 with respect to each other. Due to its limited resilience or flexibility, the upper end of the bar 62 may be pulled away slightly from the plate 51, as by manipulating the push pin 64, to disengage the latch 59. Upon pulling back on the handle 63, the leaves of the hinge 57 open, to impart tilting movement to the plate 51 through the engagement between the slot 68 and the head of the pin 67. At the same time, the leaves of the hinge 54 approach each other, to impart longitudinal movement to the plate 51, which then assumes the broken line position of Fig. 5.

This motion, of course, spaces the plate 51 from the cards C, at the bottom, as well as the top, to provide manipulative or "finger" space for the user. Reverse motion of the plate restores it to its upright position, with the latch 69 automatically engaging under the strike plate 66. It is also to be noted from Fig. 5 that when the plate 51 is retracted, the rollers 55 are quite close to the ends of the guide flanges 28. If it should be desired to remove the plate 51, the screws 59 are taken out to free the lower leaf 58, which is shorter than the notch 29. The hinge 57 may then be pulled upwardly to cause the rollers 55 to clear the flanges 28, thereby releasing the plate from the tray.

The rear compressor or follower plate 52 is secured at its lower edge to one leaf 71 of a hinge 72, whose other leaf 73 is connected to the deck 74 of a carriage 75 which fits between the flanges 28. This carriage is provided

with trunnions for rollers 76 which travel in the guideway 27 and are retained from upward movement by the flanges 28 (see Figs. 5, 7, and 9). The hinge leaf 73 is provided with a knuckle 77 on its opposite end, to which is pivoted another leaf 78. To this leaf is secured a stud bar 79 which slopes upwardly toward the plate 52 into proximate contact therewith, and then outwardly to form a finger portion 81. The plate 52 is provided with a pad 82, formed with a strike plate 83 and headed pin 84, similar to the pad 65 of the front plate 51. The pin 84 rides in a slot 85 in the bar 79, and the plate 83 is adapted to engage a struck-out latch 86, also formed on the bar 79. The slot 85 is so dimensioned that the pin 84 engages its upper end when the plate 52 is in an upright position, and the lower end when the plate is tilted backwardly.

When the latch 86 is engaged, the plate 52 cannot be tilted backwardly. The latch may be disengaged, due to the slight resilience of the upper portion 81 of the bar, by pushing against a button 87, disposed at the top thereof. The person using the tray will invariably grasp the front handle 63 in one hand to release the plate 51, and simultaneously reach over the cards with the other hand, to press against the button 87, thereby releasing both plates at the same time. When so released the plate 52 may be swung backwardly, as indicated by the broken lines in Figs. 5 and 9.

Means are provided for adjusting the carriage 75 and plate 52 longitudinally of the tray, to accommodate card bundles of varying thickness. Such means includes a rack bar 91 secured to the bottom of the channel 27, and a pawl 92 which abuts the bar 79 and engages between the rack teeth through a slot 93 cut in the carriage deck 74. The pawl 92 is slidably retained against the bar 79 by pins 94 which pass through a slot 95, and which also secure a lifting handle 96. The pawl is normally held in engagement with the rack by a tension spring 97, extending between a stud 98 positioned on the pawl and a finger 99 formed by the metal which is struck out to provide the slot 93. The bar 79 is also provided with a handle 101 which overlies the handle 96. It will be noted that the pawl 92 may be released from the rack 91 irrespective of the position of the latch 86. Hence, the plate 52 may be brought to its upright position and secured, and the entire rear follower assembly may then be shoved tightly against the cards, by pulling up on the pawl handle 96, and releasing it when the plate 52 is properly positioned.

When the latch 86 is released, and the plate 52 is swung backwardly, the engagement of the lower end of the pawl 92 between a pair of rack teeth causes the carriage 75 to move back a slight distance, as indicated by the broken lines in Fig. 9. This is advantageous, as it spaces the bottom of the plate 52 from the cards, and thereby facilitates manipulation. Another advantage of this motion is in connection with the closing of the file. There may be such number of ledger sheets in the tray that without this longitudinal movement, it would be difficult to set the pawl 92 along the rack bar 91 in a position where it would close tightly against the cards, and retain them with the desired security. It was previously noted that the bar 62 is slightly resilient. Hence, the pawl 92 may be set one or two teeth ahead of a card engaging position, and, when the plates are locked, the curved position of the bar 62 can yield slightly against the compressive force exerted by the plate 52, and the front plate can move slightly because of this flexing action, thereby compacting the cards under sufficient force to retain them against displacement.

It was previously noted that the front plate 51 could be easily removed through the clearance notch 29 when the retaining screws 59 were detached. When this is done, the entire assembly of the rear plate 52 may also be removed by sliding the carriage 75 forward, and tilting it about its rear wheels when the front wheels have cleared the flanges 28. Occasionally, a tray is dropped

and damaged, and repair work is facilitated by providing a construction which may be readily dismantled, as the repairs may then be made quickly at the place of use, without returning the tray to a service work shop.

It will accordingly be seen that the invention provides a sturdy and durable posting tray, wherein the ledger sheets may be securely retained and made readily available when the tray is in use. While the invention has been described with reference to a single embodiment, it is to be understood that it is intended to encompass within its scope all those modifications and variations as are covered by the following claims.

I claim:

1. A posting tray comprising a bottom, a carriage positioned on said bottom and movable longitudinally with respect thereto, a follower plate hingedly mounted on the carriage, a latch bar also hingedly mounted on the carriage and having a lower portion inclined upwardly toward the follower plate and an upper portion diverging outwardly therefrom, a latch formed on the upper portion of the latch bar adjacent the junction of the upper and lower portions thereof, a strike plate on the follower plate adapted to engage and overlie the latch when the follower plate is in upright position, a pin and slot connection between the follower plate and latch bar to retain said plate and bar against each other and limit the arcuate movement of said plate and bar, said pin projecting rearwardly from the follower plate and said slot being formed in the latch bar below said latch, the upper portion of said latch bar being of such length as to be manually accessible over the top of the plate, there-

by to provide means to disengage the latch from the strike plate, and shiftable means on the carriage to lock the same lengthwise of the tray bottom.

2. A posting tray comprising a bottom, a carriage positioned on said bottom and movable longitudinally with respect thereto, a follower plate hingedly mounted on the carriage, a latch bar hingedly mounted on the carriage and having a lower portion inclined upwardly toward the follower plate and an upper portion diverging outwardly therefrom, a latch struck out from the upper portion of the latch bar adjacent the junction of the upper and lower portions thereof, said latch projecting toward the follower plate, a strike plate on the follower plate adjacent the upper portion of the latch bar, said strike plate having a portion projecting from the follower plate toward the latch bar adapted to engage and overlie the latch when the follower plate is in an upright position, a pin projecting from the follower plate and a slot formed in the latch bar below said latch to receive said pin, a rack bar on the tray bottom beneath the carriage, a pawl slidably connected to the latch bar and having a lower end yieldingly engaged with the rack bar, said pawl having an operating handle projecting rearwardly from the follower plate and latch bar and thereby being accessible to disengage the pawl irrespective of the position of the follower plate.

References Cited in the file of this patent

FOREIGN PATENTS

933,880 France ----- 1948