No. 684,999. Patented Oct. 22, 1901.

L. J. MEAD.

CARD INDEX.

(Application filed Dec. 19, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig 1

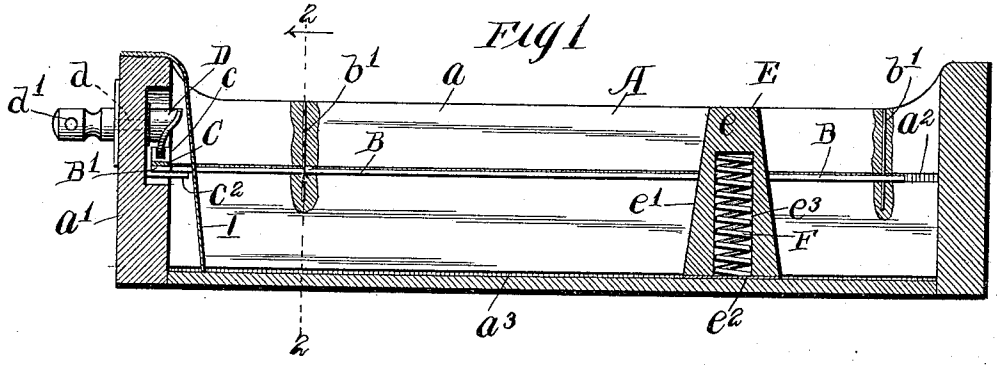


Fig 2

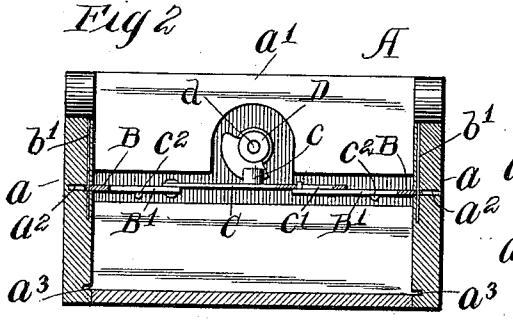


Fig 3

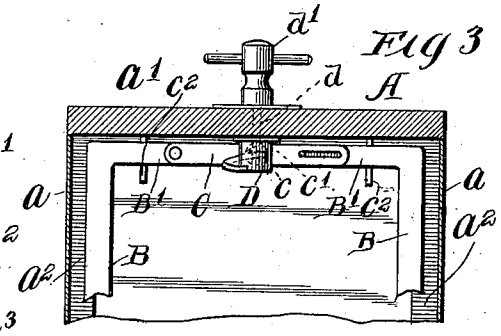


Fig 4

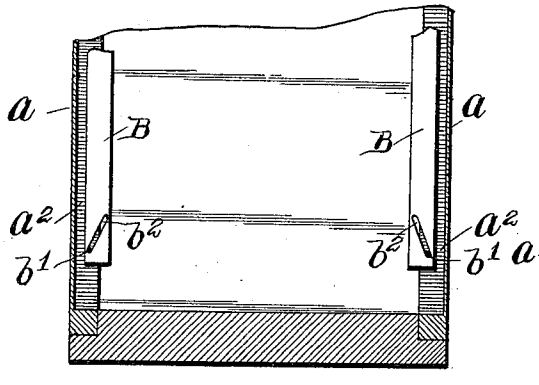
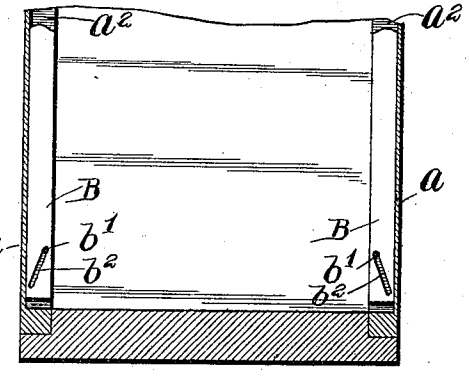


Fig 5



Witnesses:-
Carl H. Crawford
Edward R. Stirling.

Inventor:-
Larkin J. Mead
by Poole & Brown
his Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 684,999. Patented Oct. 22, 1901.

L. J. MEAD.

CARD INDEX.

(Application filed Dec. 19, 1900.)

(No Model.) 2 Sheets—Sheet 2.

Fig 6

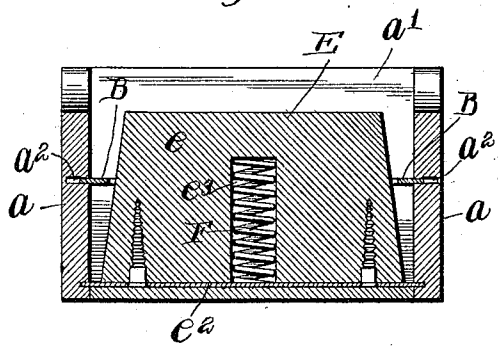


Fig 7

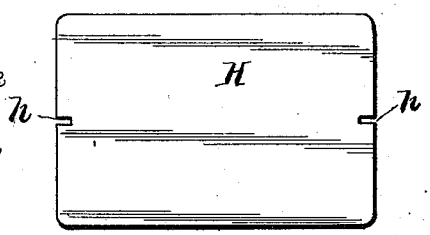


Fig 8

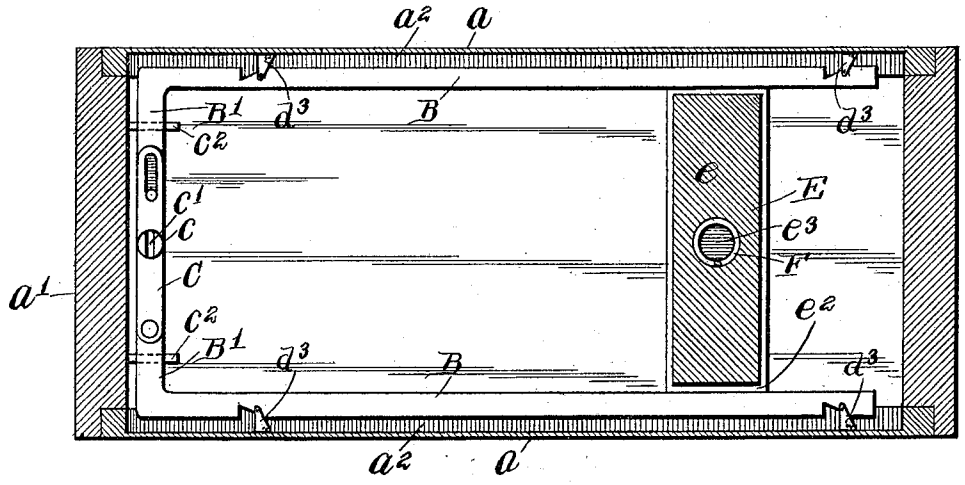
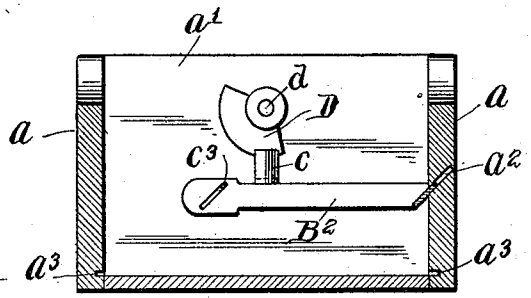


Fig 9



Witnesses:-
Carl St. Crawford
Edmund R. Stickney.

Inventor:-
Larkin J. Mead
by Poole & Brown
his Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LARKIN J. MEAD, OF AURORA, ILLINOIS, ASSIGNOR OF ONE-HALF TO GEORGE F. WATT, OF CHICAGO, ILLINOIS.

CARD-INDEX.

SPECIFICATION forming part of Letters Patent No. 684,999, dated October 22, 1901.

Application filed December 19, 1900. Serial No. 40,397. (No model.)

To all whom it may concern:

Be it known that I, LARKIN J. MEAD, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Card-Indexes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to card-index cases, and especially to devices for removably locking the cards in the drawers and for retaining them in such position therein that their contents can be readily ascertained by the user.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in central longitudinal section of a card-index drawer fitted with a card-holding device which embodies the features of my invention. Fig. 2 is a view in cross-section, on line 2 2 of Fig. 1, through the drawer looking to the front end thereof. Fig. 3 is a plan view, partially broken away, of the drawer. Fig. 4 is a view in detail of the cam-slots and pins, showing the retaining-strips projecting out of their retaining-slots. Fig. 5 is a view in detail of the cam-slots, showing the retaining-strips completely within the retaining-slots. Fig. 6 is a cross-section showing the follower. Fig. 7 is a view showing the retaining-slots in a card. Fig. 8 is a view in horizontal section of the drawer, showing a modification of the device and also the cross-bar. Fig. 9 is a view showing the arrangement of the drawer with a single retaining-strip.

Referring to the drawings, A represents a drawer of the usual form. Said drawer is provided with the usual side walls *a* and front *a'*. Longitudinal slots a^2 are formed in the inner faces of the drawer sides *a*, extending from end to end thereof parallel to the bottom of the drawer, and preferably, for reasons hereinafter set forth, midway between the top and bottom of the drawer. They may of course be situated in any convenient position—as, for instance, a short distance above the drawer-bottom. Said slots form pockets or guides, in which lie narrow metal retaining-strips B. Said retaining strips are in width equal to the depth of the slots or guide-grooves a^2, so that their outer edges are flush with the inner faces of the drawer sides *a* when they are pushed wholly within the grooves and are fitted to slide easily in said grooves. Said retaining-strips are somewhat shorter than the inner length of the drawer, so that they are permitted a slight longitudinal movement in their respective guide-slots. They are retained in their guide-slots by vertical pins *b'*, which extend across the guide-slots, near either end thereof, and pass through and engage cam-slots b^2 in said lock-bars. Said cam-slots in each strip are parallel to each other and extend obliquely across the strip. A cross-arm B' is rigidly secured at one end to the front end of each of said retaining-strips and extends toward the center of the drawer. Preferably and as herein shown they are integral with said retaining-strips, being stamped from a single piece of sheet metal. Their outer ends may overlap or, as herein shown, be joined by a cross-bar C. Said cross-bar may have sliding connection at either end with said cross-arms or, as herein shown, be rigidly secured at one end to one of said cross-arms and have slotted connection with the other. It rests on supporting-pins c^2, which project from the inner face of the drawer-front. Said cross-piece C is provided with a central vertical lug *c*, provided with a vertical slot *c'* in its upper face. A cam D, turning in a vertical plane, is secured against the center portion of the inner face of the drawer-front *a'* on the inner end of a revoluble spindle *d*, which projects through said front and is fitted at its outer end with a suitable handle *d'*, which may be of any form to serve the double purpose of a drawer-pull and a means for revolving the cam D. The periphery of the cam D is in operative engagement with the vertical slot *c'* in the lug *c*. It is so fashioned that its revolution imparts a lateral movement to said cross-piece C to and from said drawer-front. Said cross-piece C in turn imparts a longitudinal movement to the retaining-strips B when said cam D is revolved, and as a result said strips are thrown forward into

the drawer, being projected from the guide-grooves by the action of the vertical pins b' on the edges of the cam-slots b^2. It will thus be seen that the turning of the drawer-pull d' in either direction through a portion of the revolution imparts a lateral sliding motion to the retaining-strips B and causes them to move simultaneously in or out of their respective guide-slots a^2 throughout their entire length. Consequently index-cards of the usual type whose length is equal to the internal width of the drawer and whose edges at the ends are fitted with notches which register in vertical position with the vertical positions of guide-slots a^2 relative to the bottom of the drawer may be inserted in the drawer on edge in the usual manner when the retaining-strips are thrown back to the bottom of their grooves by the turning of the handle d' in one way and then securely locked therein by the revolution of the handle d' in the other way, the latter throwing the strips out laterally, so that they engage the notches at the ends of the cards, no matter where the latter be inserted along the drawer.

It is clear that the slot or notch in the edge of the card may be very slight in width, just sufficient to receive the edge of the retaining-strip as the latter is projected laterally into the card, and does not have to be rotated into position. Such a slot h is shown in the end of the card H in Fig. 7. This movement of the strip permits the notch in the edge of the card to be made symmetrically—that is, with its upper and lower edges the same. In case the retaining-strips are located midway between the top and bottom edges of the drawer, as here shown, the cards, as they have symmetrical retaining-notches, may be turned over, so that the subject noted on one side of the card may be continued, if occasion requires, on the other side, the card being reversed after the manner of a cap-sheet and the references of latest date referring to the subject noted thereon being presented first to the user when he opens the drawer. In other words, the movement of the retaining-strip laterally into the receiving-notch in the card end is of such a nature as to allow the notch in the card to be so fashioned as to retain the card in position when the card is reversed, provided the strip is located centrally along the drawer side. Thus both sides of each card may be used, practically halving the number of cards required for any one line of work.

It is obvious that any convenient device which would impart lateral reciprocating movement to the cross-piece C may be used. The cam D is a convenient means for so doing; but I do not limit myself to any special form. In order to prevent injury to the cards, a shield I is provided to cover the cam D or other device which may be used to impart motion to the cross-strip C.

In order to hold the card conveniently at an angle so as to be easily read from the front end of the drawer when the latter is drawn out of its case, a follower E is provided, said follower being provided with means which hold it securely in any position required along the drawer, so that it will not be displaced by the opening and shutting thereof or by the customary handling of the cards and so as to accommodate any number of cards up to the limit of the capacity of the drawer. Said follower E comprises a main body or block e, extending across the drawer at right angles to the sides, of sufficient length to hold the cards firmly and having a sloping inner face e', against which cards may be turned away from their fellows, so as to be readily read from the front end of the drawer. A thin metal strip e^2 extends longitudinally across the bottom of said follower E, being secured thereto at either end by screws or other suitable means. Said strip e^2 extends beyond the ends of the block e and its ends enter and have sliding engagement in slots a^3, which extend along the inner face of the side walls a of the drawer, from end to end thereof, the lower sides of said slots being in the plane of the surface of the drawer-bottom on which the follower rests. A guide aperture or pocket e^3 is provided in the lower part of said block e, said pocket containing a spring F, slightly compressed and in contact with the upper central face of the plate or strip e^2. As the latter is secured only at its ends to the block e, it tends to buckle slightly under the pressure of the spring, so that it has frictional contact at all times with the bottom of the drawer and with the sides of the slots a^3. As a consequence said follower E, which may be easily moved from end to end of the drawer by hand, as circumstances require, is retained in any position in which it may be left, the frictional engagement with the bottom of the drawer and with the guide-slots being sufficient to prevent its shifting under the shock of opening and shutting the drawer or from the handling of the cards. This form of construction obviates the necessity of having a central guide-rod for the follower, thereby saving drawer-room. As the bearing of the bottom plate is very broad, there is no necessity of inserting a metallic friction-strip in the bottom of the drawer, as there is very little resultant wear. The slots a^3, which are very easily formed in the drawer sides by making the rabbet to receive the bottom board a little deeper than the thickness of the bottom board, serve the double purpose of guides and retaining-strips—a very simple and easy construction which obviates the necessity of a central guide. By this form of device the large amount of card-surface which must be cut away to provide a locking-notch such as is necessary with card-index cases having a central lock-rod is avoided. The spring-pressed follower E does not use a central guide-rod, which also economizes the card-surface. The retaining-strips may be made so thin that the locking-notches in the edges of the cards may be very small propor-

tionate to the face of the cards, as the strips are projected directly out toward the body of the card and do not revolve upon a hinge, as common heretofore in the art, so that they do not require large notches of irregular form, nor do they require the room which is necessary when a partially-flattened or half-round revolving rod is used.

While the cam-slot b^2 and vertical pins b' afford a convenient means of imparting transverse lateral movement to the strips B, other forms of mechanical construction may be used—as, for instance, the modification shown in Fig. 8. Herein horizontal hinge-plates d^3 are pivotally secured in the slots a^2, near either end thereof, so as to rotate horizontally therein, said hinge-plates being pivotally secured at their outer ends to the inner edges of the retaining-strips B. The pivot-pins of each hinge-plate are so disposed that when the strip to which it is secured is at the bottom of the groove and its outer edge flush with the inner face of the drawer side a the pivot-pin engaging the strip is not in a line with the pivot-pin engaging the slot side, which is parallel to the main axis of the strip, so that a longitudinal pull on the strip will cause the hinge-plate to revolve on the slot-pivot, thereby throwing the retaining-strip out into the drawer. As herein shown, said hinge-plates are triangular in form, the side which corresponds to the base of the triangle forming a convenient shoulder to engage the bottom of the slot and arrest the motion of the retaining-strip and hold it firmly when it has reached its extreme position. In this instance it is necessary to slightly notch the inner edges of the retaining-strips to receive the slot pivot-pin, so as to allow them to fold back and rest against the bottom of the slot, leaving their outer edges flush with the inner face of the drawer sides.

In Fig. 9 a single retaining-strip is shown. In this instance the slot a^2 is made to project obliquely down toward the bottom of the drawer, thereby retaining the cards against displacement. An arm B^2, which carries a lug c, engaging the cam D, as in the previously-described construction, is rigidly secured at one end to the retaining-strip. The lateral movement of this arm through its connection with the cam moves the retaining-strip in and out of its groove. The outer or free end of the arm B^2 rides on a pin c^8, with which it has slotted engagement, the cam-slot of the lug c being made of sufficient depth so as to be always in engagement with the cam D throughout this vertical movement of the arm B^2.

Any convenient form of outer handle, as before stated, may be used and a locking device may be inserted to hold the drawer-pull and cam-spindle fast, if desired.

I do not limit myself to the special forms of construction except as set forth in the claims.

I claim as my invention—

1. In a card-filing device, a drawer, longitudinal guide-grooves in the inner sides of said drawer, card-retaining strips having sliding engagement in said guide-grooves, and means for simultaneously moving said strips laterally in and out of said grooves toward and from the center of the drawer.

2. In a card-filing device, a drawer, longitudinal guide-grooves in the inner sides of said drawer, pins extending across said grooves, card-retaining strips having sliding engagement in said guide-grooves, cam-slots in said retaining-strips oblique to the main axis thereof engaging said pins, and means to simultaneously impart longitudinal movement to said strips, said cam-slots and pins being so disposed as to throw said retaining-strips laterally toward and from the drawer-center when said longitudinal movement is communicated to said strips.

3. In a card-filing device, a drawer, longitudinal guide-grooves in the inner sides of said drawer, card-retaining strips in said guide-grooves, a cross-strip having slotted connection with the corresponding ends of said retaining-strips, means for imparting lateral motion to said cross-strip parallel to the main axis of the drawer, and means within said grooves engaging said retaining-strips whereby said lateral movement of said cross-piece is converted into a transverse lateral motion in said retaining-strips.

4. In a card-filing device, a drawer, card-retaining strips in guide-grooves in the inner sides of said drawer, a cross-piece having sliding connection with the corresponding ends of said retaining-strips, a cam on the inner face of the front end of said drawer operatively engaging said cross-piece, and means to rotate said cam, from without the drawer whereby lateral movement is afforded said cross-piece toward and from the center of the drawer.

5. In a card-filing device a drawer provided with grooves in its sides, and a follower having spring-pressed engagement with the drawer-bottom and with said grooves in the sides of the drawer.

6. In a card-filing device, a drawer provided in its walls with slots, and a follower, comprising a main body or block extending across the drawer, and a bottom plate secured to the bottom face of the block at either end thereof, the ends of said bottom plate extending beyond the ends of said block and engaging said slots, and means within said block for holding said bottom plate in spring-pressed engagement with the bottom of said drawer and the said slots.

7. In a card-filing device, a drawer, and a follower, comprising a main body or block extending across the drawer, and a bottom plate secured to the bottom face of the block at either end thereof, the ends of said bottom plate extending beyond the ends of said block and engaging slots in the drawer sides, and

means within said body for holding said bottom plate in spring-pressed engagement with the bottom of the drawer.

8. In a card-filing device, a follower comprising a block extending across the card-filing drawer, a thin metal bottom plate secured to the bottom side of the block at either end thereof, and extending beyond the block at either end and engaging grooves in the drawer sides and a spring inserted between the central portion of the upper face of said bottom plate, and the main body of the block; said spring being slightly compressed and holding said bottom plate in frictional engagement with the drawer-bottom and with the grooves in the drawer sides.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 14th day of December, A. D. 1900.

LARKIN J. MEAD.

Witnesses:
CLEMENT R. STICKNEY,
TAYLOR C. BROWN.